



**ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT OF ANATOMY, PHYSIOLOGY & PHARMACOLOGY
VETERINARY HISTOLOGY & EMBRYOLOGY SYLLABUS (5 Credits)
ANPH501(Term-1)
Fall 2021**

I. Course Faculty and Staff Information

Dr. Sunil K Gupta, Professor & Course Director

E-mail: sgupta@sgu.edu

Phone: 1-473-2315180

Mobile / WhatsApp: 1-473-4589371

Dr. Rhea St. louis, Instructor

E-mail: rstloui2@sgu.edu

II. Course location

Lecture: David Brown (Alumni) lecture Hall;

Labs: Charter Hall Basement (near SGU Mail room)

Online location—Sakai resources, Panopto online video, Zoom online classroom, Assignments and ExamSoft

III. Prerequisite and/or co-requisite courses DVM term 1 courses

IV. Required resources Course notes and power points on Sakai resources, laptop specs like functional microphone, camera, etc.)

VI. Recommended Resource

Textbook of Veterinary Histology. Dellmann, H.D. and Eurell, J.

Textbook of Veterinary Anatomy. 3rd Edition, Dyce, Sack and Wensing

Langman's Medical Embryology by T. W. Sadler

Color Atlas of Veterinary Histology. Bacha, W.J. and Bacha, L.M.

VII. Accommodation

a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

b. Information can be found at mycampus.sgu.edu/group/saas

VIII. Course rationale

The course begins with the study of cell structure and progresses through the basic tissues to the study of the organ systems. The histology not only provides the microscopic study of the minute details of the body but also the correlation between structure and function. Knowledge of the normal structure is necessary to understand the study of abnormal (pathology), which deals with the alteration in the structure and function of the body tissues/organs caused by the disease process. Course also includes the sequence of normal development from gametogenesis and fertilization to the establishment of body form and the development of the fetal membranes, placentas and various organ systems. Important developmental anomalies occurring in the domestic species, and their various mechanisms leading to these, will be discussed.

IX. Course goals

The histology provides the microscopic details of the structure of the body and its correlation with function as well as their alteration in the process of development of disease. Embryology correlates between normal development and developmental anomalies.

X. Course-level objectives (CLOs)

Students should be able to:

1. Understand the microscopic structure of various cells, tissues and organs of the body.
2. Understand the correlation between structure and function
3. Identify various cells, tissues and organ of the body
4. To be able to understand the general and systemic development.
5. To be able to understand the developmental anomalies.

XI. Alignment of Course Learning Objectives with Program Learning Objectives/Competencies

Program learning outcome (PLOs):

A. Core medical knowledge

PLO- 01 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.

PLO 02 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.

XII. Grading and assessment policy, and grading rubrics

First Quiz (Lecture. no. 1 – 21) 20 th September 2021	25 points
Midterm Examination (Lect.1 – 30 & Lab.1-7) 4 th October 2021	80 points
Second Quiz (Lecture. no. 32 – 46) 8 th November 2021	25 points
Final Examination (Lect.32-60 & Lab.8-14) 29 th November 2021	80 points
Lab Assignment	15 points
Total	225 point

Grades:

A	89.5-100%
B+	84.5-89.49%
B	79.5-84.49%
C+	74.5-79.49%
C	69.5-74.49%
D+	64.5-69.49%
D	59.5-64.49%
F	0-59.49%

A grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIII. Recommended study strategies

Students are strongly recommended to study on daily basis. Be very specific to all the structure, their location / functions.

XIV. Instructor's expectations of the student

The student is expected to read the required material before zoom session.

XV. Professional Statement

Students are expected to conduct themselves with integrity, dignity, and courtesy as defined in the Code of Conduct of the University.

XVI. Attendance policy

Students are expected to be available during the standard 8 - 5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (COURSE DIRECTOR email HERE) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call *****)) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of "0" points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XVIII. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. A ExamSoft / Exam ID quick guide for students (Please note that the current Examplify version is 2.3.8)
 - b. The ExamSoft student perspective video 30mins
 - c. The ExamSoft/Exam ID FAQ
 - d. ExamSoft information page
 - e. The general Reminders/Guidelines

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendix:

Table 1: Lecture & Lab schedule (Detailed course contents with lecture notes)

Week / dates	Topic and material covered
1.	1. Introduction of the course and course syllabus 2. Cytology: Cell membrane and nucleus 3. Cell organelles Lab.1 Study of microscope, staining and artifacts
2.	4. Cell inclusions, Intercellular junctions & specialization of cell surfaces 5. Epithelium and glands 6. Connective tissue cells, fiber and matrix 7. Connective tissue types, Cartilage 8. Bone, development and repair Lab. 2 Epithelium
3.	9. Muscular tissue 10. Nervous tissue: neuron and classification 11. Neuroglia & Peripheral nerve 12. Ganglia, Nerve endings & CNS Lab. 3 Glands and Connective tissue
4.	13. Cardiovascular system: heart 14. Blood vessels 15. Blood and hemopoiesis 16. Immune system, Lymph nodes 17. Thymus, spleen, Lab. 4 Cartilage, bone and muscles
5.	18. Tonsils, Hemal node, cloacal bursa 19. Respiratory system 20. Avian respiratory system 21. Introduction of embryology and gametogenesis Lab. 5 Nervous system and blood vessels
6	22. Quiz-1 23. Ovulation, Fertilization and cleavage 24. Formation of germ layers 25. Body folding, fetal membranes and Implantation 26. Comparative placentation & Teratology Lab. 6 Blood
7	Lect. 42-45 Sakai – Panopto (SKG) 27. Development of blood vessels, blood and heart 28. Cardiac abnormalities, embryonic circulations, aortic arches 29. Development of veins, fetal circulation and abnormalities 30. Development of Musculoskeletal and abnormalities 31. Midterm Review Lab. 7 Lymphatic and Respiratory system
8	MID TERM EXAMINATION

9	<p>32. Digestive system: Oral cavity and tongue 33. Teeth, salivary gland and esophagus 34. Ruminant and glandular stomach 35. Small and large intestine, Anal canal and anal sacs</p> <p>Lab. 8 Digestive system I</p>
10	<p>36. Liver and pancreas 37. Avian digestive system 38. Urinary system: kidney 39. Ureter, urinary bladder and testis</p> <p>Lab 9 Digestive system II</p>
11	<p>40. Epididymis, ductus deferens, accessory sex glands and urethra 41. Female reproductive: ovary and uterine tube 42. Uterus, vagina and avian urogenital system</p> <p>Lab 10 Digestive system III</p>
12	<p>43. Endocrine: Hypophysis and Pineal gland 44. Thyroid, parathyroid, adrenal, and pancreas 45. Integument: skin and hair 46. Glands: mammary and others gland, hoof and avian integument</p> <p>Lab.11 Urinary and Male genital system</p>
13	<p>47. QUIZ-2 48. Sense organ: Eye 49. Sense organ: Ear 50. Development of digestive tube 51. Development of liver & pancreas 52. Development of respiratory system</p> <p>Lab.12 Male and female genital system</p>
14	<p>53. Development of Urinary system 54. Development of Genital system 55. Development of Neural tube and spinal cords 56. Development of brain & endocrine 57. Development of eye</p> <p>Lab.13 Endocrine and Integument</p>
15	<p>58. Development of pharynx, tongue and teeth 59. Development of Ear & face, teratology 60. Final exam review</p> <p>Lab. 14 Sense organs</p>
16	FINAL EXAMINATION

Table 2: Alignment of Course Learning Outcomes with Program Learning Outcomes/Competencies

	Course learning outcomes	Program learning outcomes
1	Understand the microscopic structure of various cells, tissues and organs of the body.	PLO- 01 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
2	Understand the correlation between structure and function	PLO- 01 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 02 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.
3	Identify various cells, tissues and organ of the body	PLO- 01 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
4	To be able to understand the general and systemic development.	PLO- 01 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
5	To be able to understand the developmental anomalies.	PLO- 01 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 02 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

DEPARTMENT OF ANATOMY, PHYSIOLOGY AND PHARMACOLOGY

COMPARATIVE VETERINARY ANATOMY (5 credits)

ANPH 503; TERM 2

FALL TERM, 2021

I. Course Faculty and Staff Information

- a. Course Director: **Tom A. Aire, DVM, PhD, FCVSN, FAS Professor.**
Tel: 444 - 4175 Ext. 3327
E-mail: taire@sgu.edu
- b. Office Location: Marion Hall, Lower True Blue [Veterinary Office Building (SGU campus map: # 47)]
- c. Office Hours: **by email**
- d. Other faculty members: **Dr. E. Rennie, DVM, MSc.**, Associate Professor, erennie@sgu.edu, [Ext. 3329]; **Dr. Crissy-Ann Harrylal, BSc, DVM**, Instructor, CHarryl1@sgu.edu [Ext. 3326]
- e. Staff member names, credentials, title, email address is applicable
 - i. Mr. Matthew Charles, Senior Technician; Ext. 3469; mcharle6@sgu.edu
 - ii. Mr. Curtis Hopkins, Technician; Ext. 3469; CHopkin2@sgu.edu

II. Course location

Hybrid Teaching – both on-campus and online lecture and laboratory segments of the course will employ SAKAI Resources --- Zoom, Panopto, Lessons, Assignments, Announcements, etc.,

III. Prerequisite and/or co-requisite courses

The offering of this course is predicated upon successful completion of the Veterinary Anatomy I (ANPH506) course, and SAMS 502 which lay the foundation for the basic structure and radiographical features of the mammalian body, with particular reference to the type animals, which are canine and feline species.

IV. Required resources

a. Required Textbooks and course handouts:

‘Textbook of Veterinary Anatomy’, by Dyce, KM, Sack, WO and Wensing, CJG.
W. B. Saunders’

b. Required Laboratory Guides:

Ruminants: ‘Guide to Ruminant Anatomy on the Dissection of the goat’, by P. D. Garret. Iowa University Press; **videos of prosections**

Swine: Laboratory handout notes and dissection slides. **videos of prosections**

Equine: ‘Horse Dissection Guide by M. S. A. Kumar [on SAKAI]; **slides of equine dissection**; **videos of prosections** ----- on SAKAI

Avian: Laboratory handout notes and **video of a prosected specimen**

Piscean: **Video of prosected specimens**

V. Recommended resources (texts, journal articles, course notes, laptop specs like functional microphone, camera, etc.)

VI. Special accommodation

a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Laptops are as specified in the Students’ Handbook and the Examinations Services

VIII. Course rationale (catalogue course description)

ANPH 503 is comparative, based on regional anatomy, and emphasizes unique *structural* features, with particular reference to important applied, regional, anatomy of the horse, ruminants (including the bovine, ovine and caprine species), pig, as well as avian and piscean (fish) species.

Much of detailed basic anatomy (considered to be covered in Veterinary Anatomy I) will be omitted while areas of clinical importance are accorded due emphasis. References to clinical cases will be made, where appropriate, to underscore the importance of a thorough knowledge of the areas under study. Both the lecture and laboratory components of this course constitute the material from which examination questions shall be drawn.

IX. Course Learning Outcomes

a. This course consolidates and complements the functional anatomy of the animal body as related to veterinary medicine, and ensures that the student is able to recognize structural and unique differences between species of animals of veterinary importance. Students are exposed to regional anatomical areas, and are aware of the particular relevance and importance of appropriate areas, organs and structures to applied/clinical veterinary activities (such as diagnostic imaging, general diagnosis requiring conformational and topographical evaluation, surgery, etc.), thus preparing them for the third and other years of the DVM degree program. Students shall also be able to relate the nervous system of the animals to neurological deficits, generally. This course also exposes students to aspects of professionalism, as well as collegial and mutually beneficial group activities, especially during dissection and palpation sessions.

b. The ANPH 503 course is subsequent to the ANPH 506 (canine and feline anatomy) course, and is responsible for the basic and comparative anatomy of ungulate (equine, ruminant, porcine), avian, and piscine species, as well as relevant and appropriate clinical/applied anatomical features. At the end of the course students shall be able to,

1. describe and identify the main morphological features of all body regions of the ungulate (equine, ruminant, porcine), avian and piscine species,
2. apply the acquired anatomy knowledge in evaluating normal structure and form of the ungulate, avian, and piscine species,
3. describe and identify congenital deformities/abnormalities and underdevelopment and their effect on normal form and function,
4. relate acquired structural changes and deficits to anatomical conformation and function,
5. emphasize those areas and structures which are of practical/clinical importance, i.p. where applied to the fields of radiology, surgery, neurology, and internal medicine,
6. demonstrate the manual skills necessary to incise the skin and open hollow organs, remove connective tissue, identify various types of tissues; manipulate one segment of the body relative to another, e.g. limb segments at joints, and to delineate on the surface of the animal various relative positions of organs and structures in topographic anatomy,
7. function constructively in a team and demonstrate responsibility for the teams' performance,
8. demonstrate professional behavior in relation to their peers, as well as staff and faculty members.

X. Lesson Learning Outcomes

See "Resources" on SAKAI

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Learning Outcomes:

1. Cutaneous appendages of, and vertebral column and its attachments in, ungulates: identify tissue layers of the skin, its appendages, cutaneous muscles; identify regions of the vertebral column and their peculiarities in various species
2. Fascia and cutaneous muscles: identify, describe, distinguish, explain structure and function of cutaneous muscles
3. The thorax: identify species variability of structure and function, and organ disposition
4. The thoracic limb: identify, explain, compare and distinguish important morphological features
5. The abdomen and mamma: identify, explain, and compare structure and function between species
6. The pelvis and hind-limb: identify, explain, compare and distinguish structure and function between species
7. The head: identify and explain the main and clinically relevant morphological and functional differences between species
8. Avian anatomy: identify and explain main adaptational, morphological, functional and clinically relevant features in birds
9. Piscean anatomy: identify and explain main adaptational, morphological, functional and clinically relevant features in fishes.

Program Learning Objectives:

1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
4. Explain the relationship between disease processes and clinical signs.
6. Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.
7. Evaluate and analyze normal versus abnormal animal behavior.

Course Learning Outcome	SGUSVM Program Learning Outcome
CLO1	PLO 1, PLO 4, PLO 6, PLO 7
CLO2	PLO 1, PLO 4, PLO 6, PLO 7
CLO3	PLO 1, PLO 4, PLO 6, PLO 7
CLO4	PLO 1, PLO 4, PLO 6, PLO 7
CLO5	PLO 1, PLO 4, PLO 6, PLO 7

CLO6	PLO 1, PLO 4, PLO 6, PLO 7
CLO7	PLO 1, PLO 4, PLO 6, PLO 7
CLO8	PLO 1, PLO 4, PLO 6, PLO 7
CLO9	PLO 1, PLO 4, PLO 6, PLO 7

XII. Course Schedule

SEE "LECTURE AND LABORATORY SCHEDULE" on 'SAKAI Resources'

XIII. Grading and assessment policy, and grading rubrics

Assessment:

Grading scale

<u>Grade</u>	<u>Percentage score</u>	<u>Grade Point</u>
A	89.5-100	4
B+	84.5-89.49	3.5
B	79.5-84.49	3
C+	74.5-79.49	2.5
<u>C</u>	<u>69.5-74.49</u>	<u>2</u>
D+	64.5-69.49	1.5
<u>D</u>	<u>59.5-64.49</u>	<u>1</u>
F	<59.49	0

ExamSoft infringements

A grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.

3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

Examinations and quizzes

a. Theory or written examinations and **quizzes** will be based mainly on “multiple-choice” questions, but identification of structures in diagrams/drawings as well as matching questions and filling-in gaps in statements, True or False statements, shall, also, be used. The **ExamSoft** (Monitored) system of assessment will be employed.

Each quiz shall contribute a maximum of **20** points to the final mark/grade for the course. There shall be **two quizzes**, one before the **mid-term examination** (100 points), and the other before the **final examination** (100 points) – see below, for breakdown.

b. The laboratory/practical component of the examination will, also, be based on “multiple choice format”, using the SAKAI “Tests and Quizzes” system.

Main Evaluations --- Equine, Ruminant/Pig, Avian and Fish Anatomy

(a). FIRST HALF OF TERM

Quiz 1 (Sept. 3, 2021)	20 points (Lect. Nos. 1-9)
Mid-term Examination (theory)	60 points (Lect. Nos. 1-22)
Mid-term Examination (laboratory)	<u>40 points</u>
Total:	<u>120 points</u>

(b). SECOND HALF OF TERM

Quiz 2 (Oct. 29, 2021)	20 points (Lect. Nos. 23-30)
Final Examination (theory)	60 points (Lect. Nos. 1-45)
Final Examination (laboratory)	<u>40 points</u>
Total:	<u>120 points</u>

XIV. Recommended study strategies

Anatomy is best learned by having relevant specimens or using good quality and accurate diagrams, pictures, or drawings, at hand. Attendance and

hands-on activities at dissection sessions are invaluable. For virtual learning, there are several, good videos online which students can access and use reasonably without breaching copyright issues. Prior reading of lecture and laboratory material is highly recommended and profitable. Small group (three, but not more than five person) study sessions are very helpful and beneficial, where possible.

XV. Instructor's expectations of the student

We expect students to read through appropriate sections of the dissection guides before study of the laboratory slides and videos. This is extremely helpful, not only in orientation but also in recognition of structures and understanding of topography. In dissection slides, it is important that you try to recognize structures in diagrams, drawings and photographs that you had encountered in your lectures. You are encouraged to practice making sketches of organs and structures, as you read along. Remember, do not read anatomy as you would a novel. Anatomy is one; there is no division between knowledge obtained during the laboratory segment and that obtained from the lecture or panopto recording. The use of the "Help Questions" provided for each body region and/or species is an excellent learning and knowledge consolidation strategy.

XVI. Professionalism statement

The SGU's Student Policies, Procedures and Non-Academic Standards are detailed in the SGU Student Manual, 2016/2017.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

"Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed".

Lecture or Zoom session attendance policy: Lecture/Zoom sessions are not mandatory, but highly desirable and recommended.

Laboratory session attendance policy: it is expected that every student will comply very strictly with the instructions on the laboratory component of this course. This prepares students for necropsy and surgery courses, as well as physical diagnosis. In the virtual learning system, all recommended prosection slides and videos should be studied very carefully, with the previously obtained knowledge of canine and feline anatomy providing essential guide and basis for appreciation of regional, systematic, and organ structure. Laboratory sessions are compulsory for on-campus students, and a loss of up to 5% of the final grade may be incurred by those students who fail to attend a minimum of 90% of the sessions, without due and prior permission.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

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Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

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2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
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 - b. [The Examsoft student perspective video 30mins](#)
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 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

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Appendices (if applicable):

Course Schedule --- Attachment 1

LLOs – on SAKAI (Resources section)



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

DEPARTMENT OF ANATOMY, PHYSIOLOGY & PHARMACOLOGY

VETERINARY PHARMACOLOGY I SYLLABUS (3 Credits)

ANPH 504 (Term 2)

Fall 2021

I. Course Faculty and Staff Information

Course Director:

Dr. Kamashi Kumar, BVSc & AH, MVSc, PhD

Associate Professor

E mail ID.: kakumar@sgu.edu

Tel. No. 1 473 444 4175 Ext. 3448

Office location: Veterinary Office building

Office hours: confirmed by appointments for in-person/virtual platform students; a Zoom session for online students on weekly basis.

Faculty of Pharmacology:

Dr. Arno H Werners, DVM, MEd, PhD, DECVPT

Professor, Pharmacology

E mail ID.: awerners@sgu.edu

Dr. Kamashi Kumar, BVSc & AH, MVSc, PhD,

Associate Professor, Pharmacology

Staff:

Mrs. Cherry-Ann Lumpriss

Executive Secretary,

Email ID.: clumpriss@sgu.edu

II. Course location

▸ *David Brown Hall.*

The lectures were delivered in a format wherein both in-person students and online students via zoom could attend the lecture at the same scheduled time.

SAKAI site tools such as resources, lessons, Panopto, Zoom and forum would be used for course work.

III. Prerequisite and/or co-requisite courses

Students need to be enrolled in term 2, DVM and must have completed ANPH 512 (Vet. Physiology I). During the term progress, students can incorporate the knowledge acquired from Physiology II course for understanding the concepts of Pharmacology.

IV. Required resources

Lecture materials will be posted under Weekly Lessons of SAKAI site under each week module. Further related research articles and reference scientific information will be added for certain lecture topics. All recorded lectures will be available via Panopto link in the weekly modules of SAKAI.

For online session, laptop with functional microphone and camera are required.

V. Recommended resources

1. Veterinary Pharmacology and Therapeutics (10th Edition, 2017), by Jim E. Riviere and Mark G. Papich (Editor), Publisher: Iowa State University Press, Ames, Iowa. ISBN: 0-8138-2061-8.
2. Rang and Dale's Pharmacology, (8th edition. 2016), by H. P. Rang, M. M. Dale, J. M. Ritter, R. J. Flower, G. Henderson (Editor), Publisher: Elsevier, Churchill Livingstone.
3. Lumb & Jones Veterinary Anesthesia, (5th Edition, 2015) by William J. Tranquilli, John C. Thurman & G. Kurt A. Grimm (Editors), Wiley, ISBN: 0-7817-54712.
4. Small Animal Clinical Pharmacology, (2nd edition, 2008), by Jill E. Maddison, Stephen Page & David Church (Editors), Saunders Ltd., ISBN: 978-0-7020-2858-8.

5. Handbook of Veterinary Pharmacology, 2008, by Walter Hsu (Editor), Wiley-Blackwell, ISBN: 978-0-8138-2837-4.

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Computer system with internet facility is required for online course work.

VIII. Course rationale

Pharmacology is a science of study of drugs in biological system. This course describes the basic principles of pharmacology and the importance of pharmacokinetic and pharmacodynamic features of drugs and lays the foundation for the clinical application of veterinary medicinal products. The significance of correlating pharmacology with physiology provides a firm understanding of the subject concepts. This course aims to develop student's knowledge about the rational use of therapeutic drugs considering species variations and the drug's pharmacokinetic and pharmacodynamic features. Special emphasis will be given to the clinical use of drugs in various species of animals, analyzing species specific sensitivities and adverse/side-effects. This course will be a foundation for further application into anaesthesiology, clinical medicine and surgical medicine of large and small animals.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to...

1. Analyze and explain in a general sense how and where drugs work (pharmacodynamics).
2. Articulate and apply knowledge of pharmacokinetics and judge how altered physiologic and pathologic state affects drug concentrations within the body.
3. Design the most appropriate pharmacological protocol (therapies) for common and important diseases, including preventative measures and anesthesia.
4. Outline the desired response to pharmacological therapies and reflect on methods to monitor for undesired pharmacological responses (including lack of efficacy).
5. Predict and recognize major drug-drug interactions and compare common/predictable or catastrophic species-specific adverse drug reactions.
6. Obtain, maintain inventory, prescribe, administer, and dispose veterinary medicinal products based on sound regulatory and ethical guidelines.
7. Integrate all principles of evidence-based medicine to informed decision making and self-improvement in all aspects of veterinary pharmacology (principles of Good Veterinary Practice).

X. Lesson Learning Outcomes

Detailed information of the lecture topics and lesson learning outcomes are enclosed as a table at the end of the syllabus.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

- The information is enclosed as a table at the end of the syllabus.

XII. Course Schedule

The lecture schedule is presented as a table at the end of the syllabus.

Optional Zoom office hour – 1 hour per week would be conducted to address the queries of the online students. The Zoom session time could be selected based on the student's course schedule.

XIII. Grading and assessment policy, and grading rubrics

Assessment method:

Assessment of the course will be based on computer-based examinations (ExamSoft). The examination dates and time are listed on the lecture schedule (remain same for in-person and online students).

Assessments	Scheduled date & time (AST)	Lecture topics	Weightage (%)
Quiz 1	13 th Sep., 11.30 a.m.	Basic Pharmacology lectures (1-10)	12
Midterm Exam	8 th Oct., 12.00 p.m.	Midterm exam (1-23 lectures)	33
FINAL	29 th Nov., 12.00 p.m.	Cumulative exam	45
		Total	90%

Forum participation – 5% of grade (students were graded based on the participation in answering the forum questions).

Assignment – 5% (group assigned with a pharmacological based problem).

Students were grouped and assigned with a topic related to pharmacological significance. The team should work together and resolve the case. The report need to be submitted in a complete format. Further, this would be presented briefly to the class.

Total – Quiz & Exams (90%) + forum participation (5%) + Assignment (5%)

The exam material will cover the information from lectures and class discussions. The total points scored will be cumulative and a single letter grade will be awarded for the course. **If any discussion/ clarification is required for the completed assessment, it should be done within the first seven (7) days after completion of the examination.** Comments and challenges should be communicated through the designated SGA student representative within 24 hrs. of completion of quiz/exam.

All the ExamSoft exams were monitored by online proctoring.

A grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

Grading scale

Grades	Scores
A	> 89.5
B+	84.5 - 89.49
B	79.5 - 84.49
C+	74.5 – 79.49
C	69.5 – 74.49
D+	64.5 – 69.49
D	59.5 – 64.49
F	Below 59.49%

XIV. Recommended study strategies

- It is highly recommended to study the lecture material on daily basis and clearly understand the concepts of subject.
- Weekly revision of the subject is mandated for a good academic performance in the comprehensive final exam.
- Recommended to maintain a drug list for each drug categories.
- If you need any academic assistance, feel free to contact the Course Director. Additional office hours can be fixed by appointment through email.

XV. Instructor's expectations of the student

Students are expected to read through the lecture topics regularly and required to actively participate in SAKAI forum discussions. For students on online, weekly zoom sessions were quite helpful, hence attending these sessions regularly is beneficial.

It is highly important to maintain the course performance from the beginning of the term.

XVI. Professionalism statement

Students at St. George's University are expected to maintain the University Code of Conduct.

- Students are expected to exhibit professional behavior in class.
- It is mandated that all students abide by the terms of the University Code of Conduct.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8 am-5pm AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (quiz/exams on ExamSoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN

EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director, Dr. Kamashi Kumar, (kakumar@sgu.edu) and IT (tellexaminationservices@sgu.edu) OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.

4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exams related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Exemplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices:**Pharmacology I lecture schedule – Fall 2021 (Lecturer: Dr. Kamashi Kumar)**

Pharmacology I - Lecture Schedule					
Fall 2021					
Week	Lecture	Time	Day	Date	Topic
1	1	11.30 a.m.	Thursday	19-Aug	Veterinary Pharmacology I course introduction
	2	9.30 a.m.	Friday	20-Aug	Introduction to Pharmacology
2	3	8.30 a.m.	Wednesday	25-Aug	Pharmacokinetics - Routes of administration
	4	11.30 a.m.	Thursday	26-Aug	PK - Absorption
3	5	10.30 a.m.	Monday	30-Aug	PK - Distribution
	6	10.30 a.m.	Tuesday	31-Aug	PK - Metabolism
	7	8.30 a.m.	Wednesday	1-Sep	PK - Excretion/Elimination
	8	9.30 a.m.	Thursday	2-Sep	Quantitative kinetics
	9	9.30 a.m.	Friday	3-Sep	Pharmacodynamics
4	10	8.30 a.m.	Thursday	9-Sep	Pharmacodynamics
	11	9.30 a.m.	Friday	10-Sep	Pharmacodynamics
5	12	11.30 a.m.	Monday	13-Sep	Quiz I
	13	11.30 a.m.	Tuesday	14-Sep	Autonomic nervous system
	14	9.30 a.m.	Wednesday	15-Sep	Adrenergic nervous system
	15	9.30 a.m.	Thursday	16-Sep	Adrenergic nervous system
	16	9.30 a.m.	Friday	17-Sep	Adrenergic nervous system
6	17	11.30 a.m.	Tuesday	21-Sep	Adrenergic nervous system
	18	8.30 a.m.	Wednesday	22-Sep	Cholinergic nervous system
	19	9.30 a.m.	Wednesday	22-Sep	Cholinergic nervous system
	20	10.30 a.m.	Thursday	23-Sep	Cholinergic nervous system
	21	11.30 a.m.	Thursday	23-Sep	Pharmacophysiology of CNS: intro anaesthesia and analgesia
7	22	8.30 a.m.	Monday	27-Sep	Muscle Relaxants
	23	11.30 a.m.	Tuesday	28-Sep	Sedatives and Tranquilisers
	24	8.30 a.m.	Wednesday	29-Sep	Sedatives and Tranquilisers

8		12.00 p.m.	Friday	8-Oct	Mid-Term Exam
9	25	8.30 a.m.	Thursday	14-Oct	Control of pain
	26	10.30 a.m.	Friday	15-Oct	Control of pain
10	27	10.30 a.m.	Monday	18-Oct	Injectable anaesthetics
	28	8.30 a.m.	Wednesday	20-Oct	Injectable anaesthetics
	29	9.30 a.m.	Thursday	21-Oct	Inhalant anaesthetics
	30	9.30 a.m.	Friday	22-Oct	Local anaesthetics
11	31	10.30 a.m.	Tuesday	26-Oct	Local anaesthetics
	32	8.30 a.m.	Wednesday	27-Oct	Anticonvulsants
	33	9.30 a.m.	Thursday	28-Oct	Anticonvulsants
12	34	8.30 a.m.	Monday	1-Nov	Histamine, serotonin & their antagonists
	35	11.30 a.m.	Tuesday	2-Nov	Histamine, serotonin & their antagonists
	36	8.30 a.m.	Friday	5-Nov	Hemostatics/anticoagulants
13	37	8.30 a.m.	Monday	8-Nov	Hemostatics/anticoagulants
	38	11.30 a.m.	Tuesday	9-Nov	Anabolic steroids
	39	11.30 a.m.	Friday	12-Nov	NSAIDs
14	40	11.30 a.m.	Tuesday	16-Nov	NSAIDs
	41	11.30 a.m.	Thursday	18-Nov	Carticosteroids
	42	8.30 a.m.	Friday	19-Nov	Carticosteroids
	43	9.30 a.m.	Friday	19-Nov	Drugs modifying animal behaviour
15	44	9.30 a.m.	Monday	22-Nov	Prescription writing
	45	8.30 a.m.	Wednesday	24-Nov	REVIEW
16		12.00 p.m.	Monday	29-Nov	Final Exam

LECTURE LEVEL OUTCOMES

Lecture topic	Lecture Level Outcomes (Student Learning Outcomes)
Introduction to Pharmacology	<ol style="list-style-type: none"> 1. Define Pharmacology and its associated disciplines 2. Correlate the significance of pharmacology to the Veterinary medicine 3. Compare and contrast pharmacology and toxicology 4. Explain the main goals of pharmacotherapy 5. Compare and contrast the different therapy forms
Pharmacokinetics - Routes of administration	<ol style="list-style-type: none"> 1. Compare and contrast the pros and cons of different routes of administration 2. Compare and contrast local and systemic routes of administration 3. Compare the different routes of drug administration to the clinical significance. 4. Associate the patient and drug factors to the bioavailability of drugs. 5. Design dosing regimens and clarify the relevance of allometric scaling
Pharmacokinetics - Absorption	<ol style="list-style-type: none"> 1. Explain active and passive transport processes across membranes 2. Integrate the pathophysiological factors role in modulating drug absorption 3. Compare and contrast absolute and relative bioavailability 4. Determine the clinical relevance of absorption
Pharmacokinetics - Distribution	<ol style="list-style-type: none"> 1. Explain the importance of plasma protein binding for the distribution of drugs 2. Describe distribution and re-distribution of drugs 3. Integrate the role of pathophysiological changes over the distribution of drugs
Pharmacokinetics - Metabolism	<ol style="list-style-type: none"> 1. Explain the various processes of drug biotransformation 2. Compare and contrast the first-pass effect and enterohepatic circulation and reflect on their clinical relevance 3. Compute the effects of disease on the metabolism of drugs 4. Associate the clinical significance of metabolism including the effects of genetic polymorphisms

Pharmacokinetics - Excretion	<ol style="list-style-type: none"> 1. Classify the different routes of elimination of drugs 2. Integrate the role of transporters on the elimination of drugs 3. Determine the clinical relevance of elimination (species differences and genetic polymorphisms) 4. Correlate the pathophysiological factors and disease condition to the elimination of drugs.
Quantitative pharmacokinetics	<ol style="list-style-type: none"> 1. Explain the different components of the plasma- concentration-time curve 2. Compare and contrast the different pharmacokinetic models and their clinical relevance 3. Interpret the significance of the different pharmacokinetic models. 4. Analyze the importance of therapeutic index of drug
Pharmacodynamics	<ol style="list-style-type: none"> 1. Explain the concepts of pharmacodynamics associated with various drugs. 2. Compare and contrast different types of drug receptors to their significance. 3. Associate the role of secondary messengers to the cellular effect. 4. Determine the efficacy and potency of drugs in relation to therapeutic index of drugs. 5. Differentiate the concepts of selectivity and specificity 6. Integrate drug-target interactions and their clinical significance (agonist, competitive and non-competitive antagonist, inverse agonist) 7. Interpret changes in receptor populations (receptor down-regulation)
Introduction to Autonomic nervous system	<ol style="list-style-type: none"> 1. Explain the physiological roles of the sympathetic and parasympathetic nervous system 2. Correlate the physiology of ANS to the pharmacological intervention.
Adrenergic drugs	<ol style="list-style-type: none"> 1. Differentiate and explain the pharmacological features of adrenergic drugs. 2. Associate the pharmacokinetic and pharmacodynamic features of adrenergic drugs to the appropriate selection of drugs for therapeutic concern.

	<ol style="list-style-type: none"> 3. Explain the side-effects and contraindications of the adrenergic drugs. 4. Compute the adrenergic drug interactions applicable for a clinical condition. 5. Determine the suitable drug for treating a clinical disease in various species.
Cholinergic drugs	<ol style="list-style-type: none"> 1. Differentiate and explain the pharmacological features of cholinergic drugs. 2. Associate the pharmacokinetic and pharmacodynamic features of cholinergic drugs to the appropriate selection of drugs for therapeutic concern. 3. Explain the side-effects and contraindications of the cholinergic drugs. 4. Compute the cholinergic drug interactions applicable for a clinical condition. 5. Determine the suitable drug for treating a clinical disease in different species.
Pharmacophysiology of CNS	<ol style="list-style-type: none"> 1. Explain the physiological role of the central nervous system and correlate to the pharmacological intervention. 2. Illustrate the importance of CNS neurotransmitters to regulate the bodily function 3. Define the therapeutic goals for anaesthesia and analgesia 4. Categorize the different targets for anaesthetic drugs 5. Design appropriate treatment protocols for anaesthesia
Sedatives and tranquilizers	<ol style="list-style-type: none"> 1. Compare the pharmacokinetics and pharmacodynamics of various sedatives and tranquilizer drugs 2. Determine the appropriate sedative/tranquiller drug for treating the clinical condition in various species. 3. Explain the side-effects and contraindications of sedatives and tranquilizers. 4. Design protocols for the sedation of animals taking drug-drug interactions and adverse effects into account 5. Calculate protocol modification based on drug characteristics and the patient's pathophysiology
Muscle Relaxants	<ol style="list-style-type: none"> 1. Explain the importance of muscle relaxants use in Veterinary medicine.

	<ol style="list-style-type: none"> 2. Compare the pharmacokinetics and pharmacodynamics of various muscle relaxants (centrally acting, depolarizing and non-depolarizing muscle relaxants) 3. Determine the appropriate muscle relaxant drug suitable for the various species. 4. Explain the side-effects and contraindications of muscle relaxant drugs. 5. Discuss the drug-drug interactions with muscle relaxants
Control of pain	<ol style="list-style-type: none"> 1. Discuss about the physiology of pain induction 2. Explain the significance of analgesic drugs in Veterinary medicine. 3. Compare the pharmacokinetics and pharmacodynamics of various analgesic drugs. 4. Determine the analgesic drug in relation to species and the respective clinical condition. 5. Explain the side-effects and contraindications of various analgesic drugs 6. Design pain medication protocol
Injectable anaesthetics	<ol style="list-style-type: none"> 1. Discuss the basic principles of general anaesthesia 2. Integrate the pharmacokinetic prerequisites for induction of general anaesthesia 3. Explain the significance of various classes of injectable anaesthetics. 4. Compare the pharmacokinetics and pharmacodynamics of various injectable anaesthetic drugs. 5. Explain the side-effects and species differences of various injectable anaesthetic drugs 6. Design anaesthetic protocols considering drug interactions and species sensitivity

Inhalant anaesthetics	<ol style="list-style-type: none"> 1. Discuss the basic principles of general anaesthesia 2. Integrate the pharmacokinetic features of inhalation anaesthetic drugs for induction of general anaesthesia 3. Tabulate the effects of inhalation anaesthetic drugs on CNS and various visceral organs. 4. Categorize various drugs of inhalant anaesthetics and associate their pharmacological features to clinical significance. 5. Explain the side-effects associated with various inhalant anaesthetic drugs. 6. Design anaesthetic protocol considering drug interactions and species sensitivity.
Local anaesthetics	<ol style="list-style-type: none"> 1. Explain the basic principles and importance of local anaesthesia 2. Categorize various drugs of local anaesthetics used in veterinary animals. 3. Integrate the pharmacological features of local anaesthetic drugs to the clinical significance. 4. Explain the side-effects associated with various local anaesthetic drugs. 5. Design anaesthetic protocols considering species sensitivity and clinical condition.
Anticonvulsants	<ol style="list-style-type: none"> 1. Explain the pathophysiology of seizures and apply this knowledge to determine therapeutic targets 2. Identify compounds that can be used to treat seizures and/or epilepsy 3. Integrate pharmacokinetic characteristics of drug categories and individual drugs to the efficacy of treatment 4. Create treatment plans for animals with seizures or epilepsy 5. Identify the most common adverse effects associated with the use of anti-seizure drugs
Histamine, serotonin and their antagonists	<ol style="list-style-type: none"> 1. Discuss the significance of autacoids in physiology 2. Compare the pharmacological features of first and second generation antihistaminergic drugs 3. Tabulate the clinical indications of antihistaminergic drugs. 4. Integrate the significance of serotonergic agonist and antagonistic drugs in specific clinical indications. 5. Explain the side-effects and contraindications of antihistaminergic drugs and serotonergic drugs in various species

Hemostatic agents and anticoagulants	<ol style="list-style-type: none"> 1. Explain the physiology of blood coagulation and fibrinolysis 2. Compare and contrast the pharmacological features and clinical use of hemostatic drugs, anticoagulants, fibrinolytic and antiplatelet drugs in various animals
Anabolic steroids	<ol style="list-style-type: none"> 1. Discuss the role of anabolic steroids in animal's physiology 2. Explain various anabolic steroids for veterinary animal clinical use and their significance.
NSAIDs & Corticosteroids	<ol style="list-style-type: none"> 1. Integrate the physiology of prostaglandins and corticosteroids to explain the significance of NSAIDs and corticosteroids in animal species. 2. Compare the pharmacokinetics and pharmacodynamics of different categories of NSAIDs and corticosteroids. 3. Determine the clinical indications of NSAIDs and corticosteroids. 4. Assess the importance of the side-effects and contraindications of NSAIDs and corticosteroids.
Drugs modifying animal behaviour	<ol style="list-style-type: none"> 1. Understand the mechanism of action of drugs used to modify animal behavior. 2. Define the adverse effects and drug-drug interactions that occur in the treatment of behavioural problems. 3. Design treatment protocols for animals with different behavioural problems.
Prescription writing	<ol style="list-style-type: none"> 1. Distinguish the different components of a prescription. 2. Create a prescription based on the details provided.

PLO to CLO mapping

Course Learning Outcome	SGUSVM Program Learning Outcome
CLO1	A1, A5, C2, C9
CLO2	A1, A2, A3, A4, A5, A6, C2, C5, C9
CLO3	A5, A6, A11, C2, C3, C4, C6
CLO4	A5, A6, A7, C2, C7
CLO5	A1, A5, A6, C1, C2, C7
CLO6	A5, B7
CLO7	A5, A11, B7, C7, C9

A. Core Medical Knowledge

A1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.

A2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.

A3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.

A4 Explain the relationship between disease processes and clinical signs.

A5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.

A6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.

A7 Evaluate and analyze normal versus abnormal animal behavior.

A11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.

B. Core Professional Attributes

B7 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity.

C. Core Clinical Competencies (Skills)

C1 Execute a comprehensive patient diagnostic plan (differential diagnosis list) and demonstrate problem solving skills to arrive at a diagnosis.

C2 Create comprehensive treatment plans including prognosis.

C3 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.

C4 Analyze, design and execute appropriate plans for basic surgery and surgical case management.

C5 Analyze, design and execute appropriate plans for medical case management.

C6 Analyze, design and execute appropriate plans for emergency and critical care case management.

C7 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.

C9 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT OF ANATOMY, PHYSIOLOGY AND PHARMACOLOGY
PHARMACOLOGY 2 SYLLABUS (3 credits)
ANPH505 TERM 3
Fall 2021

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I. Course Faculty and Staff Information

Course Director and lecturer for the course is Professor Arno Werners DVM, M.Ed, PhD, DECVPT (awerners@sgu.edu).

Individual or small group office hours can be scheduled after contacting the course director (awerners@sgu.edu).

II. Course location

All lectures will be delivered/offered face-to-face. The “Lessons” tab on Sakai will be used to make sure that you keep up with the course material. Links will be available on this page to the learning materials for that week and these include Panopto recordings, lecture slides, assignments, formative assessments and notes.

III. Prerequisite and/or co-requisite courses

To be able to successfully participate in and complete this course, a good understanding of chemistry, as well as physiology and pathophysiology of diseases is required. Students therefor will have to have successfully completed the following courses: Pharmacology 1, Physiology 1 and Physiology 2 and Bacteriology/ Mycology. During the term students will learn to incorporate knowledge obtained in virology, parasitology, and pathology and should therefor keep up to date with the information provided in those courses.

IV. Required resources

I will use long notes and/or slides. Long notes and/or slides will be available on Sakai only and will not be available as a print-out. The slides will be accessible for digital note taking. All lectures will be available via Panopto: the link is published on the Sakai site on the “Lessons” tab. There are no other required resources for this course, however, a variety of textbooks on (clinical) pharmacology, especially those that are in your field of interest (textbooks on clinical pharmacology; see below) and the “Antimicrobial therapy in Veterinary Medicine, 4th edition; Gigue-re, Prescott, Baggot, Walker and Dowling editors; Blackwell Publishing” can be very helpful when preparing for the course and in general practice.

V. Recommended resources

The following resources can be helpful when studying the course material.

- Pharmacology, 7th edition; Rang, Dale and Ritter editors; Churchill Livingstone
- Antimicrobial therapy in Veterinary Medicine, 4th edition; Giguere, Prescott, Baggot, Walker and Dowling editors; Blackwell Publishing
- Veterinary Pharmacology and Therapeutics, 9th edition; Riviere and Papich editors; Wiley-Blackwell
- Handbook of Veterinary Pharmacology, 1st edition; W.S. Hsu, Wiley-Blackwell
- Equine Clinical Pharmacology; J.J. Bertone and L.J.I. Horspool, Saunders
- Small Animal Clinical Pharmacology, 2nd edition; J.E. Maddison, S.W. Page and D.B. Church, Saunders
- Small Animal Clinical Pharmacology and Therapeutics, 2nd edition; D.M. Boothe, Elsevier

VI. Accommodations

1. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
2. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None

VIII. Course rationale

One of the main tasks of the veterinarian in every day practice is the application of veterinary medicinal products. To be able to responsibly administer drugs to animals, one needs thorough knowledge of the administration and mode of action of drugs. Furthermore, the risks associated with drug administration, both for the animal (adverse effects; toxicology) and for the environment (this includes the owner and the environment; environmental toxicity – “one-health” concept) needs to be carefully evaluated. Essential in the choices made by veterinarians in everyday practice is up-to-date knowledge of pharmacological concepts (including species differences), animal physiology, biochemistry and pathophysiology of diseases.

IX. Course learning outcomes

In this course, students will develop a proficient working knowledge of therapeutic decision making, food safety, anti-infective drugs and drugs acting on organ systems. The principals of drug therapy and the factors that influence the use of each medication in different species will be discussed. There is special attention for the clinical importance of drugs, their pharmacokinetics, pharmacodynamics and adverse effects.

Upon successful completion of this course, the student will be able to:

1. Analyse and explain in a general sense how and where drugs work at the molecular/cellular/physiologic level including concepts such as receptors, agonists, partial agonists and antagonists and non-receptor mediated drug actions.
2. Articulate and apply knowledge of drug absorption, bioavailability, distribution, metabolism and excretion, and judge how altered physiologic and pathologic states would be expected to affect drug concentrations within the body.
3. Design the most appropriate pharmacological protocol (therapies) for common and important diseases using knowledge of species, breed, age, sex, disease states, genetics and other factors, and integrate pharmacological therapy in a multimodal treatment plan (i.e., surgery, nutrition, management, etc).
4. Outline the desired response to pharmacological therapies as well as reflect on the most appropriate methods to monitor for undesired pharmacological responses (including lack of efficacy). In the event of undesired pharmacological responses, determine the most appropriate interventions.
5. Compare and contrast common/predictable or catastrophic species-specific adverse drug reactions and new clinical signs of an existing disease and medication errors.
6. Predict and recognise major drug-drug interactions.
7. Obtain, maintain inventory, prescribe, administer, and dispose veterinary medicinal products based on sound regulatory and ethical guidelines.
8. Integrate all principles of evidence-based medicine to informed decision making and self-improvement in all aspects of veterinary pharmacology (principles of Good Veterinary Practice).
9. Effectively communicate information about drugs and therapeutic plans to clients (translate information to lay person, educate stakeholders) , techni-

cal staff, and colleagues and ensure consistency with and cognisance of demographical, socio-economical and cultural considerations.

X. Lesson learning outcomes

Please refer to [table 1](#) in the appendix for the lesson learning outcomes.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes/Competencies

Please refer to [table 2](#) in the appendix for the alignment of course learning outcomes with program learning outcomes.

XII. Course Schedule

Please refer to [table 3](#) in the appendix for the course schedule. A detailed outline of the course can also be found on the Pharmacology 2 page of Sakai.

XIII. Grading and assessment policy, and grading rubrics

Grading scale

PERCENTAGE SCORE	LETTER GRADE
> 89.5%	A
84.5 - 89.5	B+
79.5 - 84.4	B
74.5 - 79.4	C+
69.5 - 74.4	C
64.5 - 69.4	D+
59.5 - 64.4	D
< 59.4	F

Assessment policy

Knowledge of the subject will be tested formatively throughout the term and summatively in 2 quizzes and a final examination. All the material presented (TopHat notes, lecture slides, and Panopto recordings) is subject in all assessments, unless the lecturer specifically indicates differently. Formative questions (MCQs and SAQs) can be found throughout the TopHat readings and serve as practice questions. The [first quiz](#) (22 questions) will cover all material presented in the first part of the term. The [second quiz](#) (22 questions) will cover all material presented between quiz 1 and quiz 2. The [final exam](#) (60 questions) will cover all material presented during the term. The final grade will consist off the mark for

the 2 quizzes (20% each), and the mark for the final examination (60%). **Anything that falls under the learning outcomes can be part of the examinations.**

The format of the questions on the quizzes and examination will be Multiple Choice Questions (MCQs), Short Answer Questions (SAQs), Fill in the Banks (FITB) and Matching questions.

Assessment	% of total grade	Total # of points	Subjects
Quiz 1	20%	22	All the material presented before the 1st quiz. See detailed schedule in appendix table 4
Quiz 2	20%	22	All the material presented between the 1st and 2nd quiz. See detailed schedule in appendix table 4
Final examination	40%	62	1 question per "lecture hour" for the material presented before the 2 quizzes and 3 questions per "lecture hour" for the material presented after the second quiz. See detailed schedule in appendix table 4

The lecturers will very carefully design the quizzes and exams. The most current SGU examination policy is adhered to and is leading in all issues that might arise. Students are required to follow the instructions of the course director and the proctors in all matters. **Discussions and reviews of/on quizzes, exams and quiz and examination material can only take place within the first seven (7) days after completion of the quiz or examination. Comments and challenges should be communicated through the designated SGA student representative within 24 hours. No extra credits or assignments will be given.**

XIV. Recommended study strategies

This course will be assessed in a midterm and final examination, SAQs, an assignment and a peer evaluation. It is therefore essential to stay on top of the study

material throughout the course. To be able to do so, it is advised to follow the following steps:

The long notes contain all the information you need to know. Each chapter starts with an introduction, followed by the description of the different drugs. Read the long notes strategically focussing on clinical relevance of the material presented.

Each chapter in the long notes has take away boxes with the most pertinent information of each drug or drug group. Start with studying the characteristics of groups of drugs rather than the characteristics of individual drugs. Once you understand and have familiarised yourself with this information and are able to appreciate the clinical importance of this information, study the different drugs in this group. What you will realise is that most drugs in each group have very similar characteristics; only clinically relevant exceptions of the group characteristics should be memorised for individual drugs. You do need to remember which drugs belong to which groups. To help you studying in this manner, drug lists are provided on Sakai for each chapter/group of drugs.

The clinical application of drugs is important, as well as relevant mechanisms of action, pharmacokinetics, adverse effects and drug-drug interactions.

XV. Instructor's expectations of the student

Students are expected to familiarise themselves with the materials before working on the SAQs and before coming to the office hours and are expected to actively participate in the discussions in class and on the Sakai forum.

XVI. Professionalism statement

Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behaviour. The Code of Conduct includes student comportment and the honour code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University. Abuses of this Code, outlined in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is

the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct.

XVII. Attendance policy

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Examsoft: SAQs and final examination; Sakai: assignments) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (awerners@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honour Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarise themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarise themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#)
 - b. [The examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. [Examsoft information page](#)
 - e. [The general Reminders/Guidelines](#)

XXI. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to use these materials solely for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

XXII. Appendices

Table 1: Lesson learning outcomes

Topic	Lesson learning outcomes	Course learning outcomes
Antimicrobial drugs	<p>AMB 1. Identify the drug targets and mechanisms of action of the different groups of antimicrobial drugs</p> <p>AMB 2. Compare and contrast time dependent and concentration dependent killing of bacteria and what this means for therapeutic decisions</p> <p>AMB 3. Clarify the importance of bactericidal versus bacteriostatic in therapeutic decision making (severity of disease)</p> <p>AMB 4. Compare and contrast the different pharmacodynamic and PK/PD parameters essential in treatment choices (MIC, MPC, MPW, MBC etc)</p> <p>AMB 5. Clarify different mechanisms of resistance against antimicrobial drugs</p> <p>AMB 6. Evaluate the adverse effects and contraindications of antimicrobial drugs</p> <p>AMB 7. Create treatment protocols for different bacterial diseases</p>	1, 2, 3, 4, 5

Topic	Lesson learning outcomes	Course learning outcomes
Cardiavascular pharmacology	<p>CV 1. Identify the drug targets and mechanisms of action of drugs with an effect on the heart and/or the vasculature</p> <p>CV 2. Compare and contrast clinical effects of drugs with an effect the heart and or the vasculature</p> <p>CV 3. Evaluate the adverse effects and contraindications of drugs with effects on the heart and/or the vasculature</p> <p>CV 4. Create a treatment protocol for diseases of the heart and/or the vasculature</p>	1, 2, 3, 4, 5
Ophthalmic pharmacology	<p>OPTH 1. Clarify the pharmacokinetic characteristics required for treatment of ocular diseases</p> <p>OPTH 2. Identify the drug targets and mechanisms of action of drugs that are used to treat common ocular diseases</p> <p>OPTH 3. Evaluate the adverse effects and contraindications of drugs used to treat common ocular diseases</p> <p>OPTH 4. Create treatment protocols for common diseases in and around the eye</p>	1, 2, 3, 4, 5

Topic	Lesson learning outcomes	Course learning outcomes
Urogenital pharmacology	<p>Diuretics</p> <p>UG 1. Identify the drug targets and mechanisms of action</p> <p>UG 2. Compare and contrast the clinical effects of diuretics</p> <p>UG 3. Evaluate the adverse effects and contraindications</p> <p>UG 4. Create a treatment protocol for diseases requiring the use of diuretics</p> <p>Drugs treating diseases of the kidney</p> <p>UG 5. Identify the drug targets and mechanisms of action of drugs used in acute and chronic kidney disease</p> <p>UG 6. Compare and contrast the effects of different drugs used in acute and chronic kidney disease</p> <p>UG 7. Evaluate the adverse effects and contraindications of drugs used in acute and chronic kidney disease</p> <p>UG 8. Create a treatment protocol for acute and chronic kidney disease</p> <p>Drugs used to treat diseases of urether, urinary bladder and urethra</p> <p>UG 9. Identify the drug targets and mechanisms of action for drugs with an effect on the lower urinary tract</p> <p>UG 10. Compare and contrast the different effects of drugs with an effect on the lower urinary tract</p> <p>UG 11. Evaluate the adverse effects and contraindications of drugs with an effect on the lower urinary tract</p> <p>UG 12. Create a treatment protocol for diseases of the lower urinary tract</p>	1, 2, 3, 4, 5

Topic	Lesson learning outcomes	Course learning outcomes
Gastro-intestinal pharmacology	<p>Drugs with an effect on the stomach</p> <p>GI 1. Identify the drug targets and mechanisms of action for drugs with an effect on the stomach</p> <p>GI 2. Compare and contrast the effects of drugs with an effect on the stomach</p> <p>GI 3. Evaluate the adverse effects and contraindications of drugs with an effect on the stomach</p> <p>GI 4. Create a treatment protocol for common diseases of the stomach</p> <p>Drugs with an effect on the intestines</p> <p>GI 5. Identify the drug targets and mechanisms of action of drugs with an effect on the intestines</p> <p>GI 6. Compare and contrast the effects of drugs with an effect on the intestines</p> <p>GI 7. Evaluate the adverse effects and contraindications of drugs with an effect on the intestines</p> <p>GI 8. Create a treatment protocol for common diseases of the intestines</p>	1, 2, 3, 4, 5

Topic	Lesson learning outcomes	Course learning outcomes
Chemotherapy/cancer medication	<p>CT 1. Identify the drug targets and mechanisms of action of different anticancer drugs</p> <p>CT 2. Compare and contrast the effects different groups of anticancer drugs</p> <p>CT 3. Clarify different mechanisms of resistance against drugs used to treat cancer</p> <p>CT 4. Evaluate the adverse effects and contraindications of anticancer drugs</p> <p>CT 5. Create a treatment protocol for different types of cancer</p>	1, 2, 3, 4, 5
Food safety	<p>FS 1. Clarify the importance of avoiding residues in edible tissues</p> <p>FS 2. Identify rules and regulations regarding food safety in different countries</p> <p>FS 3. Clarify which parameters are used to minimise the risk of residues in food</p> <p>FS 4. Identify withdrawal times and explain the influence dose and pharmacokinetic parameters have on the withdrawal time</p> <p>FS 5. Clarify the rules and regulations regarding extra label use of drugs in different countries</p>	6, 7, 8

Topic	Lesson learning outcomes	Course learning outcomes
Antiviral drugs	<p>AV 1. Identify the drug targets and mechanisms of action of different antiviral drugs</p> <p>AV 2. Compare and contrast the effects of different groups of antiviral drugs</p> <p>AV 3. Clarify different mechanisms of resistance against drugs used to treat viral infections</p> <p>AV 4. Evaluate the adverse effects and contraindications of antiviral drugs</p> <p>AV 5. Create a treatment protocol for different viral infections</p>	1, 2, 3, 4, 5
Antiprotozoal drugs	<p>AP 1. Identify the drug targets and mechanisms of action of antiprotozoal drugs</p> <p>AP 2. Compare and contrast the effects of different groups of antiprotozoal drugs</p> <p>AP 3. Clarify different mechanisms of resistance against drugs used to treat protozoal infections</p> <p>AP 4. Evaluate the adverse effects and contraindications of antiprotozoal drugs</p> <p>AP 5. Create a treatment protocol for different protozoal infections</p>	1, 2, 3, 4, 5

Topic	Lesson learning outcomes	Course learning outcomes
Ectoparasitocides	<p>ECT 1. Identify the drug targets and mechanisms of action of ectoparasitic drugs</p> <p>ECT 2. Compare and contrast the effects of different groups of ectoparasitic drugs</p> <p>ECT 3. Clarify different mechanisms of resistance against ectoparasitic drugs</p> <p>ECT 4. Evaluate the adverse effects and contraindications of ectoparasitic drugs</p> <p>ECT 5. Create a treatment protocol for different ectoparasitic infestations</p>	1, 2, 3, 4, 5
Antifungal drugs	<p>AF 1. Identify the drug targets and mechanisms of action of antifungal drugs</p> <p>AF 2. Compare and contrast the effects of antifungal drugs</p> <p>AF 3. Clarify different mechanisms of resistance against antifungal drug</p> <p>AF 4. Evaluate the adverse effects and contraindications of antifungal drugs</p> <p>AF 5. Create a treatment protocol for fungal infections</p>	1, 2, 3, 4, 5

Topic	Lesson learning outcomes	Course learning outcomes
Anthelmintic drugs	<p>ANTH 1. Identify the drug targets and mechanisms of action of anthelmintic drugs</p> <p>ANTH 2. Compare and contrast the effects of anthelmintic drugs</p> <p>ANTH 3. Clarify different mechanisms of resistance against anthelmintic drugs</p> <p>ANTH 4. Evaluate the adverse effects and contraindications of anthelminthic drugs</p> <p>ANTH 5. Create a treatment protocol for different helminth infections/infestations</p>	1, 2, 3, 4, 5
Respiratory pharmacology	<p>RESP 1. Identify drug targets and mechanisms of action of drugs used to treat common respiratory diseases</p> <p>RESP 2. Compare and contrast the effects and adverse effects of drugs used to treat common respiratory diseases</p> <p>RESP 3. Evaluate the contraindications and adverse effects of drugs used to treat common respiratory diseases</p> <p>RESP 4. Create treatment protocols for common respiratory diseases in animals</p>	1, 2, 3, 4, 5

Topic	Lesson learning outcomes	Course learning outcomes
Therapeutic decision making	<p>TDM 1. Create treatment plans for common disorders in a variety of relevant veterinary species</p> <p>TDM 2. Evaluate treatment plans based on the therapeutic concept including Good Veterinary Practice and Antimicrobial Stewardship</p> <p>TDM 3. Compare and contrast advantages and disadvantages of different treatment modalities</p>	6, 7, 8

Table 2: Alignment of Course Learning Outcomes with Program Learning Outcomes/Competencies

	Course learning outcomes	Program learning outcomes
1	Analyse and explain in a general sense how and where drugs work at the molecular/cellular/physiologic level including concepts such as receptors, agonists, partial agonists and antagonists and non-receptor mediated drug actions.	A1: Recall, understand and adequately utilise multidisciplinary knowledge of basic structures and functions of healthy animals
2	Articulate and apply knowledge of drug absorption, bioavailability, distribution, metabolism and excretion, and judge how altered physiologic and pathologic states would be expected to affect drug concentrations within the body.	A1: Recall, understand and adequately utilise multidisciplinary knowledge of basic structures and functions of healthy animals A2: Analyse homeostasis and disturbances of basic structures and functions of healthy animals
3	Design the most appropriate pharmacological protocol (therapies) for common and important diseases using knowledge of species, breed, age, sex, disease states, genetics and other factors, and integrate pharmacological therapy in a multimodal treatment plan (i.e., surgery, nutrition, management, etc).	A2: Analyse homeostasis and disturbances of basic structures and functions of healthy animals A3: Recall, understand, and adequately utilise knowledge of aetiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations A6: Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine C2: Create comprehensive treatment plans

	Course learning outcomes	Program learning outcomes
4	Outline the desired response to pharmacological therapies as well as reflect on the most appropriate methods to monitor for undesired pharmacological responses (including lack of efficacy). In the event of undesired pharmacological responses, determine the most appropriate interventions.	C2: Create comprehensive treatment plans
5	Compare and contrast common/predictable or catastrophic species-specific adverse drug reactions and new clinical signs of an existing disease and medication errors.	C2: Create comprehensive treatment plans
6	Predict and recognise major drug-drug interactions.	C2: Create comprehensive treatment plans
7	Obtain, maintain inventory, prescribe, administer, and dispose veterinary medicinal products based on sound regulatory and ethical guidelines.	C2: Create comprehensive treatment plans A9: Apply the principles of veterinary public health for the promotion of human and animal health

	Course learning outcomes	Program learning outcomes
8	Integrate all principles of evidence-based medicine to informed decision making and self-improvement in all aspects of veterinary pharmacology (principles of Good Veterinary Practice).	<p>A6: Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine</p> <p>A11: Understand and apply basic principles of research and recognise the contribution of research to all aspects of veterinary medicine</p> <p>B4: Model life-long continuing education and professional development</p> <p>B6: Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advise</p>
9	Effectively communicate information about drugs and therapeutic plans to clients (translate information to lay person, educate stakeholders), technical staff, and colleagues and ensure consistency with and cognisance of demographic, socio-economical and cultural considerations.	<p>B1: Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities</p> <p>B8: Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences</p>

Table 3: Course schedule

Week	Hours	Topics and materials covered	Scheduled activities	Time commitment
Week 1	3	Introduction to the course Introduction of the therapeutic concept 1. TopHat: Read chapter 1 and complete questions	Lecture 1: August 16th 13.30pm AST Lecture 2: August 17th 13.30pm AST Self-study: August 19th 17.30pm AST	Lecture 1: 1 hour Lecture 2: 1 hour Chapter 1 - 1 hours
Week 2	3	Introduction to antiinfectives and general principles of antimicrobial therapy 1. TopHat: Read chapter 3 and chapter 4 paragraphs 4.1-4.5 and complete questions	Lecture 3: August 24th 13.30pm AST Self-study: August 25th and August 27th	Lecture 3: 1 hour Chapter 3 and chapter 4 paragraphs 4.1-4.5 - 2 hours
Week 3	3	General introduction to antibiotics 1. TopHat: Read chapter 4 paragraphs 4.6.1 - 4.6.6 and complete questions	Lecture 4: August 31st 13.30pm AST Self-study: September 2nd and 3rd	Lecture 4: 1 hour Chapter 4 paragraph 4.6.1 - 4.6.6 - 1½ hour
Week 4	3	Antibiotics continued 1. TopHat: Read chapter 4 paragraphs 4.6.7 - 4.6.12 and complete questions	Lecture 5: September 6th 13.30pm AST Lecture 6: September 10th 13.30pm AST Self-study: September 9th	Lecture 5: 1 hour Lecture 6: 1 hour Chapter 4 paragraphs 4.6.7 - 4.6.10 - 1 hour
Week 5	4	Antiinfectives - antibiotics and antiprotozoal drugs 1. TopHat: Read chapter 5 and complete questions	Quiz 1: September 13th 13.30PM AST (therapeutic concept, intro to anti-infectives, antibiotics) Self-study: September 16th and 17th	Quiz 1: 1 hour Chapter 5 - 2 hours
Week 6	3	Antiinfectives - antiviral and antifungal drugs 1. TopHat: Read chapters 6 and 7 and complete questions	Lecture 6: September 20th 14.30pm AST Self-study: September 22nd and 24th	Lecture 6: 1 hour Chapters 6 and 7 - 2 hours

Week	Hours	Topics and materials covered	Scheduled activities	Time commitment
Week 7	4	Antiinfectives - ectoparasitocides and anthelmintics Cardiovascular drugs 1. TopHat: Read chapter 8, 9 and 10 and complete questions	Lecture 7: September 27th 13.30pm AST Self-study: September 29th and 30th and October 1st	Lecture 7: 1 hour Chapters 8, 9 and 10 - 3 hours
Week 8		Midterm week	No activities scheduled	
Week 9	2	Cardiovascular drugs, diuretics and anticoagulant drugs 1. TopHat: Read chapters 11 and 12 and complete questions	Lecture 8: October 12th 13.30pm AST (CV drugs and diuretics) Self-study: October 15th	Lecture 8: 1 hour Chapter 11 and 12 - 1 hour
Week 10	4	Food safety 1. TopHat: Read chapter 2 and complete questions	Quiz 2: October 21st 13.30pm AST (antiviral, -fungal, ectoparasiticides, ant-helmintics, CV-drugs) Lecture 9: October 19th 13.30pm AST Self-study: October 20th and 22nd	Quiz 2: 1 hour Lecture 9: 1 hour Chapter 2 - 2 hours
Week 11	3	Respiratory drugs 1. TopHat: Read chapter 13 and complete questions	Lecture 10: October 26th 13.30pm AST Lecture 11: October 27th 13.30pm AST Self-study: October 29th	Lecture 10: 1 hour Lecture 11: 1 hour Chapter 13 - 1 hour
Week 12	3	Anticancer drugs 1. TopHat: Reach chapter 14 and complete questions	Lecture 12: November 3rd 13.30pm AST Self-study: November 5th	Lecture 12: 1 hour Chapter 14 - 1 hour
Week 13	4	Ophthalmic pharmacology 1. TopHat: Read chapter 15 and complete questions	Lecture 13: November 8th 13.30pm AST Lecture 14: November 11th 13.30pm AST Self-study: November 9th and 12th	Lecture 13: 1 hour Lecture 14: 1 hour Chapter 15 - 1 hour

Week	Hours	Topics and materials covered	Scheduled activities	Time commitment
Week 14	4	Urogenital drugs 1. TopHat: Read chapter 16 and complete questions	Lecture 15: November 15th 13.30pm AST Lecture 16: November 17th 14.30pm AST Self-study: November 18th and 19th	Lecture 15: 1 hour Lecture 16: 1 hour Chapter 16 - 1 hour Preparation for final exam - 2 hours
Week 15	4	Gastro-intestinal drugs 1. TopHat: Read chapter 17 and complete questions	Lecture 17: November 22nd 13.30pm AST Self-study: November 23rd, 25th and 26th	Lecture 17: 1 hour Chapter 17 - 1½ hour Preparation for final exam - 1½ hour
Week 16		Final examination	Final examination Monday November 29th	

Table 4: Material for the quizzes and final examination

Examination	Subject	Number of questions	Total number of questions
Quiz 1	1. Therapeutic concept 2. Antiinfectives 3. Antibiotics	4 4 14	22
Quiz 2	1. Antiprotozoal 2. Antiviral 3. Antifungal 4. Ectoparasiticides 5. Anthelmintic 6. Cardiovascular	2 2 2 2 8 6	22
Final examination	1. Therapeutic concept 2. Food safety 3. Antiinfectives 4. Antibiotics 5. Antiprotozoal 6. Antiviral 7. Antifungal 8. Ectoparasiticides 9. Anthelmintic 10. Cardiovascular 11. Diuretics 12. Respiratory drugs 13. Anticancer drugs 14. Gastrointestinal drugs 15. Ophthalmology 16. Urogenital drugs	1 6 1 5 1 1 1 1 4 3 6 6 6 8 6 6	62



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Anatomy, Physiology and Pharmacology Department

Anatomy 1 SYLLABUS (5 credits)

ANPH 506 TERM 1

Fall 2021

I. Course Faculty and Staff Information

a. Course Director:

Dr. Mahesh Shriram Deokar, B.V.Sc. & A.H., M.V.Sc. Associate Professor

E-mail - mdeokar@sgu.edu

Office Location: Veterinary Research and Diagnostic Lab. Building

- b. Office Hours:** Open office hours meetings will be held on Thursdays during Zoon sessions. If required, additional appointments can be made with prior notice. Please send us an e-mail and we will respond accordingly. Providing additional office hours depends on the availability of time and the matter to be discussed.

Contact information of the faculty members is available on the course website's front page.

Providing an appointment is a decision of a faculty member, depending upon the availability of the time and the matter to be discussed.

c. Faculty:

Dr. Narindra Roopnarain, DVM, Instructor. - nroopnar@sgu.edu

Dr. Rhea St. Louis, DVM, Instructor. - RStloui2@sgu.edu

d. Staff members:

Lab Technicians - Mr. Matthew Charles, Mr. Curtis Hopkin,

Department Secretary - Mrs. Cherry Ann Lumpriss

II. Course location

SGU True Blue campus

lecture - David Brown Lecture hall (aka Alumni Hall) - Building # 26

Laboratory Session - School Of veterinary Medicine, Anatomy Lab - Building # 42

Online delivery for students attending virtually.

Students attending virtually will attend the classes vis zoom meetings. The online students are not required to attend the laboratory sessions.

III. Prerequisite and/or co-requisite courses

There is no prerequisite course for an eligible student admitted to the DVM curriculum. Co-requisite courses include courses taught in term 1. (for IAP students, the DOS office will prescribe the courses in term 1)

IV. Required resources

- a. **Lecture presentations** - Available in digital form on Sakai i.e., Learning Management System in PDF format.
- b. **The lectures recordings** - will be made available on Panopto after the class.
- c. **Dissection Guide** for the lab cum textbook - Guide to the dissection of the dog, Evans · de Lahunta, Eighth Edition, Saunders /Elsevier Pub.
- d. **Colorado State University, Virtual anatomy Website/Software** – Full version available to students on SAKAI
- e. **Computer/tablet** to access the learning resources that will be provided in the electronic form.

(Note - An additional larger screen/Monitor is also advised as you will be dealing with images, videos, and 3D anatomy software.

V. Recommended resources

- a. Textbook of Veterinary Anatomy, Dyce ·Sack· Wensing, Fourth / Fifth Edition, Saunders/ Elsevier pub.
- b. The University of Minnesota, College of Veterinary Medicine Anatomy Website.
- c. Learn Anatomy in 3D – www.vin.com (Free registration for Veterinary students)
- d. EasyAnatomy – 3D Anatomy Software (Optional Purchase)

Note - Links to b, c, and d will be available on SAKAI

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

A. General Guidelines

- a. Students **must carry ID cards** while attending the classes, laboratory sessions and for Zoom Meetings (Online students).
- b. While attending classes, laboratory sessions and the zoom online sessions, **students must dress professionally**, in line with the School's Dress Code.
- c. **We highly recommend attending all lectures and laboratory sessions.** Students are expected to be on time during lectures/labs/examinations. **We may take class and laboratory attendance by using appropriate methods.** Repeated late arrivals and early departures from the lab sessions without permission will be considered nonattendance.
- d. **Personal video and audio recording in the class and laboratory sessions is not permitted.** If necessary, specific arrangements will be made to produce such material and posted appropriately on the course website.
- e. **“Lab time switch”** after the midterm exam, would occur depending upon changes in the other courses such as radiology and clinical orientation.

- f. **Eating or drinking in the classroom and laboratory is strictly prohibited.** Water is allowed in SGU specified containers. Smoking on campus is not permitted except in designated zones/areas.
- g. Please note that live **animals/pets are not allowed**, except for teaching and learning purposes, in the veterinary anatomy lab.
- h. Please note that **the course director is the first point of contact** to resolve any issues related to the course.
- i. Students can contact the course director for Individual Issues. Any matter Involving more than 15 students or more / the entire class will be resolved by communication through class representatives.
- j. Students are required to be familiar with the course management system (LMS) and know how to access educational resources provided on LMS. In case of difficulties please contact the course director/course Faculty or the IT department.
- k. **Course Forum tool** - It is required that students use the appropriate forums for posting their questions. We will reply to the forum questions, and if needed, the topic will be taken for discussion in the zoom meeting.
- l. **Both lecture and laboratory components of this course constitute the material from which examination questions shall be drawn.** Some topics will be learned exclusively during the laboratory sessions (Video demonstrations) but the lecture examination will contain questions on those topics, **e.g. Study of the Musculoskeletal system.** (Details will be posted in the syllabus for each examination/quiz).
- m. **All the exams conducted on Examsoft are sequestered**, therefore the student will not be permitted to see the questions after the examination is over. **Appropriate Examsoft reports will be available online. The feedback for the quizzes conducted using Sakai will be available for a limited time, i.e., 12 hours.** Copying, printing, and distribution of the quiz and exam questions are strictly prohibited.
- n. **Any discrepancy in the points earned, in any examination other than the final examination, must be resolved within 7 days after the examination. For the final examination, the student must request an appointment from the course director within 24 hours after completion of both sections of the exam.** The examination matters will be resolved using the forum tools. Opportunity will be given to mention your concerns using the forum tool on Sakai.
- o. Students must not expose themselves to any situation that lends itself even to a suspicion of cheating. A student found cheating will be reported to the Dean of Student's office.

VIII. Course rationale (catalogue course description)

Thorough knowledge of the structure and function of the animal body is a prerequisite for anybody who wants to be a successful veterinary professional. Anatomy I, ANPH 506 is a basic veterinary anatomy course, designed for term 1 DVM students to acquire knowledge of the anatomy of the canine and feline species.

Anatomy 1 (ANPH 506) is a 5-credit course, comprising about 51 lectures and 26 (2-hour) laboratory sessions. Traditional methodologies of didactic lectures and laboratory sessions have been adopted to accomplish the objectives of the course. However, in the online format, the course includes recorded lectures and video demonstrations of the prosected specimen of the dog and/or cat cadavers during the laboratory sessions, along with Virtual Animal (Canine) Anatomy program.

This course consolidates and complements the functional anatomy of the canine and feline species as related to veterinary medicine. Students, at the end of this course, should be able to describe the structure of the canine and feline animal body and organ systems, recognize and identify the different structures within the animal body (Canine and Feline sp.), and relate to their functional importance. At the beginning of the course, students will learn basic anatomical concepts, followed by the regional and topographic anatomy of the canine and feline body.

Anatomy 1 does not only build the foundation of a subsequent comparative veterinary anatomy course, but also the rest of the veterinary curriculum and veterinary medical practice. The course will involve a detailed study of the anatomy of the dog and cat. Whenever necessary, appropriate clinical references and discussions will be incorporated while presenting the content.

Please note that students are encouraged to acquire more information by referring to the textbooks, laboratory manual, and other resources provided on SAKAI.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to...

1. demonstrate a thorough understanding of the basic animal tissue; relations between the cells, tissue, and organs that form the organ systems.

2. use the anatomic language appropriately and demonstrate a complete understanding of the anatomic planes as well as directional terms and their application in the clinical setting.
3. demonstrate a thorough understanding of the systemic anatomy (body systems) and be able to explain the structure, function as well as topography of the organ systems and understand the differences between the dog and cat. (Systemic, topographic, and comparative anatomy)
4. relate the knowledge of systemic and topographic anatomy in clinical application, surgical procedures, the common clinical conditions associated with the organs and the systems in the canine and feline species. (Clinical/Applied Anatomy)
5. Students should understand and apply the principles of laboratory safety and biosecurity while working in the laboratory sessions.

X. Lesson Learning Outcomes

(P.S. – This is a **general outline** of the topics and their outcomes; the actual sequence of the topic and allocated lectures may change depending upon the need – Students will be informed accordingly.)

Lecture # & Topic	Your lecture/lab Learning Outcome	Course learning outcome Number/s
1 Course Introduction	Make students familiar with the course structure and course policy.	
2 – 7 Introduction / General Anatomy	<p>LLO A1 Define anatomy and describe divisions of anatomy.</p> <p>LLO A2 Describe and express anatomical language i.e. nomenclature and terminologies.</p> <p>LLO A3 Recognize regions of the body, anatomical planes, and Describe directional terms used in anatomy.</p> <p>LLO A4 Describe the relation between cell, tissue, and body systems.</p> <p>LLO A5 List the fundamental tissue of the animal body.</p>	1, 2

	<p>LLO A6 Describe the basic structure of the epithelium.</p> <p>LLO A7 Describe connective tissue, its types, and examples; explain the superficial and deep fascia.</p> <p>LLO A8 Describe the basic structure and function of muscle tissue, classify, and recognize different types of muscles.</p> <p>LLO A9 Describe the gross structures and function of the tendons, ligaments, synovial bursa, and tendon/synovial sheath.</p> <p>LLO A10 Describe the composition, structure, function, and classification of the bone tissue.</p> <p>LLO A11 List parts of the long bone.</p> <p>LLO A12 Describe the pattern of blood supply to a long bone.</p> <p>LLO A13 Describe the basic components of the nervous system of the dog and cat.</p> <p>LLO A14 Recognize various functional divisions of the nervous system of the dog and cat.</p> <p>LLO A15 Differentiate components of the Central Nervous System (CNS), Peripheral Nervous System (PNS), and Autonomic Nervous System (ANS).</p>	
<p>8 – 13</p> <p>Arthrology – General, Appendicular (Limbs) & Axial (Vertebral column).</p>	<p>LLO B1 Define joint, describe, and classify different types of joints of the body.</p> <p>LLO B2 Describe the fibrous, cartilaginous, and synovial joint.</p> <p>LLO B3 List the characteristics of the synovial joint and classify the synovial joints.</p> <p>LLO B4 List and describe the structure of joints of the forelimb of the dog and cat.</p> <p>LLO B5 Recognize the structures associated with joints of the forelimb such as ligaments, joint cavities, and associated structures.</p> <p>LLO B6 Describe the structure of joints of the hindlimb of the dog and cat.</p>	<p>2,3, 4</p>

	<p>LLO B7 Recognize the structures associated with each joint of the hindlimb such as ligaments, joint cavities, and associated structures.</p> <p>LLO B8 List the articulations of the vertebral column and understand the structure of these joints. Explain the structure and function of the intervertebral disk.</p> <p>LLO B9 Recognize various ligaments of the vertebral column.</p> <p>LLO B10 Understand the basic organization of the muscles of the vertebral column e.g., epaxial and hypaxial muscle systems.</p> <p>LLO B11 Classify the joints of the forelimb, hindlimb, and vertebral column; and know the specific movements present in each joint.</p>	
<p>14 - 17</p> <p>Thoracic Cavity and Respiratory Apparatus</p>	<p>LLO C1 Describe the visceral spaces, list the primary body cavities and their content.</p> <p>LLO C2 Recognize the structures located within and outside of the visceral space of the neck.</p> <p>LLO C3 Describe the course of the esophagus and its relationship with the trachea.</p> <p>LLO C4 List parts of the respiratory apparatus in the canine and feline species.</p> <p>LLO C5 Describe the structure, function, and topography of the parts of the respiratory apparatus i.e., Nose, nasal cavity, larynx, trachea, lungs, and thoracic wall.</p> <p>LLO C6 Describe the structure of the paranasal sinuses and their relationship with the nasal cavity and carnassial teeth.</p> <p>LLO C7 Describe the structure and recognize the relationship between the thoracic cavity, pleurae, pleural cavity, and the thoracic wall.</p> <p>LLO C8 Describe the structure and function of the mediastinum and diaphragm.</p>	2,3, 4

	<p>LLO C9 Discuss the pattern of lobation and lobulation of the canine and feline lungs. Recognize the clinical lung field.</p> <p>LLO C10 Describe the structure and function of the diaphragm. List the important structures that pass through the diaphragm.</p> <p>LLO C11 Underline the differences in the respiratory system and thoracic wall of the dog and cat.</p>	
<p>19 - 23</p> <p>Cardiovascular System and Lymphatic system</p>	<p>LLO D1 Explain the surface anatomy, internal structure, blood and nerve supply, and function of the heart.</p> <p>LLO D2 Describe the structure of the pericardium and pericardial cavity.</p> <p>LLO D3 Discuss the association between the pleura and pericardium.</p> <p>LLO D4 Recognize the large blood vessels associated with the heart.</p> <p>LLO D5 Classify the blood vessels depending upon their gross structures.</p> <p>LLO D6 Discuss the pattern of systemic and pulmonary blood circulation in adult animals.</p> <p>LLO D7 List the paired and unpaired branches of the thoracic and abdominal aorta.</p> <p>LLO D8 list important landmarks on the thoracic wall used in auscultation of the heart.</p> <p>LLO D9 Underline the differences in the cardiovascular system of the dog and cat.</p> <p>LLO D10 Describe the organs of the lymphatic system of the body.</p> <p>LLO D11 List and describe the major lymphatic vessels of the body.</p>	2,3, 4
<p>24 – 32/33</p> <p>Abdomen - Digestive System and urinary apparatus</p>	<p>LLO E1 Describe the structure and function of the abdominal wall.</p> <p>LLO E2 List the muscles that form the abdominal wall.</p> <p>LLO E3 Describe the linea alba and rectus sheath.</p>	2,3, 4

	<p>LLO E4 Describe the peritoneum, peritoneal cavity, and the mesenteries associated with abdominal viscera.</p> <p>LLO E5 List parts of the digestive system of the dog and cat.</p> <p>LLO E6 Describe the structure of the mouth and oral cavity, lips, cheeks, palate, and associated structures.</p> <p>LLO E7 List the components of the elementary canal.</p> <p>LLO E8 Describe the structure and function of the esophagus, stomach, intestines, rectum, anal canal, anus, and anal sphincters.</p> <p>LLO E9 List the mesenteries associated with the elementary canal.</p> <p>LLO E10 Discuss the topography of the digestive system and abdominal organs.</p> <p>LLO E11 Describe the structure of the accessory organs and glands of digestion i.e. the tongue, teeth, salivary glands, pancreas, and liver.</p> <p>LLO E12 Underline the differences in the digestive system and abdominal wall of the dog and cat.</p> <p>LLO E13 List the organs of the urinary apparatus of the dog and cat.</p> <p>LLO E14 Describe the external and internal structure of the kidneys of the dog and cat.</p> <p>LLO E15 Discuss the topographic anatomy of the kidneys in the dog and cat.</p> <p>LLO E16 Discuss the structure and topography of the ureters.</p> <p>LLO E17 Describe the structure of the urinary bladder, its location, and its relationship with the urethra in male and female animals.</p> <p>LLO E18 Underline the differences in the urinary apparatus of the dog and cat.</p>	
34 - 35	<p>LLO F1 Discuss the structure of the pelvic cavity, its relationship with the abdominal cavity, and its excavations.</p>	2,3, 4

<p>The pelvic region and Female reproductive system</p>	<p>LLO F2 List parts of the female reproductive system.</p> <p>LLO F3 Describe the structure and topography of the female gonads i.e. Ovary in the dog and cat.</p> <p>LLO F4 Describe the structure and topographic anatomy of the tubular genitalia i.e. uterus, vagina, and vestibule of the bitch and queen. Describe the structure of the external genitalia of the dog and cat. Discuss the structure and topography of the mammae of the dog and cat.</p> <p>LLO F5 Discuss the structure and function of the accessory sex glands present in the female dog and cat.</p> <p>LLO F6 Describe the birth canal in the female.</p> <p>LLO F7 Describe the structure of the perineum (male and female), list the muscles involved in the formation of the pelvic diaphragm.</p> <p>LLO F8 Describe the anal and urogenital triangles in the male and female.</p> <p>LLO F9 Underline the differences in the female reproductive tract and organs of the dog and cat.</p>	
<p>36 - 38</p> <p>The pelvic region and the male reproductive system.</p>	<p>LLO F10 List the organs of the male reproductive system of the dog and cat.</p> <p>LLO F11 Describe the structure of the urethra in the males.</p> <p>LLO F12 describe the structure and function of the penis and prepuce of the dog and cat.</p> <p>LLO F13 Describe the structure of the testes in the dog and cat.</p> <p>LLO F14 Discuss and compare the location of the testes and scrotum in the dog and cat.</p> <p>LLO F15 Describe the spermatic cord and vaginal tunic in the dog and cat.</p> <p>LLO F16 Discuss the general features of the inguinal canal and its association with</p>	<p>2,3, 4</p>

	<p>the male and female reproductive organs.</p> <p>LLO F17 Discuss the structure of the male accessory sex glands present in the dog and cat.</p> <p>LLO F18 Discuss The “Tie/lock” mechanism in the dog</p> <p>LLO F19 Underline the differences in the female reproductive tract and organs of the dog and cat.</p>	
<p>39 - 41</p> <p>And</p> <p>42 – 54</p> <p>The head and nervous system of the dog with Organs of the Special Sense.</p>	<p>LLO G1 Describe the structure of the meninges, discuss the circulation of the cerebrospinal fluid and venous sinuses associated.</p> <p>LLO G2 Describe the general features of the nervous system of the dog. Differentiate components of the CNS, PNS, and ANS.</p> <p>LLO G3 Describe the structure of the spinal cord, brachial plexus, and Lumbosacral plexus.</p> <p>LLO G4 List parts of the brain of the dog and cat.</p> <p>LLO G5 Describe the gross structure of the major divisions of the brain.</p> <p>LLO G6 Describe the ventricular system of the brain and circulation of the CSF through the brain and spinal cord.</p> <p>LLO G7 List all the Cranial Nerves and discuss their role in the innervation of the respective organs, respective division of the nervous system.</p> <p>LLO G8 Discuss the structure and passage of the major cranial nerves.</p> <p>LLO G9 List the basic components of the autonomic nervous system and nerve supply to the viscera</p> <p>LLO G10 Describe the structure and function of the organs of special sense, the Ear and Eye.</p>	2,3, 4
55	LLO H1 List the endocrine glands of the body and their function.	2,3, 4

The Endocrine System	LLO H2	Describe the structure and topography of the endocrine glands.	
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Laboratory session & Topic	Your lecture/lab Learning Outcome	Course learning outcome Number/s
1 Introduction The Appendicular skeleton – Forelimb and Hindlimb	LLO I1 Osteology – Osteological terms LLO I2 Understand the general terminologies used for common features of the bones. LLO I3 Identify the common features of the bones on the various bones of the dog and cat. LLO I4 Identify the bones of the forelimb and Hindlimb. LLO I5 Describe the anatomical features of the various bones of the forelimb and hindlimb of the dog and cat.	N/A 1,2,
2 – 8 The Muscular System – forelimb and Hindlimb (Myology – Forelimb, and Hindlimb)	Forelimb / Pectoral Limb LLO J1 Identify and describe the structure of the Extrinsic Muscles of the thoracic limb LLO J2 Describe the origin, insertion, function, and innervation of the extrinsic muscles of the forelimb of the dog and cat. LLO J3 Identify the Intrinsic Muscles of the thoracic limb. LLO J4 Describe the origin, insertion, function, and innervation of the following intrinsic muscles of the forelimb of the dog and cat	1,2,3, 4,

	<ul style="list-style-type: none"> a. lateral and medial muscles of the scapula and shoulder. b. caudal muscles of the brachium (Arm) c. cranial muscles of the brachium (Arm). d. Cranio-lateral muscles of the antebrachium (forearm) e. Caudo-medial muscles of the antebrachium (Forearm) <p>LLO J5 List major differences in the extrinsic and intrinsic muscles of the forelimb of the dog and cat.</p> <p>Hindlimb/Pelvic Limb</p> <p>LLO J6 Identify the muscles of the gluteal region and the hindlimb of the dog and cat.</p> <p>LLO J7 Describe the origin, insertion, function, and innervation of the following muscles of the Hindlimb of the dog and cat</p> <ul style="list-style-type: none"> f. Caudal muscles of the thigh g. Medial Muscles of the thigh h. Lateral Muscles of the pelvis i. Caudal Hip Muscles j. Cranial Muscles of the Thigh k. Muscles of the Leg (Crus) <p>LLO J8 List major differences in the muscles of the hindlimb of the dog and cat.</p>	
<p>9 - 10</p> <p>The Axial Skeleton and the Muscles of the trunk.</p>	<p>LLO J9 Identify and describe the bones of the Axial Skeleton.</p> <p>LLO J10 List the major differences in the axial skeleton of the dog and cat</p> <p>LLO J11 Identify the hypaxial and epaxial muscles of the neck and trunk.</p> <p>LLO J12 Identify and describe the origin, insertion, function (action), and</p>	<p>1,2,3, 4,</p>

	<p>innervation of the epaxial and hypaxial muscle systems.</p> <p>a. Hypaxial muscles of the neck, thoracic wall, and abdominal wall.</p> <p>b. Epaxial Muscles systems i.e. transversospinalis system, Iliocostalis System and Longissimus system</p> <p>LLO J13 Identify and describe the structure of the inguinal Canal, deep and superficial inguinal rings, as well as the vaginal tunic in the male and vaginal process I the female.</p> <p>LLO J14 List major differences in the muscles of the neck and trunk of the dog and cat.</p>	
<p>9 - 10</p> <p>Joints of the forelimb, hindlimb and vertebral column</p>	<p>LLO B12 Identify all the joints of the forelimb</p> <p>LLO B13 Identify, parts, and associated structures of the following joints of the forelimb</p> <p>a. shoulder Joint,</p> <p>b. Cubital joint</p> <p>c. carpus</p> <p>d. distal interphalangeal joint</p> <p>LLO B14 Identify all the joints of the hindlimb</p> <p>LLO B15 Identify, parts, and associated structures of the following joints of the hindlimb</p> <p>a. The hip/coxal joint</p> <p>b. The stifle /genual joint</p> <p>c. The tarsus</p> <p>LLO B16 Identify the Atlanto-occipital and atlantoaxial joint and their parts</p> <p>LLO B17 Recognize the differences in the joints of the dog and cat.</p>	<p>1,2,3, 4,</p>
<p>11 – 14</p> <p>The Neck and Thorax</p>	<p>LLO K1 Identify the blood Vessels and Nerves of the neck</p> <p>LLO K2 Thorax region of the dog and cat.</p>	<p>1,2,3, 4</p>

	<ul style="list-style-type: none"> a. Superficial Vessels and Nerves of the Thoracic wall b. Deep Vessels and Nerves of the Thoracic Wall <p>LLO K3 Identify and describe the following structures in the thoracic cavity of the dog and cat.</p> <ul style="list-style-type: none"> c. the Pleura and Mediastinum, d. Lungs e. Veins Cranial to the Heart f. Arteries Cranial to the Heart g. Thoracic Aorta and Its Branches h. Components of the Autonomic Nervous System i. Vessels and nerves of the thoracic cavity <p>LLO K4 Identify and describe the Heart, pericardium, and associated structures in the dog and cat.</p> <p>LLO K5 Recognize the major differences between the dog and cat in the thoracic cavity and its organs.</p>	
<p>15 – 16</p> <p>Blood vessels and Nerves of the Thoracic limb.</p>	<p>LLO L1 Describe and identify the major blood vessels of the thoracic limb and blood circulation in the thoracic limb.</p> <p>LLO L2 Describe the major areas supplied and drained by following blood vessels and identify them.</p> <ul style="list-style-type: none"> a. Axillary artery and branches b. Brachial artery and branches c. Median artery and branches d. Arteries of the forearm and paw <p>LLO L3 Describe the innervation of the forelimb in general.</p> <p>LLO L4 Identify the brachial plexus and describe the nerves that form the brachial plexus, and all the nerves derived from the brachial plexus.</p> <ul style="list-style-type: none"> a. Nerves of the scapular region and arm 	1,2,3, 4

	<p>b. Nerves of the forearm and paw</p> <p>LLO L5 Describe the differences in the vasculature and innervation of the forelimb in the dog and cat.</p>	
<p>17 – 19</p> <p>The abdomen and the pelvis -</p> <p>Digestive system and</p> <p>Urinary system</p>	<p>LLO E1 Identify the vessels and nerves of the ventral and lateral parts of the abdominal wall, describe the pattern of distribution of vasculature and nerves in this region of the body.</p> <p>LLO E2 Identify the Inguinal Structures, i.e. Inguinal rings, inguinal canal, vaginal tunic, vaginal process, pudendal vessels and nerves, and lymph node.</p> <p>LLO E3 Describe the abdominal and Peritoneal Cavities, and identify the parietal and visceral peritoneum.</p> <p>LLO E4 Identify the organs of the digestive system and urinary system in the abdominal cavity.</p> <p>LLO E5 Describe the topography of the abdominal viscera.</p> <p>LLO E6 Identify the liver and its lobes, biliary system, gall bladder, pancreas, and spleen.</p> <p>LLO E7 Identify the blood vessels and nerves of the abdominal cavity, describe their architecture, including visceral and parietal branches of the abdominal aorta.</p>	<p>1,2,3, 4</p>
<p>20 – 21</p> <p>The pelvis and the reproductive organs</p>	<p>LLO F1 Identify parts of the male and female reproductive system in the pelvic cavity of the dog and cat.</p> <p>LLO F2 Describe the topography of the organs of the male and female reproductive systems.</p> <p>LLO F3 Identify the external and internal iliac arteries and their branches responsible for blood supply to the pelvic viscera.</p> <p>LLO F4 Describe the general pattern of innervation and identify the nerves in the pelvic cavity and pelvic wall.</p> <p>LLO F5 Identify the mammae.</p>	<p>1,2,3, 4</p>

	LLO F6	Describe the differences in the male and female reproductive organs of the dog and cat.	
22 – 23 Blood vessels and Nerves of the Hindlimb	LLO L6 LLO L7 LLO L8 LLO L9 LLO L10 LLO L11	Describe the major blood vessels of the pelvic limb/hindlimb and blood circulation in the pelvic limb. Describe the major areas supplied and drained by following blood vessels and identify them. a. The femoral artery and its branches b. The popliteal artery and its branches c. The saphenous artery and its branches d. The cranial tibial artery and its branches Describe the innervation of the hindlimb in general. Identify all the nerves derived from the lumbosacral plexus, describe the formation of the lumbosacral plexus. Identify the following nerves in the hindlimb e. The femoral, ischiatic/sciatic, and obturator nerves. f. Nerves of the gluteal region and thigh. g. Nerves of the crus and pes. Describe the differences in the vasculature and innervation of the hindlimb in the dog and cat.	1,2,3, 4
24 – 28 The Head of the dog	LLO M1	Identify and describe the bones of the skull and their important features in the dog and cat. a. Dorsal and Lateral Surfaces of the Skull b. Ventral Surface of the Skull c. Caudal Surface of the Skull d. Mandible e. Cavities of the Skull	1,2,3, 4

	<p>LLO M2 Identify and describe the following structures in the head of the dog.</p> <ol style="list-style-type: none"> a. Muscles of the facial expression and major muscles of mastication. b. Oral Cavity and the pharynx in the sagittal section of the head. c. Nasal cavity and the Larynx in the sagittal section of the head. d. The External Ear e. The Eye and Related Structures f. The Major Blood vessels and nerves of the head <p>LLO M3 Underline the differences in the above-mentioned structures of the head of the dog and cat.</p> <p>LLO M4 Identify and describe the following structures of the Head and the vertebral column</p> <ol style="list-style-type: none"> a. Brain, <ol style="list-style-type: none"> i. Cerebrum-Surface Structures ii. Cerebellum iii. Brain Stem-Surface Structures iv. Diencephalon v. Mesencephalon vi. Ventral Metencephalon vii. Myelencephalon viii. Telencephalon b. The spinal cord, spinal nerve, and associated structures <p>LLO M5 List the major structural differences in the brain of the dog and cat.</p>	
<p>Note –</p> <ol style="list-style-type: none"> 1. The structure in anatomical context refers to the form, disposition, blood, and nerves supply to an organ, system (or system in portion), and part of the body. 2. In virtual teaching, students will identify the structures/organs/their parts on the pictures provided in the questions in the exams and quizzes. 		

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	Program Level Outcome (SVM)
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<p>At the end of this course</p> <p>CLO 1. Students should demonstrate a thorough understanding of the basic animal tissue; relations between the cells, tissue, and organs that form the organ systems.</p> <p>CLO 2. Students should be able to use the anatomic language appropriately and demonstrate a complete understanding of the anatomic planes as well as directional terms as well as their application in the clinical setting.</p> <p>CLO 3. Students should demonstrate a thorough understanding of the systemic anatomy (body systems) and be able to explain the structure, function as well as topography of the organ systems and understand the differences between the dog and cat. (<i>Combination of Systemic, topographic, and Comparative anatomy</i>)</p> <p>CLO 4. The student should be able to relate the knowledge of systemic and topographic anatomy in clinical application, surgical procedures, the common clinical conditions associated with the organs and the systems in the canine and feline species. (<i>Clinical/Applied Anatomy</i>)</p>	<p>A. Core Medical Knowledge</p> <p>A PLO 01. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>A PLO 06. Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p>
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XII. Course Schedule

Will be Available as a separate document - Anatomy 1 ANPH 506 Weekly Schedule Fall 2021.

XIII. Grading and assessment policy, and grading rubrics (must comply with SGU and SVM assessment guidelines)

a. Grading scale

GRADE	PERCENT SCORE	GRADE POINTS
A	89.5 - 100	4

B+	84.5 – 89.49	3.5
B	79.5 – 84.49	3
C+	74.5 – 79.49	2.5
C	69.5 – 74.49	2
D+	64.5 – 69.49	1.5
D	59.5 – 64.49	1
F	≤ 59.49	0

b. Types of assessment

No.	Examination / Quiz	Date and Day (Grenada time)	Points
1	Quiz # 1 (Examsoft)	Week #5 Monday Sept 13, 2021 at 1.30 pm. (Examsoft)	20
2	Midterm Lecture Examination (Examsoft)	(Week # 8) Thursday, October 07, 2021, at 12.00 pm	60
3	Midterm Laboratory Examination (Examsoft)	(Week # 8) Due, 11.55 pm, Thursday, Oct 07, 2021	40
4	Quiz # 2 (Examsoft)	Week # 12 Monday, November 01, 2021, at 1.30 pm	20
5	Final Lecture Examination (Examsoft)	(Week # 16) Friday, December 03, 2021, at 12.00 pm	60
6	Final Laboratory Examination (Examsoft)	(Week # 16) Due, 11.55 pm, Friday Dec 03, 2021	40
			240
Syllabus / Topics for examinations and Quizzes will be posted on Sakai.			

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

Be familiar with the topic by reading the lab manual and lecture slides before watching the lecture recording or lab videos. In Anatomy, multiple revisions of the material are necessary to get a good hold on the material. Students are advised to combine laboratory and lecture components for studying the material. The lab videos, virtual anatomy program are the best available visual aids you can use in an online setting.

XV. Instructor's expectations of the student

We expect all the students in this class to get actively involved in the learning process. Feel free to communicate and ask for help whenever needed. For more information refer to Point [VII. Other Requirements](#)

XVI. Professionalism statement

The student must behave and dress professionally. Refer to the professionalism course and student's manual for further details on Professionalism.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (mdeokar@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).

5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

DEPARTMENT OF ANATOMY, PHYSIOLOGY & PHARMACOLOGY

VETERINARY PHYSIOLOGY I SYLLABUS (5 Credits)

ANPH512 (Term 1)

Fall 2021

I. Course Faculty and Staff Information

Course Director/Instructor

Dr. Hector Zerpa Gonzalez

Prof. Vet. Physiology, SVM

Office: Veterinary Office Building (SGU campus map: # 48)

Tel: 444 - 4175 ext 3852

email: hzerpago@sgu.edu

Office hours are offered either in person or via Zoom meetings in two (2) modalities: “one-to-one individual” or “small groups” by appointment.

Instructor

Dr. Hugo Hernández Fonseca. MV-MSc-PhD

Prof. Vet. Physiology, SVM

Office: Veterinary Office Building (SGU campus map: # 48)

Tel: 444 - 4175 ext 3328

email: hfonsec1@sgu.edu

Office hours are offered either in person or via Zoom meetings in two (2) modalities: “one-to-one individual or small groups” by appointment.

II. Course location

The course will be delivered in a hybrid teaching modality, including online and in-person teaching activities (Sakai resources: Panopto, Zoom meetings, Test & Quizzes, Lessons, Assignments, Forums, Turning Points, ExamSoft, and others).

III. Prerequisite and/or co-requisite courses

Students must be enrolled in DVM term 1.

IV. Required resources

Visit the following link regarding the required computer specifications.

<https://www.sgu.edu/office-of-information-technology/student-information/it-computer-recommendations/>

V. Recommended resources

- The recommended textbook for this course is: Physiology of Domestic Animals by O.V. Sjaaastad, K. Hove & O. Sand, 3rd Edition; Scandinavian Veterinary Press, 2016

- An excellent and concise textbook is Human Physiology: an integrated approach by Dee Unglaub Silverthorn, 4th edition, Pearson Education, Benjamin Cummings, San Francisco, CA, 2007.

- A very detailed textbook and our physiology “bible”: Guyton and Hall Textbook of Medical Physiology by JE Hall, 14th edition, Elsevier, 2020.

- An excellent book for a visual approach of basic physiology: Color Atlas of Physiology by S. Silbernagel & A. Despopoulos, 6th Edt, Thieme Publishers, N.Y., 2009.

An excellent human medical physiology textbook contains very educative images to summarize some of the body's essential functions—Human Anatomy & Physiology 1st Edition by Erin C. Amerman and Publisher Pearson.

- Additionally, these two excellent and concise medical physiology textbooks contain very well-designed diagrams and figures. They are available as E-books at SGU library:

- Ganong’s Review of Medical Physiology by Barrett KE, Barman SM, Boitano S, Brooks HL. 25th edition, McGraw-Hill Education., 2016.

<https://accessmedicine-mhmedical-com.periodicals.sgu.edu/Book.aspx?bookid=2525>

- Medical Physiology: The Big Picture by Kibble JD, Halsey CR. McGraw-Hill Education., 2015.

<https://accessmedicine-mhmedical-com.periodicals.sgu.edu/Book.aspx?bookid=2914>

If you have any concerns or problems accessing these resources, contact Suzanne Paparo spaparo@sgu.edu

VI. Accommodation

- a. Students who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at <https://mycampus.sgu.edu/student-accessibility-and-accommodation-services/Requesting-Accommodations>

VII. Other requirements

None

VIII. Course rationale

Veterinary physiology is covered by two courses in the DVM program: ANPH512/DVM 1 and ANPH513/DVM 2. Both courses focus on the fundamental mechanisms underlying the normal function of cells, tissues, organs, and organ systems of animals, commensurate with the requirements for a physician providing primary care to a variety of veterinary patients. Students will integrate the acquired knowledge about physiological functions of organ systems and learn to explain mechanisms of whole-body homeostasis. Emphasis is placed on introducing the pathophysiology of diseases, which are commonly seen in veterinary practice. The ANPH512 course covers the following organ systems: nerve & muscle, cardiovascular, hematology (erythron; hemostasis), gastrointestinal, respiratory, and renal physiology. This course also contains independent group work, in which students are exposed to clinical case studies and give short oral and written presentations. Students share responsibility for a collectively earned group grade and demonstrate professional behavior, including communication and teamwork skills.

IX. Course-level outcomes

The Physiology I course's goal is to introduce fundamental concepts of the following systems of common domestic animals: nerve & muscle, cardiovascular, hematology (erythron and hemostasis), the gastrointestinal system, including ruminants, respiratory, and renal systems.

This course prepares students for subjects taught in Clinical Pathology, Pathology, and Internal Medicine. Working in groups and sharing responsibility for a collectively earned group grade will encourage professional behavior and team-working skills.

Course-level Learning Outcomes

Upon successful completion of Veterinary Physiology I (ANPH 512), students should be able to:

CLO 1. Nerve and muscle-basic concepts: describe the physiological functions of excitable cells such as neurons and muscles, including the autonomic nervous system and reflexes in healthy animals and how these systems contribute to whole-body homeostasis.

CLO 2. Nerve and muscle-clinical applications: apply the acquired knowledge of CLO 1 to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO 3. Cardiovascular-basic concepts: describe the physiological functions of the cardiovascular system, including the heart and circulation of healthy animals, and how these systems contribute to whole-body homeostasis.

CLO 4. Cardiovascular-clinical applications: apply the acquired knowledge of CLO 3 to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO 5. Hematology-basic concepts: describe the physiological functions of the whole-blood system of healthy animals and how these systems contribute to whole-body homeostasis.

CLO 6. Hematology-clinical applications: apply the acquired knowledge of the CLO 5 to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO 7. Gastrointestinal-basic concepts: describe the physiological functions of the Gastrointestinal system of healthy animals and how these systems contribute to whole-body homeostasis.

CLO 8. Gastrointestinal-clinical applications: apply the acquired knowledge of the CLO 7 to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO 9. Respiration-basic concepts: describe the physiological functions of the Respiratory system of healthy animals and how these systems contribute to whole-body homeostasis.

CLO 10. Respiration-clinical applications: apply the acquired knowledge of the CLO 9 to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO 11. Renal-basic concepts: Describe the Renal physiological functions of healthy animals and how these systems contribute to whole-body homeostasis.

CLO 12. Renal-clinical applications: Apply the acquired knowledge of the CLO 11 to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO-13. Work effectively in a team when preparing and discussing group assignments, take responsibility for the team's performance, and present team-allocated tasks to a broader audience in a professional manner.

X. Lesson-level outcomes

Detailed lesson-level outcomes have been designed for every lecture topic and are presented in every lecture recording.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcomes (CLOs) #	SGU-SVM Program Level Outcomes (PLOs)
1, 3, 5, 7, 9, 11	1. Recall, understand and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
2, 4, 6, 8, 10, 12	2. Analyze homeostasis and disturbances of basic structures and functions of healthy animals.
2, 4, 6, 8, 10, 12	3. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis, and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.
2, 4, 6, 8, 10, 12	4. Explain the relationship between disease processes and clinical signs.
13	12. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues, and responsible authorities.
13	14. Demonstrate, evaluate, and model leadership, teamwork, and conflict resolution skills as a member of a multidisciplinary team.

XII. Course Schedule

The lecture schedule is appended at the end of the syllabus document.

XIII. Grading and assessment policy and grading rubrics

1. Examinations

There will be four (4) modular examinations as listed in the table below. The midterm and the final examinations will also contain a comprehensive component. Modular examinations expect students to demonstrate in-depth, detailed knowledge about the material covered, including integrating basic concepts. Detailed study objectives are included in each handout. The comprehensive examinations serve to reinforce the acquired knowledge and will focus on broader concepts and clinical applications. All examinations are sequestered. Exams may contain multiple-choice (MCQ: single best answer) and fill-in-the-blanks. **Examination questions come from material covered**

in lectures, lecture recordings, handouts, group assignment discussions, and any other sources the instructors indicate.

All rules and regulations concerning examinations, including EXAMSOFTE, are detailed in the SGU Student manual.

A grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

2. Group Assignments

Group assignments will be given during the lectures in each module. These assignments could include short clinical scenarios and analyses of essential biomedical concepts, which serve to apply and reinforce the taught material and stimulate students to collaborate professionally. The whole class will attend six (6) mandatory synchronous lecture/Zoom sessions (see the course schedule and attendance policy) in the term. The class will be divided by the course director into groups prior to the first session. Each group, either in the classroom or in *Zoom Breakout Room*, will discuss the topics for 30 minutes using the content covered in the lectures and any other material provided by the instructor or found by the students. During the session, each group must write down the answers to the assignments. After that, groups will be randomly called upon to present their analysis to these assignments and answer additional questions related to the topic. Groups will choose their presenter for the session. A different presenter must be selected in each assignment presentation. Because assignments differ significantly in their degree of difficulty, presentations will be marked as pass/fail based on the correctness of the answers, the ability to answer related questions, and the student's professional behavior during the presentation.

Every group must submit a written report of each assignment in Sakai within twenty-four (24) hours after the session, following the instructions. It is not expected that the students should invest more than the fifty (50) minutes provided during the session to prepare the written report. Every group must present at least once during the assignment sessions and pass the oral presentation. Every group must submit and pass six (6) written reports. If a group passes, each member will receive 25 points; no points will be given to any member if a group fails. Please check section XVII regarding the individual attendance policy.

Assessment table: one MCQ is equivalent to one point.

Assessments	Content. Lecture recording numbers	Date	Points
Quiz 1 (ExamSoft)	1-11	September 06: 1:30 pm AST	25
Midterm (ExamSoft)	1-37	October 11: 12:00 pm (noon) AST	70
Quiz 2 (Examsoft)	38-59	November 15: 1:30 pm AST.	25
Final (ExamSoft)	1-74	December 06: 12:00 pm (noon) AST	70
Group Assignments (In person, Zoom, and Sakai)		See the class schedule	25
TOTAL POINTS			215

Letter Grade	Percentage
A	89.5 - 100
B+	84.5 - 89.49
B	79.5 - 84.49
C+	74.5 - 79.49
C	69.5 - 74.49
D+	64.5 - 69.49
D	59.5 - 64.49
F	1- 59.49

XIV. Recommended study strategies

Every learner is different, and these are only general recommendations:

1. pre-reading material before watching and interact with the lecture recording.
2. I expect my class to revise the lecture recordings weekly. Make sure that the material is understood. If a concept is not fully understood, please do not wait; reach out and express your concerns to the course director. A good communication flow between the class and the course director is essential to online teaching engagement.
3. for exam preparation, self-challenge is crucial: explain the learned material to yourself first without referring to your handouts and notes. Then work in small online groups and repeat this process. Vocalization is an essential element to check and improve your knowledge and understanding of concepts. Prepare yourself as if going into an oral exam. *If you cannot explain it, you do not know it*

XV. Instructor's expectations of the student

Students are always expected to adhere to the Professionalism Policy (see XVI) and demonstrate respect towards SGU faculty and staff and their fellow students, and the general public.

The student is expected to attend the lectures or review lecture recordings. The student should also revise the assignments' material and any other studying material indicated by the instructors.

XVI. Professionalism statement

The policy relating to SGU's Student Policies, Procedures, and Non-Academic Standards is detailed in the SGU student manual 2020/2021.

XVII. Attendance/Participation Policy

The policy relating to class attendance is detailed in the SGU 2020/2021 student manual.

Students are expected to be available during the standard 8:30 am - 5:20 pm AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation may be graded randomly. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Lecture or Zoom session attendance policy: this course has designed six (6) mandatory lecture/Zoom (synchronous) sessions that will be used to analyze and discuss the modular group assignments. Failure to participate without a valid excuse in one (1) of the six (6) mandatory Zoom sessions will mean losing the individual student's points allocated to this activity. It is fully understood that there could be some limitations for some students located in different time zones. Therefore, if you know in advance that you have any restrictions to attend these synchronous activities, please contact the course director during the first week of activities or as soon as the restriction appears.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (COURSE DIRECTOR email hzerpago@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.

- a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
- b. [The examsoft student perspective video 30mins](#)
- c. [The Examsoft/ExamID FAQ](#)
- d. [Examsoft information page](#)
- e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The Plagiarism Policy is detailed in the SGU Student Manual 2020/2021. Please note that "... materials (such as slides, handouts and audio/video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to use these materials solely for the purpose of group or individual study. Reproduction in whole or in part is prohibited".

Please feel free to contact me if you have questions about the material, any concerns, or suggestions on improving the Veterinary Physiology 1 course. We do have an open-door policy. Please make an office hour appointment via email at any time if you prefer to discuss some specific topics via an in person meeting or a synchronous Zoom meeting.

- Appendix 1: Lecture Schedule Fall 2021. Dr. Hector Zerpa (HZ). Dr. Hugo Hernández Fonseca (HHF).

ANPH512 / Vet. Physiology I / Schedule – Fall 2021		
Week/# lecture hours	Lecture/recording #	Module 1: Nerve & Muscle (HZ)
1 16-20 August 3 lecture hours	1	Membrane properties/membrane transport
	2	Resting membrane potential
	3	Electrical signals in neurons
2 23-27 August 6 lecture hours	4	Cell to cell signaling in neurons
	5	Autonomic nervous system
	6	Autonomic nervous system
	7	Somatic and autonomic reflexes
	8	Muscle
	9	Muscle
3 30 August- 03 September 5 lecture hours	10	Integration: skeletal muscle diseases
	11	Group Assignment #1 (Mandatory lecture attendance/Zoom meeting: Tuesday August 31 at 4:30 pm AST).
	Lecture/recording #	Module 2: Cardiovascular (HZ)
	12	Introduction and basic anatomy of the heart
	13	Excitation of the heart
4 06-10 September 6 lecture hours	14	Control of cardiac activity/electrocardiography
	15	ExamSoft Quiz 1: 25 points / Lectures 1-11 (ExamSoft, Monday September 06 at 1:30 pm AST) Duration: ~40 min
	16	Electrocardiography
	17	Cardiac cycle
	18	Cardiac cycle: Integration and Heart sounds/murmurs
	19	Basic pathophysiology of heart arrhythmias
	20	Integration: heart failure
	21	Integration: heart failure
5 13-17 September 5 lecture hours	22	Blood Flow and pressure
	23	Blood Flow and pressure
	24	Microcirculation and lymphatic
	25	Regulation of blood flow and pressure/ Integration: exercise
	26	Integration: pathophysiology of hypertension and hypotension
6 20-24 September 6 lecture hours	27	Group Assignment #2 (Mandatory lecture attendance/Zoom meeting: Tuesday September 21 at 4:30 pm AST).
	Lecture/recording #	Module 3: Hematology (HHF)
	28	Introduction
	29	Erythron
	30	Erythron
	31	Erythron
7 27 September- 01 October 6 lecture hours	32	Erythron
	33	Blood groups
	34	Blood groups
	35	Hemostasis
	36	Hemostasis
	37	Group Assignment #3 (Mandatory lecture attendance/ Zoom meeting: Friday Oct 01 at 4:30 pm AST).
9 11-Oct	Midterm	ANPH512, Physiology 1. Midterm: October 11 at 12:00 pm (noon) AST: 70 Points / Lecture recordings 1-37. Duration: ~100 min

9 11-15 October 4 lecture hours	Lecture/recording #	Module 4: Gastrointestinal (HZ)
	38	General Principles
	39	General Principles
	40	Cephalic Phase
10 18-22 October 5 lecture hours	41	Gastric Phase
	42	Pancreas & Liver and Bile.
	43	Group Assignment #4 (Mandatory lecture attendance/Zoom meeting: Wednesday October 20 at 2:30 pm AST).
	44	Small Intestinal Phase
11 25-29 October 5 lecture hours	45	Small Intestinal Phase
	46	Large Intestinal Phase
		Holiday in Grenada
	47	Ruminants
	48	Ruminants
12 01-05 November 5 lecture hours	49	Hindgut Fermenters
	Lecture/recording #	Module 5: Respiration (HZ)
	50	Ventilation of the lungs
	51	Ventilation of the lungs
	52	Pulmonary blood flow
13 08-12 November 6 lecture hours	53	Gas exchange in the lung
	54	Gas transport in blood
	55	Gas transport in blood
	56	Regulation of the respiratory function
	57	Regulation of the respiratory function
14 15-19 November 6 lecture hours	58	Non respiratory functions of the respiratory system
	59	Group Assignment #5 (Mandatory lecture attendance/Zoom meeting: Wednesday November 10 at 4:30 pm AST).
	Lecture/recording #	Module 6: Renal (HZ)
	60	Introduction to renal physiology
	61	Function of the glomerulus and tubular system
15 22-26 November 6 lecture hours	62	Function of the glomerulus and tubular system
	63	ExamSoft Quiz 2: 25 points / Lectures 38-59 (ExamSoft. Monday November 15 at 1:30 pm AST) Duration: ~40 min
	64	Tubular handling of important substances
	65	Tubular handling of important substances
	66	Regulation of fluid volume and osmolality
16 29 November 03 December	67	Kidney functions and laboratory parameters: Kidney lab.
	68	Kidney functions and laboratory parameters: Acid/Base Balance
	69	Renal Pathophysiology
	70	Renal Pathophysiology
	71	Group Assignment #6 (Mandatory lecture attendance/Zoom meeting: Tuesday November 23 at 2:30 pm AST).
72		
17 06-10 December	73	Review session
	74	
Final exams week		
ANPH512, Physiology 1. Final December 06 at 12:00 pm (noon) AST: 70 Points / Lecture-recordings 1-74		

DEPARTMENT OF ANATOMY, PHYSIOLOGY & PHARMACOLOGY

VETERINARY PHYSIOLOGY II SYLLABUS (3 Credits)

ANPH513 (Term 2)

Fall 2021

I. Course Faculty and Staff Information

Course Director/Instructor

Dr. Hugo Hernández Fonseca

Prof. Vet. Physiology, SVM

Office: Veterinary Office Building (SGU campus map: # 48)

Tel: 444 - 4175 ext 3328

email: HFonseca1@sgu.edu

Office hours are offered either in person or via Zoom meetings in two (2) modalities: “one-to-one individual or small groups” by appointment.

Instructor

Dr. Hector Zerpa Gonzalez

Prof. Vet. Physiology, SVM

Office: Veterinary Office Building (SGU campus map: # 48)

Tel: 444 - 4175 ext 3852

email: hzerpago@sgu.edu

Office hours are offered either in person or via Zoom meetings in two (2) modalities: “one-to-one individual” or “small groups” by appointment.

II. Course location

The course will be delivered in a hybrid teaching modality, including online and in-person teaching activities (Sakai resources: Panopto, Zoom meetings, Test & Quizzes, Lessons, Assignments, Forums, Turning Points, ExamSoft, and others).

III. Prerequisite and/or co-requisite courses

Students must be enrolled in DVM term 2 and have completed ANPH512.

IV. Required resources

Visit the following link regarding the required computer specifications.

<https://www.sgu.edu/office-of-information-technology/student-information/it-computer-recommendations/>

V. Recommended resources

The following textbooks are recommended:

- Physiology of Domestic Animals by O.V. Sjaaastad, K. Hove & O. Sand, 3rd Edition; Scandinavian Veterinary Press, 2016.

- Pathways to Pregnancy and Parturition by P.L. Senger, 3rd edition, Current Concepts Inc., Washington State University, 2012.

- A very detailed textbook and our physiology “Bible”: Guyton and Hall Textbook of

Medical Physiology by JE Hall, 13th edition, Saunders Co, 2016.

- A very good, concise (human) textbook, i.p. for visual learners, is: Principles of Anatomy and Physiology by G.J. Tortora & B. Derrickson, 15th edition, Wiley & Sons Inc., New York, 2016.

- A great book for those who want to go deeper into pathophysiology is: Color Atlas of Pathophysiology by S. Silbernagel & F. Lang, 3rd Edt, Thieme Publishers, N.Y., 2015.

- Additionally, these two excellent and concise medical physiology textbooks contain very well-designed diagrams and figures. They are available as E-books at SGU library:

- Ganong’s Review of Medical Physiology by Barrett KE, Barman SM, Boitano S, Brooks HL. 25th edition, McGraw-Hill Education., 2016.

<https://accessmedicine-mhmedical-com.periodicals.sgu.edu/Book.aspx?bookid=2525>

- Medical Physiology: The Big Picture by Kibble JD, Halsey CR. McGraw-Hill Education., 2015.

<https://accessmedicine-mhmedical-com.periodicals.sgu.edu/Book.aspx?bookid=2914>

If you have any concerns or problems accessing these resources, contact Suzanne Paparo at spaparo@sgu.edu

VI. Accommodation

- a. Students who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at <https://mycampus.sgu.edu/student-accessibility-and-accommodation-services/Requesting-Accommodations>

VII. Other requirements

None

VIII. Course rationale

In the DVM program, veterinary physiology is covered by two courses: ANPH512/DVM 1 and ANPH513/DVM2. Both courses focus on the fundamental mechanisms underlying normal function of cells, tissues, organs, and organ systems of animals, commensurate with the requirements for a physician providing primary care to a variety of veterinary patients. Students will integrate the acquired knowledge about physiological functions of organ systems and learn to explain mechanisms of whole-body homeostasis. Emphasis is placed on introducing the pathophysiology of diseases, which are commonly seen in veterinary practice. The ANPH513 course covers the following systems: metabolism, endocrinology, reproduction, and neurophysiology (i.p. the sensory nervous system). This course also contains independent group work, in which students are exposed to clinical case studies and give short oral and written presentations. Students share responsibility for a collectively earned group grade and should demonstrate professional behavior including communication and team-working skills.

IX. Course-level outcomes

The goal of the Physiology II course is to introduce fundamental concepts of the following systems of common domestic animals: metabolism, endocrinology, reproduction, and neurophysiology (i.p. the sensory nervous system). Students will integrate the acquired knowledge about physiological functions of organ systems and learn to explain mechanisms of whole-body homeostasis. Emphasis is placed on introducing the pathophysiology of diseases, which are commonly seen in veterinary practice. This course prepares students for subjects taught in Clinical Pathology, Pathology, and Internal Medicine. Working at times in groups and sharing responsibility for a collectively earned group grade will encourage the demonstration of professional behavior and team-working skills.

Course-level Learning Outcomes

The Vet. Physiology II course is a continuation of the Vet. Physiology I course. Both courses form a unit and address the same general course objectives. Upon successful completion of the Veterinary Physiology II course, students should be able to:

CLO 1. Metabolism-Concepts: Describe the physiological functions of the metabolism of healthy animals and how these systems contribute to whole-body homeostasis.

CLO 2. Metabolism-Clinical: Apply the acquired knowledge of metabolism to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO 3. Endocrinology-Concepts: Describe the physiological functions of the endocrine systems of healthy animals and how these systems contribute to whole-body homeostasis.

CLO 4. Endocrinology-Clinical: Apply the acquired knowledge of the endocrine system to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO 5. Reproduction-Concepts: Describe the physiological functions of the reproductive systems of healthy animals and how these systems contribute to whole-body homeostasis.

CLO 6. Reproduction-Clinical: Apply the acquired knowledge of the reproductive systems to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO 7. Neurophysiology-Concepts: Describe the physiological functions of the somatic and special sensory systems, the main motor systems and main CNS sections of healthy animals and how these systems contribute to whole-body homeostasis.

CLO 8. Neurophysiology-Clinical: Apply the acquired knowledge of neuroscience II to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO-9. Work effectively in a team when preparing and discussing group assignments, take responsibility for the team's performance, and present team-allocated tasks to a broader audience in a professional manner

X. Lesson-level outcomes

Detailed lesson-level outcomes have been designed for every lecture topic and are presented in every lecture.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcomes (CLOs) #	SGU-SVM Program Level Outcomes (PLOs)
1, 3, 5, 7	1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
2, 4, 6, 8	2. Analyze homeostasis and disturbances of basic structures and functions of healthy animals.
2, 4, 6, 8	3. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.
2, 4, 6, 8	4. Explain the relationship between disease processes and clinical signs.
9	12. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.
9	14. Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.

XII. Course Schedule

The lecture schedule is appended at the end of the syllabus document

XIII. Grading and assessment policy and grading rubrics

1. Examinations:

There will be four (4) modular examinations as listed in the table below: Quiz 1, Midterm, Quiz 2, and a Final. The midterm and final exams will also contain a comprehensive component. Modular examinations expect a student to demonstrate in-depth, detailed knowledge about the material covered, including integration of basic concepts. Detailed study objectives are included in each handout. The comprehensive examinations serve to reinforce the acquired knowledge and will focus on broader concepts and clinical applications. All examinations are sequestered. Exams may contain multiple-choice (MCQ: single best answer) and fill in the blanks (FIB). Examination questions come from material covered in lectures, recordings, handouts, group assignment discussions, and any other sources the instructors indicate.

All rules and regulations concerning examinations including EXAMSOFTE are detailed in the SGU Student manual.

A grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

2. Group Assignments

Group assignments will be given during the lectures in each module. These assignments could include short clinical scenarios and/or analysis of basic biomedical functions, which serve to apply and reinforce the taught material and to stimulate students to collaborate professionally. The whole class will attend four (4) mandatory sessions (see the course schedule and attendance policy) in the term. The class will be divided by the course director into groups, previous to the first session. Each group, either in the classroom or in *Zoom Breakout Rooms*, will discuss the assignments for 30 minutes using the content covered in the lectures (or recordings) and any other material either provided by the instructor or found by the students. During the session, each group must write down the answers to the assignments. Thereafter, groups will be randomly called upon to present their answers and analysis to these assignments and to answer additional questions related to the topic. Groups will choose their presenter for the session. A different presenter must be chosen in each assignment presentation. Because assignments differ greatly in their degree of difficulty, presentations will be marked as pass/fail based on the correctness of the answers, the ability to answer related questions, and the student's professional behavior during the presentation.

Every group must submit a written report of each assignment in Sakai within twenty four(24) hours after the session, following the instructions. It is not expected that the students should invest more than fifty (50) min provided during the session to prepare the written report. Every group must present (oral) at least once during the assignment sessions and pass the oral presentation. Every group must submit and pass four (4) written reports. If a group passes, each member will receive 15 points, if a group fails no points will be given to any member. Please check section XVII regarding individual attendance policy.

Grading scale

Assessment table: one question is equivalent to one point.

The assessment schedule and grading scheme are as follows

Assessments	Content. Lecture recording numbers	Date	Points
Quiz 1 (Examsoft)	Lectures 1-16	Sept. 24 th at 11:30 am (Friday)	20
Midterm (ExamSoft)	Lectures 1-22	October 11 th at 11:30 am (Monday)	45
Quiz 2 (Sakai)	Lectures 23-31	Open Date: Nov. 1st (Mon.) Due Date: Nov. 4 th (Thur.)	20
Final (ExamSoft)	Lectures 1-45	Dec. 6th at 12:00 pm (noon) (Monday)	65
Group Assignments		See the schedule	15
Total Points			165

Letter Grade	Percentage	Number Grade
A	89.5 - 100	4
B+	84.5 - 89.49	3.5
B	79.5 - 84.49	3
C+	74.5 - 79.49	2.5
C	69.5 - 74.49	2
D+	64.5 - 69.49	1.5
D	59.5 - 64.49	1
F	1- 59.49	0

XIV. Recommended study strategies

Every learner is different, and these are only general recommendations:

1. Pre-reading material before attending the lectures and/or watching and interacting with the lecture recording.
2. Revise the lecture recordings weekly. Make sure that the material is understood. If a concept is not fully understood, please do not wait; reach out and express your concerns to the course director. A good communication flow between the class and the course director is essential to online teaching engagement.
3. For exam preparation, self-challenge is crucial: explain the learned material to yourself first without having to refer to your handouts and notes. Then work in small groups and repeat this process. Vocalization is an important element to check and improve your own knowledge and understanding of concepts. Prepare yourself as if going into an oral exam. *If you cannot explain it, you do not know it!*

XV. Instructor's expectations of the student

Students are always expected to adhere to the Professionalism Policy (see XVI) and demonstrate respect towards SGU faculty and staff and their fellow students and the general public.

The student is expected to attend the lectures or review lecture recordings. The student should also revise the assignments' material and any other studying material indicated by the instructors.

XVI. Professionalism statement

The policy relating to SGU's Student Policies, Procedures and Non-Academic Standards is detailed in the SGU student manual 2020/2021.

XVII. Attendance/Participation Policy

The policy relating to class attendance is detailed in the SGU 2020/2021 student manual.

Students are expected to be available during the standard 8:30 am -5:20 pm AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation may be graded randomly. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously

due to illness or other extenuating circumstances, proper notification procedures must be followed.

Lecture or Zoom session attendance policy: this course has designed four (4) mandatory lecture/Zoom (synchronous) sessions that will be used to analyze and discuss the modular group assignments. Failure to participate without a valid excuse in one (1) of the four (4) mandatory sessions will imply losing the points allocated to this activity for the individual student. It is fully understood that there could be some limitations for some students located in different time zones. Therefore, if you know in advance that you have any restrictions to attend these synchronous (in person/online) activities, please contact the course director during the first week of activities.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (COURSE DIRECTOR email HFonsecl@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been

- successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
 5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
 6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
 7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#) c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The Plagiarism Policy is detailed in the SGU Student Manual 2020/2021. Please note that "... materials (such as slides, handouts and audio/video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to use these materials solely for the purpose of group or individual study. Reproduction in whole or in part is prohibited".

Please feel free to contact us if you have questions about the material, any concerns, or suggestions on how we can improve the Veterinary Physiology 2 course. We do have an open-door policy. Please make an office hour appointment via email at any time if you prefer to discuss some specific topics via an in person meeting or a synchronous Zoom meeting.

- Appendix 1: Lecture Schedule Fall 2021. Dr. Hugo Hernandez Fonseca (HHF) & Dr. Hector Zerpa Gonzalez (HZG).
- Appendix 2: Lesson Level Outcomes Fall 2021

ANPH513 / VETERINARY PHYSIOLOGY II / SCHEDULE		
Weeks	Lecture #	Module 1. Metabolism (HHF)
1 16-20 August 4 lecture hours	1	Introduction to Course & Major Metabolic Pathways: Carbohydrates
	2	Major Metabolic Pathways: Lipids
	3	Major Metabolic Pathways: Lipids & Proteins
	4	Ruminant Metabolism: Review
2 23-27 August 4 lecture hours	5	Whole Body Metabolism: Absorptive & Post-Absorptive Phases
	6	Fasting & Starvation
	7	Liver Function & Bilirubin
	8	Thermoregulation
3 30 August 03 September 2 lecture hours	9	Group Assignment # 1: Metabolism
	Lecture #	Module 2. Endocrinology (HHF)
4 06-10 September 4 lecture hours	10	General Endocrine Mechanisms
	11	Hypothalamic-Pituitary Axis
	12	Pancreas
	13	Pancreas: Insulin and Glucagon Functions
5 13-17 September 2 lecture hours	14	Thyroid Gland
	15	Thyroid Gland: T3 and T4
	16	Growth Hormone
6 20-24 September 2 lecture hours	17	Adrenal Cortex: Glucocorticoids
	18	Quiz 1: Friday September 24th at 11:30 am (noon). Lectures 1-14 (20 pts.) on Exam Soft.
7 27 September 01 October 4 lecture hours	19	Adrenal Cortex: Glucocorticoids and Mineralocorticoids
	20	Adrenal Cortex: Mineralocorticoids
	21	Calcium-Phosphate Homeostasis
	22	Group Assignment # 2: Endocrinology
8 04-08 October No lectures	MIDTERMS.....
9 11-15 October 4 lecture hours		MIDTERM EXAM: Monday October 11th at 11:30 am (noon). Lectures 1-22 (40 pts.) on ExamSoft.
	Lecture #	Module 3. Reproduction (HHF)
	23	Male Reproduction
	24	General Concepts of Female Reproductive Cycle
	25	General Concepts of Female Reproductive Cycle
10 18-22 October 3 lecture hours	26	General Concepts of Female Reproductive Cycle
	27	General Concepts of Pregnancy and Parturition
	28	Lactation
	29	Reproduction in the Cow and Sow
11 25-29 October 2 lecture hours	30	Reproduction in the Mare
	31	Reproduction in the Bitch

12 01-05 November 2 lecture hours	32	Quiz 2: Open date: Monday November 1st at 11:30 pm (noon); Due date: Thursday November 4th at 11:30 pm (noon). Lectures 23-31 (20 pts.) on SAKAI.
	33	Reproduction in the Queen
	34	Group Assignment #3: Reproduction
13 08-12 November 3 lecture hours	Lecture #	Module 4. Neurophysiology (HZ)
	35	Revision of Nervous System Anatomy
	36	Pain
	37	Pain
14 15-19 November 5 lecture hours	38	Proprioception
	39	Touch and Thermoreception
	40	Vision
	41	Balance and Vision
	42	Hearing
15 22-26 November 3 lecture hours	43	Conscious Motor Control
	44	Principals of Neurological Lesion Localization
	45	Group Assignment #4: Neurophysiology
16 29 November 03 December No lectures	 Finals
17 06-10 December No Lectures		FINAL EXAM: Monday December 6th at 12 pm (noon). Lectures 1-45 (65 pts.) on Exam Soft.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT OF ANATOMY, PHYSIOLOGY AND PHARMACOLOGY
VETERINARY CLINICAL TOXICOLOGY SYLLABUS (2 credits)
ANPH520 TERM 6
Fall 2021

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I. Course Faculty and Staff Information

The course director is Prof. Dr. Arno H. Werners DVM, MEd, PhD, DECVPT (awerners@sgu.edu). Office hours will be by appointment.

Lecturers in the course are Associate Professor Dr. Kamashi Kumar BVSc & AH, MVSc, PhD (kamashikumar@sgu.edu), Assistant Professor Dr. Talia Guttin VMD, DACVIM (tguttin@sgu.edu) and Prof. Dr. Arno H. Werners.

II. Course location

All lectures will be delivered in Ray and Jan Sis Hall. The lectures will be recorded (Panopto) as well as available “live” via Zoom. We will use the “Lessons” tab on Sakai to make sure that you keep up with the course material. Links will be available on this page to the learning materials for that week and these lecture slides, short video’s of more complicated aspects of veterinary toxicology, assignments, and additional reading

III. Prerequisite and/or co-requisite courses

To be able to successfully participate in and complete this course, a good understanding of basic pharmacological principles, pathophysiological principles, disease processes, as well as (bio-) chemistry is required. Students therefor will have to have successfully completed the first 5 terms of the DVM curriculum.

IV. Required resources

Lecturers will use notes and/or slides. Notes and/or slides will be available on Sakai only and will not be available as a print-out. The slides will be accessible for digital note taking. For certain subjects, lecturers may decide to include scientific articles or chapters from reference books in the study material. These will also be made available electronically on Sakai and are subject to questions on assessments. All lectures will be available via Panopto recordings: the link is published on the Sakai site and on the “Lesson” tab on Sakai. There are no other required resources for this course, however, the following book can be used as reference: “Veterinary Toxicology. Basic and Clinical Principles, 2nd edition; Ramesh C. Gupta editor; Academic Press”.

V. Recommended resources

There are no recommended resources, other than the book mentioned above ("Veterinary Toxicology. Basic and Clinical Principles, 2nd edition; Ramesh C. Gupta editor; Academic Press").

VI. Accommodation

1. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
2. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None.

VIII. Course rationale

A vast number of substances potentially toxic to animals exist, including pesticides, household cleaning products, agricultural chemicals, automotive products, human prescription and non-prescription drugs, herbal remedies, mycotoxins, and poisonous plants and animals. With such huge numbers of potential toxins, it is impossible for veterinarians to be knowledgeable about all of them. But because some poisonings can cause illness or even death within only minutes to hours after exposure, immediate access to reliable information on diagnosis and treatment is essential. Often intoxications involve new drugs or chemical products for which very little or no published veterinary toxicity data is available. Standard veterinary medical textbooks usually include information on only the more common toxins. Even texts devoted specifically to toxicology cannot provide information on all toxins in all species. Information gained from product manufacturers or human poison control centers often pertains to human exposures only. Because of wide metabolic and physiological differences between species, it is rarely appropriate to extrapolate toxicity data from humans to other species. Veterinary toxicologists at veterinary colleges can provide valuable information on many toxicants, but as with many manufacturers, are often available only during routine office hours. An other important source are the different animal poison control centres. Therefore, it is important that veterinarians are aware of the variety of additional toxicological information sources available.

IX. Course learning outcomes

In this course students will develop a proficient working knowledge of toxicological principles, including toxicological testing and the effects of toxins on organ systems, several common toxins in different animal species and practical approaches to the animal that presents with an intoxication.

Upon successful completion of this course, the student will be able to:

1. Compare and contrast veterinary regulatory toxicology and veterinary clinical toxicology.
2. Analyse and explain in a general sense how and where toxins act at the molecular/cellular/physiologic level (toxicodynamics).
3. Articulate and apply knowledge of toxin absorption, bioavailability, distribution, metabolism and excretion (including bio-activation and bio-inactivation), and judge the effects of exposure on the clinical signs observed (toxicokinetics).
4. Integrate toxicokinetic and toxicodynamic information to formulate:
 - A differential diagnosis
 - The importance of sample collection
 - Additional diagnostic tests
 - A prognosis
5. Predict and recognise major intoxications in the different veterinary species, including toxic plants and mycotoxins.
6. Design the most appropriate therapeutic protocol for common and important intoxications using knowledge of species, breed, age, sex, disease states, genetics and other factors, and integrate pharmacological therapy in a multimodal treatment plan (i.e., surgery, nutrition, management, etc).
 - Outline the desired response to pharmacological therapies as well as reflect on the most appropriate methods to monitor for treatment success.
7. Effectively communicate information about intoxications and therapeutic plans to clients (translate information to lay person, educate stakeholders) , technical staff, and colleagues and ensure consistency with and cognizance of demographical, socio-economical and cultural considerations.

X. Lesson learning outcomes

Please refer to [table 1](#) in the appendix for the lesson learning outcomes.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes/Competencies

Please refer to [table 2](#) in the appendix for the alignment of course learning outcomes with program learning outcomes.

XII. Course schedule

Please refer to [table 3](#) in the appendix for the course schedule. A detailed outline of the course can also be found on the Veterinary Toxicology page of Sakai.

XIII. Grading and assessment policy, and grading rubrics

Grading scale

PERCENTAGE SCORE	LETTER GRADE
> 89.5%	A
84.5 - 89.5	B+
79.5 - 84.4	B
74.5 - 79.4	C+
69.5 - 74.4	C
64.5 - 69.4	D+
59.5 - 64.4	D
< 59.4	F

Assessment policy

Knowledge of the subject will be tested formatively throughout the term and summatively in a final examination. All the material presented (notes, articles, book chapters, lecture slides) is subject in all the assessments, unless the lecturer specifically indicates differently. The final exam (60 questions; see breakdown in table below) will cover all material presented during the term. The final grade will consist off the mark for the [clinical toxicology assignment](#) (10%), the SAQs (via Examsoft) (15%), the [plant toxicity assignment](#) (15%), [the peer evaluation](#) (5%) and the mark for the final examination (55%).

Assignments are completed by group. Group allocation will be announced through Sakai at a later date. The topic for each group for both assignments can be found in [table 4](#) in the appendix.

Three (3) points per assignment will be taken from the total for the assignments and the peer assessment when they are not submitted on time.

The format of the questions on the examinations will be Multiple Choice Questions (MCQs), Short Answer Questions (SAQs), Fill in the Blank (FITB) and Matching questions.

The lecturers will very carefully design the exams. The most current SGU examination policy and assessment guidelines are adhered to and the examination policy is leading in all issues that might arise. Students are required to follow the instructions of the course director and the proctors in all matters. Discussions and reviews of/on exams and examination material can only take place within the first seven (7) days after completion of the examination. Comments and challenges regarding the final examination should be communicated through the designated SGA student representative within 24 hours after the end of the examination.

Assessment	% of total grade	Total # of points	Subjects
Clinical toxicology assignment	10%	30	See group assignments (appendix table 4) Rubric in appendix table 5
Plant toxicology assignment	15%	33	See group assignments (appendix table 4) Rubric in appendix table 6
SAQs	15%	24 (1 points per question)	See detailed course schedule (appendix table 3)
Peer evaluation	5%		1 evaluation per group (appendix table 7)
Final examination	55%	60	2 questions per lecture hour (Introduction lecture to the course not included) = total of 28 questions 1 question per clinical toxin. Document will become available after week 8

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

- a. Avoid talking out loud.
- b. Avoid looking away from the monitor.

- c. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
- d. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

This course will be assessed in a midterm examination, a comprehensive final examination, clinical intoxication presentations, peer evaluations and the assignment. It is essential to stay on top of the study material throughout the course. To be able to do so, it is advised to follow the following steps:

The basic toxicological principles are very similar to the pharmacological principles and hence a good understanding of basic pharmacology will be very helpful when studying this information.

Find common themes amongst the different toxins; a good first step is to look at the organs affected by different toxins. Compare and contrast the toxins and make your own charts with the different aspects of certain toxins.

XV. Instructor's expectations of the student

Students are expected to familiarise themselves with the material before coming to class and actively participate in the discussions in class.

XVI. Professionalism statement

Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behaviour.

The Code of Conduct includes student comportment and the honour code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University.

Abuses of this Code, outlined in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct.

XVIII. Attendance policy

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XIX. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Examsoft: SAQs and final examination; Sakai: assignments) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (awerners@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honour Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarise themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
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 - e. [The general Reminders/Guidelines](#)

XXI. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to use these materials solely for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

XXII. Appendices

Table 1: Lesson learning outcomes

Topic	Lesson learning outcomes	Course learning outcomes
General toxic principles (INT)	<ol style="list-style-type: none">1. Compare and contrast toxins and toxicants2. Compare and contrast the spectra of undesired effects3. Compare and contrast the different Adverse Drug Reactions (ADRs)4. Describe the importance of species differences5. Differentiate between acute-subacute and chronic toxicities	7, 8, 9
Toxicokinetics (TK)	<ol style="list-style-type: none">1. Describe common toxicokinetic principles2. Interpret toxicokinetic data and draw conclusions regarding the potential clinical effects3. Compare and contrast the different effects of routes of exposure and its clinical repercussions4. Interpret dose-response relationships and put them into a clinical perspective	2, 3

Topic	Lesson learning outcomes	Course learning outcomes
Terminology and Toxicological testing (TEST)	<ol style="list-style-type: none"> 1. Compare and contrast the use of different <i>in vitro</i> and <i>in vivo</i> toxicological tests 2. Describe the differences between experimental and clinical toxicology when evaluating different toxicological tests 3. Describe the purpose of the different toxicological tests and evaluate their outcomes 4. Evaluate the differences between acceptable daily intake and maximum residue level, incorporating all relevant parameters 5. Describe the rationale and principles of additional toxicological tests 6. Evaluate the importance of trans-generational toxicity 7. Articulate the role biotransformation plays in the toxicity of chemicals 	6, 8
Carcinogenicity and Mutagenicity (MUT)	<ol style="list-style-type: none"> 1. Compare and contrast the different <i>in vitro</i> tests used to evaluate carcinogenicity, mutagenicity or genotoxicity 2. Describe the place these tests have in the approval of (veterinary) medicinal products 3. Evaluate the effects of ochratoxin A as a mutagenic agent 	1, 2, 3, 6

Topic	Lesson learning outcomes	Course learning outcomes
Hepatotoxicity and Intervention (HEP)	<ol style="list-style-type: none"> 1. Reiterate the importance of biotransformation, including species differences in drug metabolising enzymes 2. Compare and contrast the effects of toxins on different parts of the liver 3. Describe the different toxic responses of the liver (biotransformation dependent and independent toxicity) 4. Compare and contrast the effects of different toxins on the liver, including zonal effects 5. Describe the different intervention strategies and compare and contrast their mechanisms of action, advantages and disadvantages 	1, 2, 3, 4, 5, 9
Cardiotoxicity (CARDIO)	<ol style="list-style-type: none"> 1. Compare and contrast the different cardiotoxic chemicals, their mechanisms of action, clinical signs and therapeutics 	1, 2, 3, 4, 5, 9
Nephrotoxicity (KID)	<ol style="list-style-type: none"> 1. Reiterate the importance of the kidney in biotransformation and elimination of chemicals 2. Compare and contrast the different chemicals that have an effect on the kidney, including their mechanism of action, clinical signs and therapeutic interventions 	1, 2, 3, 4, 5, 9

Topic	Lesson learning outcomes	Course learning outcomes
Mycotoxins (MYCO)	<ol style="list-style-type: none"> 1. Compare and contrast pre-harvest and post-harvest fungal infections and the implications for prevention 2. Describe the general characteristics of fungal toxins 3. Describe the factors that determine fungal growth 4. Compare and contrast mycoses, mycotoxicoses and toxicoinfections 5. Compare and contrast the different mycotoxins that play a role in animal health, including mechanisms of action, clinical signs and therapeutic interventions 	1, 2, 3, 4, 5, 9
Immuno (IMM)- and Neurotoxicity (NEURO)	<ol style="list-style-type: none"> 1. Compare and contrast different neuropathies (including excitotoxicity) 2. Identify neurotoxins based on clinical signs/pathology results and clarify their mechanism of action 3. Clarify how chemicals elicit their effects on the immune system 4. List relevant immunotoxicities and immunological reactions in veterinary medicine and describe the underlying mechanisms 	1, 2, 3, 4, 5, 9
Plant Toxicology (PLANT)	<ol style="list-style-type: none"> 1. Compare and contrast mechanism of action, the clinical signs and the treatment modalities 2. Compare and contrast plant toxins and their effects on different organ systems. 	1, 2, 3, 4, 5, 9

Topic	Lesson learning outcomes	Course learning outcomes
Clinical Toxicology of Food Producing Animals (CT FA)	<ol style="list-style-type: none"> 1. Recognise intoxications in food producing animals based on presented history and clinical signs 2. Clarify mechanisms underlying the clinical signs observed 3. Determine what samples should be taken for diagnostic purposes and how these samples should be stored and transported 4. List the most relevant intoxications and adverse effects of Veterinary Medicinal Products (VMPs) 5. Create a therapeutic protocol to treat common intoxications 6. Provide information on the legal restrictions when treating intoxications in food producing animals 	7, 9

Topic	Lesson learning outcomes	Course learning outcomes
Clinical Toxicology of Companion Animals (CT CA)	<ol style="list-style-type: none"> 1. Recognise intoxications in companion animals and clarify the underlying mechanisms responsible for the clinical signs observed 2. Integrate previous knowledge of companion animal pathophysiology and toxicology to diagnose intoxications 3. Create a therapeutic protocol to treat common intoxications 4. Assemble patient information to construct a differential diagnosis (this includes determining which samples to take, how to store and transport them) 	7, 9
Clinical Toxicology of the Equine Patient (CT EQ)	<ol style="list-style-type: none"> 1. Compare and contrast treatment modalities for equine intoxications 2. Design specific treatment for individual cases 3. Integrate previous knowledge of equine pathophysiology and toxicology to diagnose intoxications 4. Assemble patient information to construct a differential diagnosis (this includes determining which samples to take, how to store and transport them) 	7, 9

Table 2: Alignment of Course Learning Outcomes with Program Learning Outcomes/Competencies

	Course learning outcomes	Program learning outcomes
1	Compare and contrast veterinary regulatory toxicology and veterinary clinical toxicology.	
2	Analyse and explain in a general sense how and where toxins act at the molecular/cellular/physiologic level (toxicodynamics).	A3: Recall, understand, and adequately utilise knowledge of aetiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations
3	Articulate and apply knowledge of toxin absorption, bioavailability, distribution, metabolism and excretion (including bio-activation and bio-inactivation), and judge the effects of exposure on the clinical signs observed (toxicokinetics).	A2: Analyse homeostasis and disturbances of basic structures and functions of healthy animals A3: Recall, understand, and adequately utilise knowledge of aetiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations A6: Apply multi-disciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine

	Course learning outcomes	Program learning outcomes
4	<p>Integrate toxicokinetic and toxicodynamic information to formulate:</p> <ol style="list-style-type: none"> A differential diagnosis The importance of sample selection and collection Additional diagnostic tests A prognosis 	<p>A6: Apply multi-disciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine</p> <p>C1: Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis</p>
5	<p>Predict and recognise major intoxications in the different veterinary species, including toxic plants and mycotoxins.</p>	<p>A3: Recall, understand, and adequately utilise knowledge of aetiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations</p>
6	<p>Design the most appropriate therapeutic protocol for common and important intoxications using knowledge of species, breed, age, sex, disease states, genetic and other factors, and integrate pharmacological therapy in a multimodal treatment plan (i.e., surgery, nutrition, management etc.).</p> <ol style="list-style-type: none"> Outline the desired response to pharmacological therapies as well as reflect on the most appropriate methods to monitor for treatment success 	<p>C2: Create comprehensive treatment plans</p>

	Course learning outcomes	Program learning outcomes
7	Effectively communicate information about intoxications and therapeutic plans to clients (translate information to lay person, educate stakeholders) , technical staff, and colleagues and ensure consistency with and cognizance of demographical, socio-economical and cultural considerations.	C8: Demonstrate and model effective client communication and ethical conduct

Table 3: Course schedule

Week	Topics and materials covered	Scheduled activities	Time commitment
Week 1	<ol style="list-style-type: none"> Lecture: Introduction to the course Lecture: General toxic principles 	<p>Monday August 16th 10.30am AST Lecture 1: introduction to the course</p> <p>Friday August 20th 09.30am AST Lecture 2: General toxic principles</p>	<p>Lecture - 2 hours</p> <p>Clinical toxicology assignment - 1 hour</p>
Week 2	<ol style="list-style-type: none"> Lecture: Regulatory versus clinical toxicology Working on clinical toxicology assignment 	<p>Wednesday August 25th 09.30am AST Lecture 3: Regulatory versus clinical toxicology</p>	<p>Lecture - 1 hour</p> <p>Clinical toxicology assignment - 1 hour</p>
Week 3	<ol style="list-style-type: none"> Lecture: Toxicokinetics 1st assessment 	<p>Thursday September 2nd 09.30am AST Lecture 4: Toxicokinetics</p> <p>Saturday September 4th 17.00pm AST Examsoft Qs (2 Qs General toxic principles 2 Qs Regulatory versus clinical toxicology)</p>	<p>Lecture - 1 hour</p> <p>SAQs - 20 minutes</p>
Week 4	<ol style="list-style-type: none"> Lecture: Intro to clinical toxicology Lecture: Genotoxicity, carcinogenicity and mutagenicity Working on clinical toxicology assignment 	<p>Wednesday September 8th 09.30am AST Lecture 5: Intro to clinical toxicology</p> <p>Friday September 10th 09.30am AST Lecture 6: Genotoxicity, carcinogenicity and mutagenicity</p>	<p>Lecture - 2 hours</p> <p>Clinical toxicology assignment - 1 hour</p>

Week	Topics and materials covered	Scheduled activities	Time commitment
Week 5	<ol style="list-style-type: none"> Lecture: Introduction to cardiovascular toxicology Lecture: Introduction to plant toxicology 2nd assessment 	<p>Thursday September 16th 09.30am AST Lecture 7: Introduction to cardiovascular toxicology</p> <p>Friday September 17th 09.30am AST Lecture 8: Introduction to plant toxicology</p> <p>Saturday September 18th 17.00pm AST Examsoft Qs (2 Qs Toxicokinetics and 2Qs Intro to clinical toxicology)</p>	<p>Lecture - 2 hours SAQs - 20 minutes</p>
Week 6	<ol style="list-style-type: none"> Lecture: Introduction to gastrointestinal toxicology Working on clinical toxicology assignment 	<p>Thursday September 23rd 10.30am AST Lecture 9: Introduction to gastrointestinal toxicology</p>	<p>Lecture - 1 hour Clinical toxicology assignment - 2 hours</p>
Week 7	<ol style="list-style-type: none"> Lecture: Introduction to cardiovascular toxicology Working on clinical toxicology assignment 3rd assessment 	<p>Wednesday September 29th 10.30am AST Lecture 10: Introduction to cardiovascular toxicology</p> <p>Saturday October 2nd 17.00pm AST Examsoft Qs (2 Qs Introduction to plant toxicology, 2 Qs Genotoxicity, carcinogenicity and mutagenicity)</p>	<p>Lectures - 1 hour SAQs - 20 minutes Clinical toxicology assignment - 1 hour</p>
Week 8	Submission of Clinical toxicology assignment	Saturday October 9th 17.00pm AST deadline for submission of clinical toxicology assignment	

Week	Topics and materials covered	Scheduled activities	Time commitment
Week 9	<ol style="list-style-type: none"> Lecture: Introduction to renal toxicity 4th assessment 	<p>Tuesday October 12th 10.30am AST Lecture 11: Introduction to renal toxicity</p> <p>Saturday October 16th Examsoft Qs (2 Qs Intro to CVS toxicology and 2 Qs Intro to GI toxicology)</p>	<p>Panopto - 1 hour SAQs - 20 minutes</p>
Week 10	<ol style="list-style-type: none"> Lecture: Introduction to neurotoxicity Working on plant toxicology assignment 	<p>Tuesday October 19th 11.30am AST Lecture 12: Introduction to neurotoxicity</p>	<p>Lecture - 1 hour Plant toxicology assignment - 1 hour</p>
Week 11	<ol style="list-style-type: none"> Lecture: Introduction to liver toxicity 5th assessment 	<p>Friday October 29th 10.30am AST Lecture 13: Introduction to liver toxicity</p> <p>Saturday October 30th 17.00pm AST Examsoft Qs (2 Qs Intro to renal toxicology and 2 Qs Intro to CNS toxicology)</p>	<p>Lecture - 1 hour SAQs - 20 minutes</p>
Week 12	<ol style="list-style-type: none"> Lecture: Introduction to mycotoxins Working on plant toxicology assignment 	<p>Wednesday November 3rd 09.30am AST Lecture 14: Introduction to mycotoxins</p>	<p>Lecture - 1 hour Plant toxicology assignment - 1 hour</p>
Week 13	<ol style="list-style-type: none"> Lecture: Top 10 plant toxins 6th assessment 	<p>Thursday November 11th 10.30am AST Lecture 15: Top 10 plant toxins</p> <p>Saturday November 13th 17.00pm AST Examsoft Qs (2 Qs Intro to liver toxicology and 2 Qs Intro to mycotoxins)</p>	<p>Lecture - 1 hour SAQs - 20 minutes</p>

Week	Topics and materials covered	Scheduled activities	Time commitment
Week 14	1. Lecture: Top 10 plant toxins	Thursday November 18th 09.30am AST Lecture 16: Top 10 plants toxins Saturday November 20th 17.00pm AST Submission of plant toxicology assignment	Lecture - 1 hour
Week 15	Final examination	Friday November 26th Final examination	

Table 4: The topics for the assignments

Group	Clinical toxicology assignment	Plant toxicology assignment
1	Anticoagulant rodenticides	A lactating cow with fever and bleeding from different orifices
2	Ionophores horses versus cattle	A horse with depression, anorexia and discoloured urine
3	Bromethalin intoxication	A dairy cow with respiratory problems
4	Crotalid envenomation	A cow at pasture with colic, hemorrhagic diarrhoea and anorexia
5	Blister beetle	A cow at pasture with respiratory and cardiovascular abnormalities
6	Oak horses versus cattle	A boxer dog presented with general weakness, anorexia and clinical signs of CV collapse
7	NSAIDs in horses	A lactating cow presents with arrhythmias and peripheral oedema

8	NSAIDs in companion animals	Piglets presenting with muscular weakness, respiratory distress and cardiac failure
9	Grapes and raisins	A horse presents with laminitis
10	Ethylene glycol	Cattle presenting with watery to mucoid diarrhoea and decreased rumen motility
11	Arsenic	A pig presenting with anorexia, diarrhoea, colic and depression
12	Ochratoxin A	A horse presenting with severe colic signs
13	Fumonisin	A Labrador pup presents with swelling of lips, tongue and muzzle
14	Organophosphates	A bull presents with frothy salivation and an inflamed muzzle
15	Marijuana	A stabled horse presents with frothy salivation and depressed
16	Avermectins in MDR1 deficient dogs	On a sheep farm animals present depressed with excessive salivation and other GI-tract clinical signs
17	Cholecalciferol	Free ranging sheep with colic
18	Box elder tree	Dog with periodic episodes of persistent vomiting

19	Metronidazole	Sheep presenting with anorexia, lethargy and depression
20	Cymbalta®	Phytotoxicity
21	Aflatoxin B1	A horse presenting with a saw-horse stance, staggering and trembling
22	Acetaminophen	An ataxic horse with difficulty chewing
23	Xylitol	Cattle with neurological signs such as head pressing
24	Pyrrrolizidine alkaloids	Phytotoxin causing clinical signs of the nervous system
25	T2 toxin	Gradual but progressive onset of muscle weakness in a cow
26	Zearalenone	A horse with a fixed facial expression
27	Fescue in horses	Seizures and other neurological signs in a cow
28	Deoxynivalenol	Crooked calf disease
29	Bufotoxin	Gradual weight loss, weakness and anorexia in a cow
30	Chocolate	Acute pneumonia in a group of cattle
31	Gentamicin	Abrupt onset of weakness and flaccid paralysis in a cow
32	Concerta® (methylphenidate)	Erythema, blisters, pruritus and swelling in a group of cows

Table 5: Rubric for clinical toxicology assignment

In this assignment you need to picture yourself as an ER doctor that is presented with a patient with a toxicity. You forgot what you learned about this and have just a few minutes to look up how to treat this case.

We want you to answer the following questions in the assignment:

1. What does the toxin do to the body. We need a general answer here (kidney failure; cardiac arrhythmias) and not a large discussion on the pathophysiology of this particular toxin
2. Present **the most prominent** clinical signs (list a maximum of 5)
3. Shortly describe **the typical lab findings**
4. Is there a specific test for it? Differentiate between a stable-side test you can perform in practice and tests that require sample submission to a specialised laboratory
5. Describe the treatment protocol and differentiate between general treatment (decontamination, cathartics etc.) and specific treatment.
6. What is the prognosis after ingestion of this toxin?
7. Describe monitoring for that toxin (when the animal presents without clinical signs and for monitoring of treatment success).
8. Write a short layman's summary for the owner, describing what is found, how the intoxication is treated and what the prognosis is. *Tip: let your parents or your neighbour read the text; if they understand what you have written than you are okay!*
9. Give 2-3 references for the information your presented. References can only include peer reviewed articles or books, should be relevant and the latest information on the subject. References only have to be mentioned at the end of the document and not throughout the text; the reference list should be in APA Style (<https://apastyle.apa.org/style-grammar-guidelines/references/examples>)
10. The **total** word count should not exceed 500 words. The references are included in the total word count.
11. Required format: A4 page, style Arial 12pt with 1.2 line spacing. See example below the rubric for reference.

	Insufficient	Developing	Exceptional	Points total
Points	1	2	3	
Summarises the effects of the toxin on the body	Question not answered, or only partly	Most effects are mentioned; answer is too long or too short	All effects of the toxin on the body are mentioned in a concise way	
Presents the most prominent clinical signs	Some clinical signs are mentioned. Prominent clinical signs are missing. Answer is too long or too short	Most clinical signs are mentioned. Answer is too short or too long	All prominent clinical signs are presented in a concise way	
Identifies common lab findings	Some lab findings are mentioned, not all are relevant. Answer is too long or too short	Most lab findings are mentioned. Answer too short or too long	All common lab findings are mentioned in a concise way	
Describes the specific tests available for the toxin	Only some tests are mentioned and essential tests are not discussed	Most tests are mentioned. Explanations are too lengthy or too short	All tests are mentioned and described in a concise manner	
Summarises general treatment for the toxin and specific treatment if available	Only some parts of the treatment plan are discussed. Essential elements are left out. Answer too lengthy or too short	Most aspects of the treatment plan are discussed. Some information is lacking, or too much information is given	All aspects of the treatment plan are discussed in a concise manner	
Briefly describes the prognosis for an animal with this intoxication	Answer too short or too lengthy; no explanation of the reason behind the prognosis	Some aspects of the prognosis are missing. Explanation too short or too lengthy	Concise and precise explanation of the prognosis for this animal	

	Insufficient	Developing	Exceptional	Points total
Describes the monitoring for this patient	Incomplete information on monitoring; question not answered. To lengthy or to short explanation of monitoring	Close to complete information on monitoring. Some essential items missing. To lengthy explanation of monitoring parameters	Complete overview of important monitoring parameters. Concisely written.	
Summarises the findings for the owner	Lengthy explanation with a lot of jargon, not to the point, essential aspects of the case work-up, treatment plan and prognosis are missing	Jargon used but understandable for laypersons. Some aspects of the case work-up, treatment plan and prognosis are missing	Concise explanation of the case work-up, treatment plan, monitoring and prognosis. Written in an understandable language for lay people	
Word count	Not adhered to the maximum word count		Adhered to the maximum word count	
References	Less/more references are used. References or sources not relevant	Not all references are relevant	Relevant references are used	
Total group score				
Feedback				

Baclofen toxicosis

Miles Davis, Taylor Swift, Nina Simone and Justin Timberlake

Body system affected: Baclofen is a centrally acting striated muscle relaxant

Clinical signs: The typical clinical signs include severe CNS depression, respiratory arrest, miotic pupils, reduced oculovestibular and palpebral reflexes, absent menace response

Typical lab findings: CBC and biochemistry are usually within normal limits

What tests are available:

1. Stable-side: None are available
2. Laboratory tests: HPLC for baclofen

Treatment protocol:

1. General treatment: Intravenous fluid therapy with 0.9 per cent NaCl, diazepam for sedation and treatment of seizures, intravenous infusion of a lipid emulsion.
2. Specific treatment: no antidote is available

Prognosis: The prognosis depends on the amount of baclofen pills ingested and the time between ingestion and presentation to the veterinarian. Higher doses typically have worse outcome and prognosis. Early treatment with ILE usually leads to a good prognosis.

Monitoring: Monitor for clinical signs of CNS depression, including pupillary reflexes for 24 hours.

Summary: Your dog Senna presented after ingesting a number of your prescription medication. The compound in the pills relaxes Senna's muscles and in high concentrations leads to sedation and lethargy. Fortunately we have been able to stabilise Senna after treatment with a compound that binds the drug. The prognosis for Senna is good and if all goes well we believe we can send her back home with you tomorrow afternoon.

References:

1. Edwards, P., Shihab, N. & Scott, H. W. Treatment of a case of feline baclofen toxicosis with intravenous lipid therapy. *Vet Rec Case Reports* **2**, e000059 (2014). DOI: 10.1136/vetreccr-2014-000059
2. Fox, C. M. & Daly, M. L. Successful treatment of severe baclofen toxicosis initially refractory to conventional treatment. *Clin Case Reports* **5**, 44–50 (2017). DOI: 10.1002/ccr3.736

Table 6: Rubric for plant toxicology assignment

Adhere to the maximum word count (1000 words; this is a maximum word count, there is no minimum word count) as indicated for each section of the assignment. For grading see the rubric below. Please adhere to the following set-up for the assignment report.

The report must be submitted through Sakai before the due date in a PDF format

1. For each plant mentioned in the “differential diagnosis”, mention the species most commonly affected (this can be different animal species).
2. Compare and contrast the clinical signs and the lab findings of the different plants. Here we want you to interpret the hallmark clinical signs and lab findings of the plants mentioned in the differential diagnosis and explain which of the clinical signs will help you determine what plant is causing the clinical signs/lab findings. Based on the relevant clinical signs and lab findings, what conclusion can be drawn?
3. Describe the causative toxic phytoconstituents and the mechanism of intoxication for the different plants.
4. Provide and justify a treatment plan for each plant. Explain when there is no treatment.
5. Compare and contrast the prognosis of intoxication with each of the plants.
6. Describe your conclusions in lay-terms as if you are briefing an owner.
7. References: make sure you use relevant and reliable references. Mention only the most essential references and do not reference to many resources.

	Insufficient	Developing	Exceptional	Points
Points	1	2	3	
What species are most affected?	The correct species are not mentioned	Not all species are mentioned or too many species are mentioned	The correct species are mentioned	
Compare and contrast the clinical signs caused by the different plants	Mostly irrelevant or no clinical signs mentioned	Relevant (contrasting) clinical signs for some of the plants are mentioned	Major (contrasting) clinical signs for all plants are reported	
Conclusions	Conclusions are missing or inappropriate	Partly correct conclusions are drawn	Correct conclusions drawn based on the clinical signs	

	Insufficient	Developing	Exceptional	Points
Compare and contrast the lab findings for the different plants	Mostly incorrect or incomplete reporting of prognoses	Partially correct reporting of the prognoses	All correct prognoses reported and compared to each other	
Conclusions	Conclusions are missing or inappropriate	Partly correct conclusions are drawn	Correct conclusions drawn based on the lab findings	
Provide and justify briefly a treatment plan for each plan (general treatment and specific treatment)	No correct treatment plan provided	Partly complete treatment plan. Contains some incorrect assumptions	Complete and appropriate treatment plan	
Compare and contrast the prognosis for each of the plants on the differential diagnosis list	Mostly incorrect or incomplete reporting of prognosis	Partially correct reporting of the prognosis	All correct prognoses reported and compared to each other	
Conclusions	Conclusions are missing or inappropriate	Partly correct conclusions are drawn	Correct conclusions drawn based on the clinical signs	
Final conclusion. Explain what the most likely diagnosis is for the clinical signs presented in this case	Mostly incorrect justification of the diagnosis	Partially explains the justification for the diagnosis. Not all relevant facts are used to explain the findings	Complete and concise explanation of the justification for the diagnosis taking all aspects into account	
Word count and logical outline of the assignment	Not adhered to the maximum word count. Chaotic presentation of the findings		Adhered to the maximum word count. Logical presentation of the findings	

	Insufficient	Developing	Exceptional	Points
References	Too few or too many references are used. References or resources are not relevant	Not all references are relevant	Relevant references and resources are used	
Total group score				
Feedback				

Table 7: Peer assessment instructions and document

This peer assessment needs to be performed and submitted as a group! Please discuss (Whatsapp, Messenger, FaceTime, Zoom) the 4 questions on this form and submit once consensus has been reached.

We ask for the contributions to both the “Toxins divide and conquer” as well as the “Plant toxicology” assignments.

Email me at awerners@sgu.edu for any questions or concerns.

1.Management of contributions. Complete the table below for each of the group members. Be honest and fair and come to a mutual agreement regarding each group member’s contributions. Place an “x” in the box that represents the group’s consensus regarding the individual member’s contributions.

Group number:	Contribution			
Student Name	Minor Student showed no initiative, missed several meetings and did not adhere to the deadlines set by the group	Moderate Student showed some initiative, missed some meetings and missed the deadline set by the group	Major Student showed initiative, attended all meetings and adhered to the deadlines set by the group	Not contributed

- 1.Describe what went well when working on the assignments together.
- 2.What can be improved in future group work (comments for each of the group members)
- 3.What have we learned from working together?

The document needs to be signed by all group members. Only 1 document per group needs to be completed and submitted. Save the document as a PDF file and submit only the PDF file!



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Large Animal Medicine and Surgery Department

Veterinary Physical Diagnosis II (1 credit)

LAMS 501 Term 3

Fall 2021

I. Course Faculty and staff Information

Course Directors:

Winchester Nyoni DVM, MVS

Clinical Instructor, LAMS Department

Email: nwinches@sgu.edu

Phone: 1473-444-4175 ext. 3804

Haynes Jaelene DVM

Clinical Instructor, LAMS Department

Email: jhaynes2@sgu.edu

Phone: 1473-444-4175 ext. 3236

Office Location: Large Animal Resource Facility (LARF) office blocks

Office Hours: By appointment. Please email anytime with questions or concerns.

This course is a multi-teacher course with Faculty members from the Large Animal Department supporting the course directors.

Additional LAMS 501 facilitators lecturing Faculty:

Catherine Werners-Butler DVM, PhD, MRCVS, Dipl. ECEIM, Dipl. RNVA cwerners@sgu.edu

Stacey Byers DVM, MS, DACVIM (LA) sbyers1@sgu.edu

Kerri Nigito DVM, CPH, MPH, DABVP (Food Animal Practice) knigito1@sgu.edu

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- II. Course Locations:** LARF, SIM Lab, lecture locations vary, see schedule for details.
LAMS 501 course website on MyCourses SAKAI
- III. Prerequisite and/or co-requisite courses:** Current third term SVM student
- IV. Required resources:** Study material posted on MyCourses (Lessons, Panopto and Zoom recordings, assignments, test, quizzes, forums, journal articles, lecture slides and lab resources)
For students online; Laptop with functional microphone and camera, and good internet access.
- V. Recommended resources:** Supplemental reading will be posted on SAKAI and students are recommended to read these.

Other recommended resources include:

- Large Animal Internal Medicine, 5th Edition by Bradford P Smith
- Material covered in previous courses [LAMS 502 (Clinical Orientation), ANPH 503 (Veterinary Anatomy II) and ANPH 513 (Veterinary Physiology II)]

Further resources will be discussed during this class.

VI. Special accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas
- c. Please contact the course director PRIOR to coming to lab if you have a disability which may need accommodation for during the labs held at either the LARF or SIM lab.

VII. Other requirements – Dress Code

Appropriate dress for laboratory is required/mandatory. **Failure to comply will result in dismissal from the lab and be considered an unexcused absence.**

Please leave your book bags/back-packs in lockers on campus or at home. Please leave your jewelry, valuable electronic accessories, and valuable sunglasses at home as we are not responsible for their loss or damage.

Hair needs to be tied back (no long ponytails), no dangling earrings, and nails must be cut short. We will be monitoring this, and it will be enforced before being allowed to participate in the labs.

The following is compulsory attire for the **SIM lab**:

- A pair of clean coveralls or a complete set of clean scrubs.
- Closed toed shoes
- Your name tag
- A functional watch (NO SMART watches)
- Each student must have their own stethoscope

- Remember that CELLPHONE use in the SIM lab is prohibited
- You can bring a notebook, pencils will be provided, no other writing utensils are allowed

The following is compulsory attire for the **LARF**:

- A pair of clean coveralls or a complete set of clean scrubs.
- Rubber boots OR rubber pullover boots may also be worn if they are covering a pair of closed-toe shoes. They must be cleaned/disinfected at the end of each laboratory session. The boots must be at least mid-length and made of impervious material. Cracks or tears or duct tape on boots will not be accepted, please check your boots for patency before arriving at LARF area
- Your name tag
- A functional watch (NO SMART watches)
- Each student must have their own stethoscope
- It is also strongly recommended to bring a writing utensil.

Please always be conscience of biosecurity: ***Do not wear farm boots from campus to the LARF (or from the LARF back to campus), this is a biosecurity hazard!*** Bring your boots with you and change at the LARF.

- Clinical Reasoning Lecture/Paper Cases: Normal professional attire is expected.

VIII. Course rationale: This 3rd term course is designed to instruct students in the fundamentals of physical diagnosis in the equine and bovine patient, utilizing a variety of diagnostic and system specific techniques (including hands-on laboratories, simulation laboratories and case-based teaching) serving as a foundation course for additional clinical skills in Term 6. In addition, to practice clinical reasoning while working a simulated case.

IX. Course goals:

1. To expand upon the large animal physical examination skills learned in the first-term veterinary clinical orientation course
2. To allow development of medical math skills
3. To introduce basic clinical competencies as well as musculoskeletal and gastrointestinal examination skills
4. To review common disease presentations of large animals
5. To introduce and practice clinical reasoning skills through didactic lectures, hands on laboratories and case simulation
6. To allow development of skills related to teamwork and communication during case simulation projects

X. Course Level Outcomes:

Upon successful completion of this course, the student will be able to:

1. Discuss and Illustrate an advanced and complete physical exam on equine and bovine patients.

2. Identify and differentiate between normal and abnormal findings on PE especially related to gastrointestinal and musculoskeletal exams.
3. Determine an animal's age by examining dentition.
4. Safely illustrate handling of large animals.
5. Accurately perform medical math calculations.
6. Utilize basic clinical reasoning skills to work through a case.

XI. Lesson/Lab Level Outcomes

Title	Learning outcomes
LECTURES	
Introductory Syllabus and Lab-level outcomes review	Lecture: 1. Describe in detail the different labs and expectation for the students before taking their respective quizzes
Medical Math Lecture	2. Recognize and be able to use different systems of measurement
	3. Convert metric units of measurements
	4. Convert units from one system of measurements to another
	5. Recording doses or amounts
Clinical Lecture Reasoning:	6. Illustrating appropriate communication skills
	7. Transforming a client/owner's story into a clinical problem – a problem representation
	8. Display basic clinical reasoning with an unknown problem, signalment and chief complaint
	9. Discussing how to perform a thorough, focused history
	10. Prioritize diagnostic testing for a stimulated clinical situation
	11. Practice formulating a differential diagnosis, assessment, and prioritized plan for the stimulated case
	12. Critically examine and reflect on your encounter to improve future performance
Paper Case Introductory Lecture	13. Describe in detail how the clinical case work-up will be conducted
LABS	
1. Bovine Simulation Lab	14. Describe how to halter a cow and illustrate basic knot tying skills
	15. Describe how to perform a California Mastitis Test
	16. Describe how to perform venipuncture in cows
	17. Accurately create a therapeutic plan for a cow focusing on medical math calculations and drug withdrawal times
2. Equine Musculoskeletal Lab	18. Describe and interpret how to perform a musculoskeletal exam on a horse
	19. Describe how to safely pick up a front and hind foot and identifying relevant hoof structures
	20. Understand the basics of lameness exam including grades and the

	procedures involved
	21. Appropriately describe how to apply a standard lower limb bandage on a horse
	22. Understand the indications for and describe how to perform a hoof tester exam on a horse
3 Bovine and Equine Physical Exam Lab	23. Describe and illustrate an advanced and complete physical exam on equine and bovine patients
	24. Determine an animal's age by examining dentition
	25. Identify and differentiate between normal and abnormal findings on physical exam
4. Bovine Gastrointestinal Lab	26. Describe how to perform a gastrointestinal specific physical exam on a bovine patient
	27. Be able to accurately describe how to auscultate the bovine abdomen and make a disease diagnosis based upon abdominal contour and/or ping location
	28. Be able to describe how to perform orogastric intubation and rumen fluid collection in the bovine patient including risks of this procedure
	29. Describe how to analyze and interpret results of rumen fluid Analysis
	30. Determine an animal's age by examining dentition of both cows and horses
5. Equine Gastrointestinal (Simulation) Lab	31. Describe how to perform a gastrointestinal focused physical exam on an equine patient
	32. Understand the concept of "colic" and be able to describe the clinical signs, diagnostics and basic treatment involved in cases of colic including rectal exam, nasogastric intubation and abdominocentesis
	33. Be able to describe (recognize) equipment's utilized during "work up" of a colicky horse including drugs

XII. Alignment of Course Level Outcomes with Program Level Outcomes

Course Level Outcome	SVM Program Level Outcomes
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<p>Lab 1. Discuss and illustrate an advanced and complete physical exam on equine and bovine patients</p>	<p>A. Core Medical Knowledge</p> <ol style="list-style-type: none"> 1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. 2. Analyze homeostasis and disturbances of basic structures and functions of healthy animals. <p>B. Core Professional Attributes</p> <ol style="list-style-type: none"> 1. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. <p>C. Core Clinical Competencies (Skills)</p> <ol style="list-style-type: none"> 1. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
<p>Labs 3,4 & 5. Identify and differentiate between normal and abnormal findings on physical examinations especially processes related to gastrointestinal and musculoskeletal exams</p>	<p>A. Core Medical knowledge</p> <ol style="list-style-type: none"> 1. Analyze homeostasis and disturbances of basic structures and functions of healthy animals. 2. Explain the relationship between disease processes and clinical signs. 3. Evaluate and analyze normal versus abnormal animal behavior. <p>B. Core Professional Attributes</p> <ol style="list-style-type: none"> 1. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities <p>C. Core Clinical Competencies (Skills)</p> <ol style="list-style-type: none"> 1. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
<p>Lab 1. Determine an animal's age by examining dentition</p>	<p>A. Core Medical Knowledge</p> <ol style="list-style-type: none"> 1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
<p>All Labs. Safely illustrate handling of large animals</p>	<p>A. Core Medical Knowledge</p> <ol style="list-style-type: none"> 1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. <p>B. Core Professional Attributes</p> <ol style="list-style-type: none"> 1. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.
<p>Lecture & Lab 2. Accurately perform medical math calculations</p>	<p>C. Core Clinical Competencies (Skills)</p> <ol style="list-style-type: none"> 1. Analyze, design, and execute appropriate plans for medical case management.

Lecture & Paper Case.

Utilize basic clinical reasoning skills to work through a case

B. Core Professional Attributes

1. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.
2. Demonstrate, evaluate, and model leadership, teamwork, and conflict resolution skills as a member of a multidisciplinary team.
3. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity, and empathy.

C. Core Clinical Competencies (Skills)

1. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
2. Create comprehensive treatment plans.
3. Analyze, design, and execute appropriate plans for medical case management.
4. Design and execute plans for health promotion, disease prevention, and food safety.
5. Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.
6. Demonstrate and model effective client communication and ethical conduct.

XIII. Course Schedule

	Date & Time	Lecture / Lab Group	Location	Topic	Faculty
WEEK 1	August 19th Thursday 1:30-2:20	ALL STUDENTS	VSL 2	Course Introduction	Dr Winchester and Dr Haynes
	August 20th Friday 4:30-5:20	ALL STUDENTS	Panopto	MEDICAL MATH	Dr Karasek
WEEK 2	August 23rd Monday 10:30-11:20	Group 1a	SIM LAB	Bovine & Equine SIM	LAMS Faculty
	Monday 11:30-12:20	Group 1b			
	August 24th Tuesday 10:30-11:20	Group 2a	SIM LAB	Bovine & Equine SIM	LAMS Faculty
	Tuesday 11:30-12:20	Group 2b			
WEEK 3	August 31st Tuesday 10:30-11:20	Group 3a	SIM LAB	Bovine & Equine SIM	LAMS Faculty
	Tuesday 11:30-12:20	Group 3b			
	WEEK 4	September 6th Monday 10:30-11:20			
Monday 11:30-12:20		Group 1b			
September 7th Tuesday 10:30-11:20		Group 2a	LARF	Equine Musculoskeletal, Safety & Handling	LAMS Faculty
Tuesday 11:30-12:20		Group 2b			
Tuesday 10:30-12:20		Group 1	Zoom	CLINICAL REASONING	Dr Wise
WEEK 5		September 14th Tuesday 10:30-11:20	Group 3a	LARF	Equine Musculoskeletal, Safety & Handling
	Tuesday 11:30-12:20	Group 3b			
	Tuesday 10:30-12:20	Group 2	Zoom	CLINICAL REASONING	Dr Wise
	WEEK 6	September 20th Monday 10:30-12:20	Group 1	LARF	Bovine and Equine Physical Exams
September 21st Tuesday 10:30-12:20		Group 2	LARF	Bovine and Equine Physical Exams	LAMS Faculty
September 24th Friday 4:30-5:20		ALL STUDENTS	VSL 2	APPLIED MEDICAL MATH	Dr Karasek / Winchester / Haynes
WEEK 7	September 27th Monday 10:30-12:20	Group 3	LARF	Bovine and Equine Physical Exams	LAMS Faculty
	September 28th Tuesday 10:30-12:20	Group 3	Zoom	CLINICAL REASONING	Dr Wise
WEEK 8	MIDTERMS WEEK				
WEEK 9	October 12th Tuesday 9:30-10:20	ALL STUDENTS		Paper Case Introduction	Dr Winchester and Dr Haynes
	October 14th Thursday 10:30-12:20	PAPER CASE 1st MEETINGS (w/ faculty facilitator)			

WEEK 10	October 18th Monday 10:30-12:20	Group 3	LARF	Bovine GI	LAMS Faculty
	October 19th Tuesday 10:30-12:20	Group 2	LARF	Bovine GI	LAMS Faculty
WEEK 11	October 21st Thursday 4.30-5.20		VSL 2	TBA / online students	
	October 26th Tuesday 10.30-12.20	Group 1	LARF	Bovine GI	LAMS Faculty
	November 1st Monday 10:30-12:20			TBA / online students	
WEEK 12	November 2nd Tuesday 10:30-11:20	Group 3a	SIM LAB	Equine GI SIM	LAMS Faculty
	Tuesday 11:20-12:20	Group 3b			
	November 8th Monday 10:30-11:20	Group 2a	SIM LAB	Equine GI SIM	LAMS Faculty
	Monday 11:30-12:20	Group 2b			
WEEK 13	November 9th Tuesday 10:30-11:20	Group 1a	SIM LAB	Equine GI SIM	LAMS Faculty
	Tuesday 11:30-12:20	Group 1b			
	November 10th Wednesday 10:30-12:20	PAPER CASE 2nd MEETINGS (w/ faculty facilitator) – To be Submitted by November 15 th			
WEEK 16	December 1st Wednesday 8.30am	FINAL EXAM			

Grading and assessment policy, and grading rubrics Grading Scale

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
59.4	F

The grade for this course will be based on the submission of homework, in-lab assessments, a case-based group assignment and a final exam.

Assessments	Percentage of the total grade
Medical Math's Quiz	5%
Equine and Bovine Physical Exam Lab Assignment	10%
Bovine & Equine Simulation Lab Assignment	5%
Equine Musculoskeletal Lab Assignment	5%
Bovine Gastrointestinal Lab Assignment	5%
Equine Gastrointestinal Lab Assignment	5%
Paper Case Simulations Discharge Assignments	15%
Final Examination	50%

The importance of clinical skills in this course must be emphasized and recognized. Failure to remediate any OSCE before the end of the term will result in failure of the course (F Grade).

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

Medical Math Assignment: From the information presented during the medical math lecture, you will be given an assignment on Sakai. You get multiple-choice questions to work on and make sure to submit on or before the due date as stated on SAKAI. There are 50 questions to work on and submit. There are 2 sections to this assignment containing 25 questions each. Make sure to submit them (the 2 sections) on or before their due dates as stated on SAKAI or else you get a "0" on the ones you didn't submit.

Lab Assignments: For each lab, students will rotate through different stations or be assigned to a specific professor. At **EITHER** the START or the END of each lab, each student is expected to answer a question that the professor poses. This question will be a direct reflection of the information/skills discussed during lab or provided on Sakai and will allow the professors to gauge the student's engagement and preparedness during that lab session. The student will also be assessed on professional behavior. The student will be given immediate feedback from the faculty member that asks the question.

Preparatory materials for each lab are posted on Sakai. It is **HIGHLY recommended** that you read the relevant materials before each lab in order to perform well on the assessment questions.

IF YOU ARE ABSENT FROM LAB (without an official excuse), you will receive a 0 (zero) for that day.

The student is responsible for using lab time to complete the required objectives. The student will be asked to demonstrate knowledge and proficiency from each lab during the final exam OSCE.

Students will be scored on a scale of 0-10 during each lab using the following rubric:

Score 0 – 10 points per Lab Session

Assessment Question Knowledge (0-5)	Professional Behavior (0-5)	Points
Student did not answer an assessment question	Student did not attend lab and no prior notification to the instructor	Incomplete 0 point
Student was not prepared and demonstrated no knowledge regarding the assessment question	Student did not behave in a professional manner during the lab	Insufficient 1 point
Student was ill prepared and demonstrated an inadequate level of knowledge	Student's professional behavior was lacking and would require major changes to be adequate	Developing 2 points
Student was moderately prepared and demonstrated an average level of knowledge	Student's professional behavior was adequate, but areas of improvement are noted	Adequate 3 points
Student was well prepared and demonstrated an above average level of knowledge with only minor areas of potential improvement.	Student's professional behavior was adequate with very minor areas of improvement noted	Competent 4 points
Student was very well prepared and demonstrated an excellent level of knowledge with no improvement needed.	Student behaved professionally during the lab with no improvement necessary	Exemplary 5 points

*Professional behavior is defined as, but not limited to punctuality, appropriate dress, adhering to appropriate safety standards around large animals, respectful attitude and approach when interacting with professors/staff/fellow students and being engaged during laboratory sessions.

Online Students

Must complete all prelab assessments before your scheduled lab time. During your

scheduled lab times, you must login to Sakai to complete your in-lab assessment. This assessment will only be available during your lab time. If you do not attend, you will be graded as absent for that lab. The assessment will be a direct reflection of the information/skills described in the PowerPoint slides, long notes and videos on SAKAI. The questions will consist of multiple choice and short answer questions.

“Paper Case” Clinic Assignment: The goal of the group assignment is to familiarize students with the process of working up a case. Each group will be assigned a case that needs to be diagnosed.

Each group will consist of both online and on campus students. It is the responsibility of the group to organize how they will discuss their case.

You will be grouped on Forums (in SAKAI) where you will receive notifications about the presenting complaint of the case and each client/facilitator will indicate meeting place & time according to their preference, either online or in person on Forums. Each group is expected to come up with a clinic name (e.g. True-Blue Vet Clinic), to dress appropriately as veterinarians (e.g., white coat, name badge) and be punctual for all meetings with their client/facilitator.

The clinic will have to gather a history from the “owner” during the first meeting and then after receiving physical examination findings, interpret these findings and develop an initial problem list, and upload a prioritized list of differential diagnoses on FORUMS in SAKAI.

The group will then request 3 diagnostic tests from their facilitator to rule in/out their differentials. The group will interpret the test results and come up with a final diagnosis for the patient and then meet with their facilitator for the second meeting. During this second meeting, the group will discuss their problem list, differentials and how their test results helped them to their final diagnosis for the patient.

After this meeting, each group will be responsible for developing a discharge/owner information sheet which will then be posted on SAKAI and graded by their facilitator.

A grading rubric is provided on Sakai.

The group assignment grade will be based on group performance/literature search/discharge form. One focus of these cases is to give the student practice working with others as a cohesive team. Part of this goal includes understanding group dynamics, conflict resolution and time management.

Specific information about the group presentations will be posted in Sakai and

relayed to you during a pre-paper case lecture at the Lecture Hall in person and on zoom for online students. The lecture would be available on Panopto Recording thereafter on **October 12th** . All these sessions **REQUIRE** attendance.

Final Exam: There will be 1 comprehensive OSCE format final exam, worth 50% of the final grade, to be held **on Dec 1st, 2021** starting at 8:30am at the LARF. Exam questions will require the student to demonstrate knowledge and skills related to the labs and clinical reasoning/medical math sessions.

Details regarding the format will be announced later in the term. Dates for practice sessions on the LARF will also be scheduled.

Excuses from the examination will be accepted only with the use of the online “Medical Excuse” policy. Please consult the SVM Dean of Students office for additional information regarding acceptable excuses. Make-up examinations may be essay or short answer using Exam Soft.

Remediation – students who receive a grade of **80% or less** on their OSCE final exam will be required to remediate the exam on **Dec 13th**. The remediation will not change the student’s exam grade, however, will be required to demonstrate proficiency in the skills asked on the exam prior to moving on from this course.

****All students are expected to strictly adhere to the University’s Student Code of Conduct and to have reviewed the Honour Code Statement All other exam policies are followed according to the SGU Examination Policy and the Student handbook.***

XIV. Recommended Study Strategies

- Prepare for each lab by reviewing the resources posted on SAKAI under each lab’s folder, as well as the practical skill videos posted on SAKAI
- Complete the prelab quizzes before each lab
- Use the skills list, which will be posted, for review and practice of the skills
- Active participation in the Paper cases forums is highly recommended.

XV. Instructor’s expectations of the student

The student is expected to adhere to the guidelines provided throughout this syllabus including attendance, engagement, assessment submission and examination policies. The syllabus and all other course materials are available

online on the Sakai/MyCourses website under the "Syllabus", "Resources", and "Lessons" tabs respectively.

All course announcements will be made online via email. Please check your sgu.edu email regularly to stay in touch with course announcements. You are responsible for keeping up to date with course changes as they may occur and for adhering tightly to all assessment deadlines.

XVI. Professionalism statement:

Turn cell phones off or silence them during lectures and labs. See "In Lab Assessment" section for specifics on professional behavior in laboratory sessions.

Students are expected to abide by the University Code of Conduct outlined in the student manual. "Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community.

Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior."

XVII. Attendance / Participation policy

(Please refer to the student manual page if applicable)

Attendance is mandatory for ALL activities. Students are allowed one unexcused absence. Two or more unexcused absences **will** result in course failure. Students are also expected to be on time! Arriving after attendance has been taken or leaving before the end of the lab will count as an absence. Any student unable to adhere to the attendance policies of this course is mandated to complete the online "Medical Excuse Submission" form **PRIOR** to missing the required activity. Failure to complete the "Medical Excuse Submission" form will result in an unexcused absence.

Each student will be assigned to a group and must report to the LARF or the classroom on the day and time specified on the schedule. A student **CANNOT** change lab times without Dr. Winchester's or Dr. Haynes' consent, which **MUST** be obtained **PRIOR** to the lab time. If the student shows up to a different lab session, you will not be granted admission, thus earning a zero for that day on your in-lab assessment grade.

For online students

Students are expected to be available during the standard 8-5am AST school day, to

virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

Attendance to the indicated mandatory sessions and engagement in the course content is mandatory. This will be reviewed using weekly checklists and attendance logs. You are expected to utilize the checklists on the Lessons tool (on SAKAI) to allow course directors to track your progress and engagement with the course material. Students are to be on time for each session and stay for the entire session to avoid being marked as absent due to tardiness or premature leaving.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) Dr. Nyoni Winchester, [nwinches@sgu.edu] and Dr. Jaelene Haynes, [jhaynes2@sgu.edu], and IT (tellexaminationservices@sgu.edu OR support@sgu.edu) OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft Policy

All students are responsible for knowing and complying with the University's Code

of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - [The Examsoft student perspective video 30mins](#)
 - [The Examsoft/ExamID FAQ](#)
 - Examsoft information page
 - [The general Reminders/Guidelines](#)

xx. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Large Animal Medicine and Surgery Department

Veterinary Clinical Orientation (1 credit)

LAMS 502 Term 1

Fall 2021

I. Course Faculty and Staff Information

Dr. Nyoni Winchester, DVM, MVS

Email: nwinches@sgu.edu

Office: Large Animal Resource Facility (LARF) offices

Dr. Keith Kalasi, DVM

Email: kkalasi@sgu.edu

Office: Junior Surgery and Anesthesia Lab (JSAL)

Office hours by scheduled appointment on Zoom but email anytime with questions/concerns

This course is a multi-teacher course with Faculty members from the Large Animal Department and Small Animal Department supporting the course director.

Additional LAMS 502 facilitators lecturing Faculty:

Kerri Nigito DVM, CPH, MPH, DABVP (Food Animal Practice)

Nigker1@sgu.edu

Heidi Janicke, BVM, PhD, Dipl. ECVS, MRCVS, FHEA

hjanicke@sgu.edu

Inga Karasek, DVM

ikarasek1@sgu.edu

Bowen Louison, DVM

blouison@sgu.edu

II. Course location

Lectures: Afternoon lectures will be given in the **David Brown Hall**. Morning lectures: to be determined. Changes may occur, please check your email regularly for announcements! Please check the course schedule as different venues are used.

Laboratory sessions:

- SIM lab session will be held at the SVM SIM lab on campus.
- Small animal lab session will be held at the Small Animal Clinic (SAC).
- Equine and Bovine lab sessions will be held at the LARF. You will find that around the corner behind the SAC.

III. Prerequisite and/or co-requisite courses: Current first term student

IV. Required resources: Computer with functional camera and microphone

V. Recommended resources: Supplemental reading for clinical orientation will be posted on SAKAI and students are recommended to read these.

Other recommended resources are the following:

Small Animal Internal Medicine, 5th Edition by Richard Nelson and C. Guillermo Couto

Large Animal Internal Medicine, 5th Edition by Bradford P Smith

Further resources will be discussed during this class.

VI. Accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements:

a. Dress Code

Simulation Lab: The first laboratory session and the final OSCE of the course will be held in the **SGU Simulation Lab**. For this venue you will need to bring your stethoscope, a timepiece and **appropriate lab attire (Scrubs (top & bottom) and closed-toed shoes are required)**. You must come only at your scheduled time.

Small Animal Labs: You will *only* need a pen or pencil, time piece, stethoscope, thermometer and appropriate lab attire **Scrubs** (top & bottom) with laboratory overcoat and closed-toed shoes are required. Crocs with open holes or any shoe with holes in the top are not acceptable. You must come only at your scheduled time.

Equine Labs and Bovine Labs: Please bring *only* your stethoscope, pen or pencil, time piece, thermometer, and appropriate attire **Scrubs** (top & bottom), or **coveralls**, and **rubber over-boots**. Tank tops are not acceptable. **Do not wear farm boots from campus to the LARF (or from the LARF back to campus), this is a biosecurity hazard!** Bring your boots with you and change at the LARF.

Hair needs to be tied back (no long ponytails), no dangling earrings, and nails must be cut short, we will be monitoring this, and it will be enforced before being allowed to participate in the labs. Please leave your book bags/back-packs in lockers on campus or at home. You must come only at your scheduled time.

***Please eat appropriately before you come to the **LARF** and stay hydrated. Many first-term students are unaccustomed to the heat and humidity so please ensure you are properly prepared for these sessions! ***

a. Failure to comply with dress codes for any laboratory session will result in dismissal from the lab and be considered an unexcused absence.

VIII. Course rationale:

This is a one-credit course designed to introduce first-term SGU veterinary students to the art of physical examination of domesticated animal species and to the practice of clinical reasoning and medical record keeping. This course serves as the foundation course for additional clinical skills courses held in terms two through six.

IX. Course-Learning Outcomes

Upon successful completion of this course, students will be able to:

- Describe how to perform a basic structured, clinical examination on companion animals, equine and farm animals.
- Integrate clinical skills with knowledge in other basic veterinary courses such as anatomy, physiology, and histology.
- Discuss the approach of and work with these animal species and demonstrate a professional attitude.
- Define basic veterinary terms, breeds, and reference values in small animal and large animal medicine.
- Know the Principles of Veterinary Medical Ethics (AVMA).
- Differentiate between types of medical records, discussing their contents.
Prepare a complete medical record based on information obtained through history and physical exam findings.

X. Lesson Learning Outcomes

LECTURE/MODULE	LEARNING OUTCOMES
BIOSECURITY LECTURE	<ul style="list-style-type: none">• Explain and discuss adequate biosecurity protocols for disease prevention.
SMALL ANIMAL BEHAVIOR LECTURE	<ul style="list-style-type: none">• Explain and discuss animal behavior concepts and terminology.
SMALL ANIMAL PHYSICAL EXAM MODULE	<ul style="list-style-type: none">• Describe a basic, structured physical examination of small animals.
MEDICAL RECORDS AND CLINICAL REASONING	<ul style="list-style-type: none">• Define AVMA-Principles of veterinary medical ethics and some state laws.• Explain and apply concepts and contents of a medical record.• Examine and read a medical record to extrapolate information about patients.

EQUINE Physical Exam Module	<ul style="list-style-type: none"> Examine common equine breeds and medical terminology and discuss proper technique for performing a clinical exam. Describe safe and appropriate handling and restraint techniques and a safe and thorough routine clinical exam.
BOVINE Physical Exam Module	<ul style="list-style-type: none"> Examine common cattle breeds and medical terminology and discuss proper technique and vital parameters as it applies to cattle. Describe the safe restraint/handling of a cow and a thorough and structured clinical exam.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SGU SVM program level outcome
Demonstrate how to perform a basic structured, clinical examination on companion animals, equine and farm animals.	<p>A. Core Medical Knowledge PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity.</p> <p>C. Core Clinical Competencies (Skills) PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
Integrate clinical skills with knowledge in other basic veterinary courses such as anatomy, physiology, and histology.	<p>A. Core Medical Knowledge PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity.</p> <p>C. Core Clinical Competencies (Skills) Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>

<p>Demonstrate confidence in the approach of and work with these animals and show a professional attitude.</p>	<p>A. Core Medical Knowledge PLO 7 Evaluate and analyze normal versus abnormal animal behavior. B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>
<p>Demonstrate familiarity with basic veterinary terms, breeds, and reference values in small animal and large animal medicine.</p>	<p>A. Core Medical Knowledge PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity C. Core Clinical Competencies (Skills) PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis</p>
<p>Know the Principles of Veterinary Medical Ethics (AVMA).</p>	<p>B. Core Professional Attributes PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy. PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity. C. Core Clinical Competencies (Skills) PLO 27 Demonstrate and model effective client communication and ethical conduct.</p>
<p>Differentiate between types of medical records, discussing their contents.</p>	<p>B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>
<p>Prepare a complete medical record based on information obtained through history and physical exam findings</p>	<p>B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.</p>

XII. Course Schedule

DATE	TIME	Venue	Group	TOPIC	FACULTY
Monday 8/23/2021	8.30 -10.20 am	KB Taylor Blue	All Students	Course Intro/SIM lab Preparation/Signalment	Dr. Kalasi / Dr. Winchester
Tuesday 8/24/2021	8.30 -10.20 am	KB Taylor Blue	All Students	Introduction to small animal physical exam & breeds	Dr. Kalasi
Monday 8/30/2021	8.30 - 10.20 am	SIM Lab	Group A	Introduction to Physical Exam/Handling Skills	Small and Large Animal Faculty (5)
	10.30 -12.20pm	SIM Lab	Group B	Introduction to Physical Exam/Handling Skills	Small and Large Animal Faculty (5)
Monday 8/30/2021	4.30-5.20pm	David Brown Hall	All Students	Biosecurity	Dr. Bowen Louison
Monday 9/6/2021	8.30 -10.20 am	KB Taylor Red	All Students	Intro to medical records and clinical reasoning	Dr. Kalasi
Tuesday 9/7/2021	10:30 – 11:20am	Panopto	All Students	Animal Behavior during canine/equine physical exam	Dr Melissa Bain
Friday 9/3/2021	1.30 – 3.20 pm	SAC	Group A	Small Animal Physical Exam	Small Animal Faculty
Monday 9/13/2021	8.30 - 10.20 am	SIM Lab	Group C	Introduction to Physical Exam/Handling Skills	Small and Large Animal Faculty (5)
	10.30 -12.20pm	SIM Lab	Group D	Introduction to Physical Exam/Handling Skills	Small and Large Animal Faculty (5)
Friday 9/10/2021	1.30 – 3.20 pm	SAC	Group B	Small Animal Physical Exam	Small Animal Faculty
Friday 9/17/2021	1.30 – 3.20 pm	SAC	Group C	Small Animal Physical Exam	Small Animal Faculty
Monday 9/27/2021	8.30 – 10.20am	KB Taylor Blue	All Students	Equine Breeds, Terminology, Physical Exam Review	Dr. Karasek
Tuesday 9/28/2021	8.30 – 10.20 am	KB Taylor Blue	All Students	FA Breeds, Terminology, Physical Exam Review	Dr. Winchester
Friday 9/24/2021	1.30 – 3.20 pm	SAC	Group D	Small Animal Physical Exam	Small Animal Faculty
Midterm week					
Monday 11/1/2021	8:30-10:20am	LARF	Group A	Bovine Physical Exam/Handling	LAMS FACULTY (3)
	10:30- 12:20pm	LARF	Group B	Bovine Physical Exam/Handling	LAMS FACULTY (3)
Monday 11/8/2021	8:30-10:20am	LARF	Group C	Bovine Physical Exam/Handling	LAMS FACULTY (3)
	10:30-12:20pm	LARF	Group D	Bovine Physical Exam/Handling	LAMS FACULTY (3)
Monday 11/15/2021	8:30-10:30am	LARF	Group B	Equine Physical Exam/Handling	LAMS FACULTY (3)
	10:30-12:30pm	LARF	Group A	Equine Physical Exam/Handling	LAMS FACULTY (3)

Monday 11/22/2021	8:30-10:30am	LARF	Group D	Equine Physical Exam/Handling	LAMS FACULTY (3)
	10:30- 12:30pm	LARF	Group C	Equine Physical Exam/Handling	LAMS FACULTY (3)
Tuesday 12/7/2021	SIGN UP	SIM LAB	ALL STUDENTS	OSCE Practice Session	
Thursday 12/9/2021	9:00-5:00pm	SIM LAB	ALL STUDENTS	FINAL EXAM OSCE	Dr. Kalasi/Dr. Winchester

XIII. Grading and assessment policy, and grading rubrics

Grading Policy: Below is the grading scale for this course:

>89.5%	A
84.5 – 89.4	B+
79.5 – 84.4	B
74.5 – 79.4	C+
69.5 – 74.4	C
64.5 – 69.5	D+
59.5 – 64.4	D
<59.4	F

The grade for this course will be based on the on-time submission of online Sakai quizzes completed after each module and professionalism.

Evaluation	Weight
OSCE Final exam	50%
Small Animal Section	20%
Large Animal Section	20%
Medical Records and Biosecurity Assessment	5%
Professionalism Evaluation 1 st half of the term	2.5%
Professionalism Evaluation 2 nd half of the term	2.5%
Total	100%

5% of the class grade will comprise of attendance in mandatory class and lab sessions, engagement of the course material and professionalism (see rubric in Appendix).

5% of the class grade will comprise of Medical records and Biosecurity assessment.

20% of the class grade will be based on engagement in the content and performance on the small animal physical exam module and small animal behavior.

20% of the class grade will be based on engagement in the content and performance on the equine and bovine physical exam module assessment.

Quizzes will be administered on Sakai/MyCourses. Students are to refer to the course schedule listed on Sakai/MyCourses (under the “Resources” tab) to ensure they do not miss the open/closure dates for the quizzes throughout the semester. Students will be notified via Sakai /MyCourses announcement(s) if the quiz dates deviate from this schedule.

Failure to adhere to submission deadlines will result in 0% for that quiz.

There will be no make-up quizzes or remediations allowed. All the quizzes are open book and students will find the majority of the answers from the information distributed to them during lectures, articles resources, and videos posted on Sakai/MyCourses. Although quizzes are open book students are not to complete the quizzes in groups (it is against the honor code to do so). Students are to please read the information made available to them prior to attempting the quizzes.

Professionalism rubric

5% of the class grade will comprise of attendance in mandatory Zoom sessions, engagement of the course material and professionalism (see Appendix A).

XIV. Recommended study strategies: Review all course material, lecture content, recorded lectures, and attend any LIVE Zoom sessions.

XV. Instructor’s expectations of the student

The student is expected to adhere to the guidelines provided throughout this syllabus including attendance, engagement, assessment submission and examination policies.

This is a paperless course. The syllabus and all other course materials are available online on the Sakai/MyCourses website under the “Syllabus”, “Resources”, and “Lessons” tabs respectively. **The student is expected to read the required material before LIVE Zoom sessions and show that they know the theory for a thorough and complete clinical examination.**

All course announcements will be made online via email. Please check your *sgu.edu* email regularly to stay in touch with course announcements. ***You are responsible for keeping up-to-date with course changes as they may occur and for adhering tightly to all assessment deadlines.***

XVI. Professionalism statement

When communicating and working with colleagues, faculty, staff, and animals we expect students to be professional. Professional behavior is an important part of the SGU, SVM curriculum and students will be graded on that during the duration of this course. We expect students to be respectful, open minded, positive, caring, careful, able to give and get feedback gracefully as true representatives of the veterinary profession. Turn cell phones off or silence them during LIVE Zoom sessions.

XVII. Attendance/Participation Policy

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Attendance to LIVE Zoom sessions are **mandatory and engagement in the course content is mandatory**. This will be reviewed using weekly checklists and attendance logs and assessed using the professionalism rubric (See Appendix A). You are expected to utilize the checklists in order to allow course directors to track your progress and engagement with the course material as well as to ensure your success. Students are to be on time for each session and stay for the entire session to avoid being marked as absent due to tardiness or premature leaving.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (nwinches@sgu.edu ; kkalasi@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendix:

Appendix A: Professionalism Grading Rubric

Criteria	Meets expectations consistently (4)	Meets expectations most of the time (3)	Occasionally meets expectations (2)	Does not meet expectations (1)
Punctuality	Student is on time for all lecture/lab sessions and/or communicates with the course director within 2 hours of the session if more than 10 minutes late	Student is more than 10 minutes late and communicates with course director on the same day as the session	Student is more than 10 minutes late and communicates with course director but not on the same day as the session	Student is not on time for lecture/lab sessions and does not communicate at any time with the course director
Attendance	Student attends all mandatory lectures/lab for the entire duration of the session and/or communicates with the course director within 2 hours of the session	Student misses 1 or more mandatory lectures/lab and/or does not attend for the entire duration of the session (70%) and communicates with course director on the same day as the session	Student misses 1 or more mandatory lecture/lab and/or does not attend for the entire duration of the session (70%) and communicates with course director but not on the same day as the session	Student misses 1 or more mandatory lecture/lab and/or does not attend for the entire duration of the session (70%) and does not communicate at any time with the course director
Engagement	Student completes module checklists and submits assessments/assignments on time and/or communicates with the course director PRIOR to deadlines with any	Student submitted module checklist, assignment, assessment after the deadline and/or not submitted and student communicated with course director the same day of	Module checklist, assignment, and or assessment was not submitted, and student communicated with course director more than 24 hours after assignment deadlines with	Student does not complete module checklists, turn in assignments and/or assessment on time and did not communicate with the course director at any time.

	technical/medical/personal issues.	assignment/assessment deadlines with any technical/medical/personal issues	any technical/medical/personal issues	
Communication	Student always communicates in a professional tone and timely manner.	Communication is mostly professional and timely with some minor areas of improvement needed.	Communication is generally professional in tone, but often untimely and major improvement is needed.	Student does not communicate in a professional tone and/or timely manner.
Total (16 points)				



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

LAMS Department

INTRODUCTION TO CLINICAL MEDICINE (4 credits)

LAMS 503 (Term 4)

Fall Term (2021)

I. Course Faculty and Staff Information

Course Director: Dr. Inga Karasek DVM, MS, CVA, Associate Professor

ikarasek1@sgu.edu

Office Hours: Zoom Office Hours on Fridays at 12:30 pm AST, or by appointment.

Dr. Talia Guttin, VMD, MEd. DACVIM (SAIM), Associate Professor, tguttin@sgu.edu

Dr. Anne Corrigan MS DVM MS DACVIM (SAIM), Professor, acorrigan@sgu.edu

Dr. Stacey Byers DVM, MS, DACVIM(LA), Associate Professor sbyers1@sgu.edu

Dr. Tara Paterson DVM, MS, Associate Professor, tpaterson@sgu.edu

Dr. Firdous A. Khan BVSc, MVSc, DVSc, Diplomate ACT, Associate Professor

fkhan8@sgu.edu

Dr. Catherine Werners-Butler DVM, PhD, MRCVS, Dipl. ECEIM, Dipl. RNVA, Professor

cwerners@sgu.edu

Dr. Heidi Janicke VetMed, PhD, MRCVS, Dipl. ECVS, SFHEA, Professor

hjanicke@sgu.edu

Dr. Kerri Nigito, DVM, CPH, MPH, DABVP, Assistant Professor Nigker1@sgu.edu

Dr. Jill Narak DVM MS DACVIM (Neurology), Private Practitioner, Veterinary Referral Surgical Practice Atlanta, jillnarakdvm@vrspatl.com

Dr. Sandra Bechtel DVM DACVIM (Oncology), Associate Professor, University of Florida,

sbechtel@ufl.edu

Dr. Nyoni Winchester DVM, MV, Clinical Instructor, nwinches@sgu.edu

Mrs. Frances Emmanuel, Executive Secretary, SAMS Dept, femmanuel@sgu.edu

II. Course location

This course is being offered in person, in Ray and Jan Sis Hall #2, as well as online. There will be some lectures that will be offered online only. This will be made clear to students. Sakai will be where lectures are posted using Panopto/Zoom. Lessons will detail what lectures and materials will need to be reviewed each week. Forums will be used to generate discussion on the material. There will be optional Zoom sessions (office hours) weekly for students to interact with faculty.

III. Prerequisite and/or co-requisite courses

Current 4th term SVM Student

IV. Required resources

Laptop with functional microphone, and camera. Lecturers will use notes and/or PowerPoint slides available on Sakai. For certain classes or subjects, scientific articles, videos, or textbook references maybe be assigned and made available on Sakai. Ettinger and Feldman Textbook of Small Animal Internal Medicine 8th edition or Nelson and Couto Small Animal Internal Medicine. Large Animal Internal Medicine, Bradford P. Smith, 5th edition

V. Recommended resources

Any Veterinary Physiology text, Guyton or Cunningham, Kirk's Current Veterinary Therapy, Bonagura, Saunders, XIV and XV editions.

VI. Accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Articles and/or online resources may be assigned during the term

VIII. Course rationale

This course is a keystone course in the veterinary curriculum. It was designed to use a team-teaching approach to tie together the basic science courses in the first 1 1/2 years and prepare the students for the third-year medicine and surgery courses. We use presenting complaints, history, clinical signs, PE findings and specific diagnostic testing with the goal of students being able to develop problem lists, differential diagnoses, and introduce veterinary methods for case work up of large and small

animal species.

IX. Course-learning outcomes

Upon successful completion of this course, the student will be able to:

1. Extrapolate relevant clinical data from presenting complaints, clinical signs, history, and physical examination for major organ systems in both large (including production) and small animal species.
2. Use relevant clinical data to create differential diagnosis list for conditions in major organ systems.
3. Use relevant clinical data to select appropriate diagnostic testing for conditions in major organ systems to diagnose a disease.
4. Recognize emergency presentations for all major organ systems.
5. Analyze clinical data to design and calculate appropriate fluid therapy plans for small and large animals.
6. Analyze clinical data to accurately localize and diagnose neurologic abnormalities.

X. Lesson-learning outcomes

See Appendix XXI.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See Appendix XXII.

XII. Course Schedule

See Appendix XXIII.

Weekly time commitments:

Week number	Material	Time Commitment
1	Clinical reasoning, CBC/Chem/UA, Introduction to fluid therapy, fluid types	5 hours: 5 lecture hours 1 Zoom office hours (optional)
2	Fluid therapy SA cases LA and EQ fluid therapy and cases	6 hours: 5 lecture hours 1 Sakai assignment (bloodwork)

		1 Zoom office hours (optional)
3	Biosafety and biosecurity for SA and LA. LA behavior. Introduction to production animal medicine.	5 hours: 4 lecture hours 1 Sakai assignment (fluid therapy) 1 Zoom office hours (optional)
4	Small ruminant, beef, dairy, and poultry/pork production. Large animal emergency-environmental concerns	5 hours: 5 lecture hours 1 Zoom office hours (optional)
5	Intro to neurology, localizing/neuroimaging, and small animal neurology cases. EQ neurology.	5 hours: 4 lecture hours 1 Sakai assignment (neurology) 1 Zoom office hours (optional)
6	GI physiology review for LA and SA. Small animal and large animal cases. Intro to EQ GI.	5 hours: 5 lecture hours 1 Sakai assignment (equine GI) 1 Zoom office hours (optional)
7	Intro to oncology Intro to lameness SA & EQ Sick animal nutrition for small animals ECCM	5 hours: 5 lecture hours 1 Zoom office hours (optional)
8	MIDTERM WEEK	
9	Dermatology introduction, small animal dermatology/cases. EQ and LA dermatology	4 hours: 4 lecture hours 1 Zoom office hours (optional)
10	Introduction into respiratory, SA respiratory cases, EQ and LA respiratory cases	4 hours: 4 lecture hours 1 Zoom office hours (optional)
11	Introduction to cardiology, diagnostics for cardiology	2 hours: 2 lecture hours 1 Zoom office hours (optional)
12	SA cardio cases and EQ cardio cases. Liver physiology review. SA liver cases and EQ liver cases.	5 hours: 5 lecture hours 1 Zoom office hours (optional)
13	LA Liver cases, EQ/LA sick nutrition. Renal physiology-comparative SA vs. LA. Azotemia and urolithiasis. PU/PD.	5 hours: 5 lecture hours 1 Zoom office hours (optional)
14	SA, LA, and EQ theriogenology SA behavior	4 hours: 4 lecture hours 1 Zoom office hours (optional)
15	Introduction to endocrine, common endocrine diseases, and therio/ endocrine	4 hours: 3 lecture hours 1 endocrine online assignment 1 Zoom office hours (optional)
16 & 17	FINALS WEEKS	

XIII. Grading and assessment policy, and grading rubrics

There will be 2 examinations worth a total of 70 % of the class grade. The exam material will come from the Panopto lectures and PowerPoints. There will be approximately 3 questions/lecture of new material for both the midterm exam and the final exam. These examinations take place on ExamSoft using ExamMonitor and comprise of Multiple-Choice Questions (MCQ's).

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is always recording your full face with adequate lighting.

There will be 5 homework assignments throughout the semester. These will have one week to be completed and MUST be turned in by the due date. No late assignments will be accepted. These will be worth 30 % of the grade.

Assessment Summary:

Total points = 100

Assessments:

Midterm exam 35 pts-Friday, October 8th, 2021, 12 pm AST

Final exam 35 points- Wednesday, December 8th, 2021, 12 pm AST

Sakai Assignments 30 pts (6 pt. each) *

1. Bloodwork-Saturday, August 28th.
2. Fluid therapy-Saturday, September 4th.
3. Neurology-Saturday, September 18th
4. Equine GI-Saturday, September 25th
5. Endocrine Online Resource Assignment- Saturday, November 26th

**All due by 11 pm AST*

SVM Grading Scale:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

XIV. Recommended study strategies

Zoom office hours are optional but strongly recommended. These are a once weekly Zoom session where the material is discussed, and students can pose questions to teaching faculty. These have been exceedingly helpful to the students who have attended in the past.

Additional recommendations:

- Reading up on material covered in that week's Lesson plan in the relevant textbook (e.g., Ettinger's Textbook of Small Animal Internal Medicine).
- Posing questions in the Forums and perusing other questions and comments to clarify topics.
- Contacting the relevant Faculty member promptly if there are any questions regarding the material.
- After viewing each lecture, summarizing, and making an outline of the most important points.
- Using the Lecture learning objectives for each lecture and "Talia's Tips" for Dr. Guttin's material to guide studying.

XV. Instructor's expectations of the student

To attend in-person lectures if on campus, and otherwise to engage with the weekly posted material that will be detailed in the Lessons portion of the Sakai course site. This includes listening to the lectures on Panopto, reading through posted PowerPoints, completing any weekly assignments, and participating on Forums, as necessary. Attending Zoom office hours would be another recommended activity. Reading Ettinger or Nelson and Couto or Smith sections in the text that complement the material presented will be exceedingly helpful to your success.

XVI. Professionalism statement

Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community. Learning

experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior. The Code of Conduct includes student comportment and the honor code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University. Abuses of this Code, outline in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct. Please exhibit professional behavior when communicating with your peers and with the faculty involved in this course.

XVII. Attendance/Participation Policy

Students are expected to attend lectures, if in Grenada, and otherwise engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination. Students who have technical issues during the examination MUST inform the Course Director (ikarasek1@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [An Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

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Appendices -

XXI. Lesson Learning Outcomes

Lecture Topic	Instructor	LLOs
Course Orientation: Clinical Reasoning	Dr. Karasek	Understand and utilize the SOAP medical records format and the problem-oriented approach to medicine. Understand the importance of signalment, clinical signs, relevant history, and physical examination findings to help create a differential diagnosis/rule out list. Utilize the DAMNIT scheme for differential diagnosis development.
Small animal cases- CBC/Chem/UA	Dr. Corrigan	Review and analyze CBC, Serum Chemistry and Urinalysis results and use them to create differential diagnoses/rule outs. Recognize and understand the implications of different leukogram patterns.
Introduction to fluid therapy- equations/considerations, acid/base, electrolytes	Dr. Corrigan	Understand electrolyte balance and control mechanisms. Review physiology basics of fluid compartments, Starlings' forces, and homeostatic mechanisms to be able to determine fluid therapy needs of a given patient in a variety of species. Review acid/base balance and interpret a variety of venous and arterial blood gas case examples. Calculate and interpret anion gap. Describe appropriate catheter selection and placement in a variety of species.
Fluid therapy LA cases	Dr. Byers	Formulate a fluid therapy plan for patients, including route of fluid delivery, type of fluids, rate of fluid delivery, and over what time in large animal species.
Fluid therapy EQ cases	Dr. Werners-Butler	Be able to recognize clinical dehydration and hypovolemia in horses.

		<p>Know the acceptable routes of fluid administration in horses.</p> <p>Identify which fluids are used in specific cases and select acceptable rates of fluid administration Know the steps to create an appropriate fluid therapy plan.</p> <p>Explain the differences in fluid therapy between horses and small animals.</p>
Fluid Types	Dr. Guttin	<p>Formulate a fluid therapy plan for patients, including route of fluid delivery, type of fluids, rate of fluid delivery, and over what time.</p> <p>Compare and contrast crystalloids vs. colloids and the indications for use.</p> <p>Compare and contrast a variety of crystalloid fluid types and the indications for use.</p>
Fluid therapy SA cases 1	Dr. Guttin	Describe how to monitor a patient receiving fluid therapy in a variety of species.
Fluid therapy SA cases 2	Dr. Guttin	Describe common electrolyte abnormalities including diagnosis and treatment plans.
EQ/LA sick animal nutrition	Dr. Werners-Butler	<p>Review the basics of large animal nutrition, with focus on the basics for equine nutrition.</p> <p>Know when nutritional support is indicated.</p> <p>Know the different options available for nutritional support.</p> <p>Describe the potential advantages and disadvantages of the different ways of providing nutritional support.</p>
SA nutrition for sick animals	Dr. Guttin	<p>Discuss the importance of in-hospital nutrition and its indications.</p> <p>Compare and contrast nutritional needs in healthy patients to that of an ill, hospitalized patient.</p> <p>Describe the different routes to feed a hospitalized patient</p> <p>Calculate RER and select a feeding route for patients.</p>
LA theriogenology intro	Dr. Khan	<p>Review clinical reproductive anatomy and physiology of cattle and compare it briefly with those of sheep, goats, and pigs.</p> <p>Identify a reproductive abnormality based on history and clinical findings.</p> <p>Formulate treatment plans based on reproductive physiology.</p>
EQ theriogenology intro	Dr. Khan	<p>Review clinical reproductive anatomy and physiology of horses.</p> <p>Identify reproductive abnormalities based on history and clinical findings.</p> <p>Formulate diagnostic and treatment plans.</p>
SA theriogenology intro	Dr. Khan	<p>Review the basic reproductive anatomy and physiology of dogs and cats.</p> <p>Apply the basic knowledge to different clinical scenarios.</p>

Dermatology Introduction	Dr. Paterson	<p>List the basic structures of the skin & cite the functions of the skin.</p> <p>Explain the difference between primary & secondary derm lesions; give examples of each.</p> <p>Describe the following dermatologic lesions and cite one dermatological disease in which that lesion is manifested: macule, patch, hyperpigmentation, hypopigmentation, papule, pustule, nodule, wheal, abscess, vesicle, bulla, erosion, ulcer, excoriation, lichenification, epidermal collarette, comedo, alopecia, crust, scale.</p>
Dermatology Diagnostics/SA cases	Dr. Paterson	<p>Understand the diagnostic tools appropriate for working up a suspected case of parasitic dermatitis. Identify common parasitic species causing disease in dogs and cats.</p> <p>Describe the various techniques for obtaining samples for cytology when concerned about bacterial or yeast infection. List other indications for performing cytology. Identify the following microbes: cocci bacteria, rod-shaped bacteria, yeast³</p> <p>List the diagnostic tools appropriate for working up a suspected case of dermatophytosis. Discuss the diagnostic limitations associated with Wood's lamp. Cite the indications for trichography.</p> <p>State the diagnostic tests which comprise the dermatology minimum database.</p>
EQ Dermatology introduction	Dr. Werners-Butler	<p>Realize the importance of a systematic diagnostic approach for a patient with skin disease.</p> <p>Create a differential diagnosis list based on clinical presentation, signalment, historical data and a thorough PE + dermatological exam.</p> <p>Decide on additional diagnostic techniques based on a prioritized differential diagnosis.</p> <p>Recognize different skin diseases based on typical appearance.</p>
FA Dermatology introduction	Dr. Nigito	<p>Demonstrate a systematic approach to dermatologic case investigations in food animal species.</p> <p>Describe pertinent signalment and herd history information when investigating dermatology case presentations.</p> <p>Differentiate and define normal skin coat physical exam findings from abnormal dermatologic lesions.</p> <p>Discuss and identify common differentials and presentations of dermatology diseases in livestock production.</p>
Intro to Neurology-comparative	Dr. Narak	<p>Describe the functions and locations of upper and lower motor neurons.</p> <p>List the components (and corresponding functions) of the forebrain.</p>

Localizing/Neuroimaging intra-species	Dr. Narak	Describe the functions of the cerebellum. List the clinical signs of cerebellar syndrome. Describe the functions of the vestibular system. Compare and contrast head tilt, falling, nystagmus, and postural reactions to localize vestibular disease. Compare and contrast motor function, postural reactions, muscle tone and reflexes and be able to localize a lesion
SA Neuro cases	Dr. Narak	Using PLRs as a guide, neurolocalize blindness. List the four cardinal signs of Horner's syndrome in small animals. Review the cranial nerves, including testing, origin, and function.
Equine Neuro	Dr. Karasek	Identify when an equine neurologic exam is indicated. Describe the elements of a basic equine neurologic exam. Contrast the differences between a neurologic exam in horses and small animals. Identify which additional diagnostic tools are available / indicated for an equine neurologic patient.
GI Physiology Review LA	Dr. Byers	Explain the anatomy and physiology of the ruminant GIT. Describe the various disorders that alter the "shape" of the abdominal profile. Describe the anatomical differences in a neonate and adult ruminant. Explain the tests used to diagnose GI disorders.
GI Physiology Review SA	Dr. Guttin	Differentiate specific GI signs, including vomiting vs. regurgitation, small intestinal vs. large intestinal diarrhea. Use clinical signs to localize the anatomic region causing the clinical sign. Based on clinical signs and anatomic localization of the signs. Ask key clinical questions and prioritize emergency presentations. Discuss the main diagnostic tests for the corresponding signs. Know the most common etiologies for each clinical sign.
GI SA cases	Dr. Guttin	As above.
GI FA cases	Dr. Byers	As above.
Equine GI Intro	Dr. Karasek	Recognize the signs of colic in an equine patient and be able to differentiate between mild, moderate, and severe signs. Understand the particularly unique equine GI tract anatomy and how it relates to colic. Determine the location of the problem in terms of small intestine, large colon/cecum and type of lesion

		<p>based on history, clinical signs, and response to treatment.</p> <p>Differentiate between a case that can be managed on the farm and one that is a referral to hospital case.</p>
Intro to Oncology	Dr. Bechtel	<p>Describe how to diagnose cancer, the limitations of each procedure, and which procedure is appropriate for diagnosis.</p> <p>Describe how to diagnose lymphoma compared to other differential diagnoses for enlarged lymph nodes.</p> <p>Interpret lab work associated with a cancer patient.</p> <p>Formulate a problem list and a list of differential diagnoses for a cancer patient.</p> <p>Recommend diagnostic procedures appropriate for a cancer patient based on presentation.</p>
Introduction to lameness SA & EQ	Dr. Janicke	<p>Describe how to localize a lameness.</p> <p>Identify appropriate diagnostic tests to identify the location and cause of lameness.</p> <p>Identify possible species-specific causes of lameness.</p>
Large Animal Emergency-situational/environmental concerns	Dr. Karasek	<p>Define what types of conditions constitute "emergencies" in large animals.</p> <p>Demonstrate a systematic approach when addressing an emergency in a large animal.</p> <p>Determine when euthanasia may be warranted.</p>
Introduction to Endocrine	Dr. Corrigan	<p>Review and explain the anatomy and physiology/pathophysiology of the major endocrine organs.</p> <p>Compare and contrast different endocrine diagnostic tests, understand how to perform them and using epidemiology concepts select an appropriate test in dogs, cats, and horses.</p>
Common Endocrine Diseases	Dr. Corrigan	<p>Using presenting complaints, clinical signs, history, and PE findings develop a differential diagnosis/rule out list and select appropriate testing to diagnose Diabetes mellitus, hyperthyroidism, hyperadrenocorticism, PPID and Equine metabolic syndrome.</p>
Endocrine/therio diseases	Dr. Corrigan and Dr. Khan	TBA
Intro to Respiratory – PE, physiology comparative	Dr. Corrigan	<p>Using presenting complaints, clinical signs, history PE so select appropriate diagnostic tests and be able to diagnose foreign bodies, fungal infections, neoplasia and nasopharyngeal polyps, laryngeal paralysis, brachycephalic airway syndrome, collapsing trachea, infectious and inflammatory parenchymal diseases.</p> <p>Compare and contrast airway sampling techniques and be able to select the appropriate choice for a given case example.</p> <p>Distinguish between hypoxemia and hypoxia.</p> <p>Explain the A-a gradient.</p>
SA Respiratory Cases	Dr. Corrigan	As above.

EQ Respiratory Cases	Dr. Karasek	Review anatomy and physiology of the equine respiratory system and discuss the diagnostic tests to choose for a given anatomical area. Compare and contrast airway sampling techniques and be able to select the appropriate choice for a given case example.
LA Respiratory Cases	Dr. Nigito	Explain the common clinical signs of respiratory disease in ruminants. Explain the diagnostic tests for common respiratory diseases in ruminants. Differentiate common differential diagnoses for respiratory disease in various ruminant species.
Intro to cardiology- history, clinical signs, PE across species	Dr. Corrigan	Review pertinent anatomy and physiology and apply it to case examples. Describe common clinical signs of cardiac disease and explain the physiology/pathophysiology Evaluate the heart's priorities and utilize this to explain CHF. Discuss and recognize the clinical signs of CHF.
Diagnostics for cardio- ECG, radiology, echo	Dr. Corrigan	Compare and contrast the major diagnostic tests available for cardiac patients and know when to select appropriate choices.
SA Cardio cases	Dr. Corrigan	Describe common murmurs and be able to grade them. Describe the importance of systemic blood pressure monitoring for a variety of diseases. Using presenting complaints, clinical signs, history, and PE finding to select appropriate diagnostic tests and be able to diagnose CHF, MVD, HCM, DCM, systemic hypertension, pulmonary hypertension, atrial vs. ventricular arrhythmias, ventricular tachycardia, atrial fibrillation, and heart blocks
EQ Cardio cases	Dr. Werners-Butler	Review the specifics for the equine heart. Know the most common cardiac arrhythmias and murmurs in the horse. Know the additional diagnostic tools to confirm cardiac abnormalities. Describe the similarities and differences between equine and small animal cardiology.
ECCM: Patient Assessment and Triage and Shock	Dr. Guttin	Recognize the clinical signs of shock. Identify the different categories of shock. Explain the differences in pathophysiology. Use this to direct treatments for each category. Describe what goal-directed treatment of shock is, and what parameters are assessed.
Liver Physiology Review	Dr. Guttin	Use history and blood work to categorize liver disease patients into: Enzyme patterns: hepatocellular vs.

		<p>cholestatic vs. decreased function—icterus: pre-hepatic/hepatic/post-hepatic.</p> <p>Recognize the clinical signs of liver disease: subclinical vs. clinical.</p> <p>Recognize the tests for liver enzymes and the tests for liver function.</p> <p>Be familiar with the liver diagnostics: What they can and cannot tell us.</p> <p>Diagnostic plan by liver enzyme pattern.</p>
SA Liver Diagnostics/Cases	Dr. Guttin	As above.
FA Liver-Cases	Dr. Byers	<p>Explain the common clinical signs of liver disease in ruminants.</p> <p>Explain the liver enzymes and diagnostic tests appropriate for ruminants.</p> <p>Work through a case.</p> <p>Discuss the common differential diagnoses for acute and chronic liver disease in various ruminant species.</p>
EQ Liver-Cases	Dr. Karasek	<p>Describe the common clinical signs of liver disease in horses.</p> <p>Recognize the important liver enzymes and diagnostic tests appropriate for horses.</p> <p>Remember the species differences of horses-no gallbladder, yellow plasma, anorexia causing icterus.</p> <p>Note the common differential diagnoses for acute and chronic liver disease in horses.</p>
Biosafety and Biosecurity	Dr. Karasek	<p>Understand the basic principles of biosafety/biosecurity as it relates in small animal and large animal medicine.</p> <p>Recognize the need for appropriate biosecurity protocols in veterinary practices and farms.</p> <p>Know the 5 main routes of pathogen transmission.</p> <p>Understand the veterinarian's role in the current pandemic.</p>
Renal Physiology Review comparative SA vs. LA	Dr. Guttin	<p>Know the top differential diagnoses for each.</p> <p>Be familiar with a lower urinary tract diagnostic plan.</p>
Azotemia & Urolithiasis	Dr. Guttin	<p>Identify differentiating characteristics of acute kidney injury vs. chronic kidney disease.</p> <p>Know the top differential diagnoses for acute kidney injury.</p> <p>Be familiar with an upper urinary tract diagnostic plan.</p>
PU/PD	Dr. Guttin	<p>Polyuria and polydipsia—top ddxs and what can be ruled in/out with a CBC/Chem/UA.</p>
SA Behavior	Dr. Bain	<p>Understand underlying causes of separation anxiety and be able to develop a plan to treat and prevent.</p> <p>Understand, identify triggers and/or stimuli that provoke anxiety/phobias in dogs, and develop a plan for DS/CC</p>

		ID the families of medications used in treating these problems, and the indications for prescribing them.
LA Behavior	Dr. Karasek	Understand very basic husbandry related to behavior for large animals. Understand basic welfare concerns surrounding livestock.
Introduction to Production Animal Medicine	Dr. Byers	Discuss the veterinarian's role in livestock production systems. Discuss some controversies. Become familiar with common production systems. Discuss changes occurring. Become familiar with various feeding strategies in livestock.
Small Ruminant Production	Dr. Winchester	Apply a general understanding of the different small ruminant (SR) breeds and uses for those animals. Compare and contrast the safe handling techniques and housing needs between sheep and goats. Discuss the various herd health issues veterinarians can be involved in vaccine protocols, deworming protocols nutritional needs, castration, and disbudding.
Beef Production	Dr. Nigito	Basic terminology and breeds. Different beef production systems. Beef cow housing and handling. Production cycle of a beef cow Understand how the vet come into all this: production, reproduction, herd health issues, welfare issues.
Dairy Production	Dr. Nigito	Distinguish different housing and management systems used in dairy production. Identify advantages and disadvantages of calf management systems. Discuss diseases commonly encountered in calves and cattle in dairy production systems.
Poultry & Pork Production	Dr. Byers	Know the terminology. Know what the big swine and poultry states are. Know what some of the current disease concerns with swine production and the major risk factors are. Explain the various "stages" in raising swine and morbidity/mortality risks. Understand the differences in layer and broiler production and what is the end goal of each. Describe a common method to reduce diseases in swine and broiler production systems.

Appendix XXII. -Course Level Outcomes mapping to Program Level Outcomes

Course Level Outcome	Program Level Outcome
1. Extrapolate relevant clinical data from presenting complaints, clinical signs, history, and physical examination for major organ systems in both large (including production) and small animal species	A1, A2, A4, A6
2. Use relevant clinical data to create differential diagnosis list for conditions in major organ systems	A2, A3, A4, A6
3. Use relevant clinical data to select appropriate diagnostic testing for conditions in major organ systems to diagnose a disease	A1, A2, A3, A6
4. Recognize emergency presentations for all major organ systems	A2, A4
5. Analyze clinical data to design and calculate appropriate fluid therapy plans for small and large animals	A2, A5, A6
6. Analyze clinical data to accurately localize and diagnose neurologic abnormalities	A3, A4, A11
7. Select a research topic to model lifelong learning and practice self-reflection	A11, B15
8. Recognize zoonotic and contagious disease routes of transmission and select patients for isolation	A9
9. Understand the practices of biosecurity and biosafety within veterinary medicine.	A8, A9, B18

Appendix XXIII -Course schedule

Optional Office Hours via ZOOM – Fridays 12:30 pm- 1:20 pm various faculty.

Course Schedule:

Lecture Number	LECTURE TOPIC	Instructor
1 9:30 am August 16	Course Orientation: Clinical Reasoning	Karasek
2 August 17	CBC/ acid/base, electrolytes-SA Cases*	Corrigan
3 August 18	Introduction to fluid therapy*	Corrigan
4 August 19	Introduction to fluid therapy- equations/considerations, acid/base, electrolytes*	Corrigan
5 9:30 am August 20	Fluid Types	Guttin
6 August 23	Fluid therapy SA cases 1*	Guttin
7 August 24	Fluid therapy SA cases 2*	Guttin
8 9:30 am August 25	Fluid therapy LA	Byers
9 August 26	Fluid therapy LA cases*	Byers
10 10:30 am August 27	Fluid therapy EQ cases	Werners-Butler
11 9:30 am August 31	Biosafety and Biosecurity SA	Karasek
12 10:30 am Sept 1	Biosafety and Biosecurity LA	Karasek
13 10:30 am Sept 2	LA Behavior	Karasek
14 Sept 3	Introduction to Production Animal Medicine*	Byers
15 9:30 am Sept 6	Beef Production	Nigito
16	Dairy Production	Nigito

10:30 am <i>Sept 7</i>		
17 9:30 am <i>Sept 8</i>	Small Ruminant Production	Winchester
18 9:30 am <i>Sept 9</i>	Poultry & Pork Production	Byers
19 9:30 am <i>Sept 10</i>	Large Animal Emergency- situational/environmental concerns	Karasek
20 9:30 am <i>Sept 14</i>	Intro to Neurology-comparative	Narak
21 9:30 am <i>Sept 15</i>	Localizing/Neuroimaging intra-species	Narak
22 9:30 am <i>Sept 16</i>	SA Neuro cases	Narak
23 9:30 am <i>Sept 17</i>	Equine Neuro	Karasek
24 9:30 am <i>Sept 20</i>	GI Physiology Review LA	Byers
25 10:30 am <i>Sept 21</i>	GI FA cases	Byers
26 9:30 am <i>Sept 22</i>	Equine GI Intro	Karasek
27 10:30 am <i>Sept 23</i>	GI Physiology Review SA	Guttin
28 9:30 am <i>Sept 24</i>	GI SA cases	Guttin
29 <i>Sept 27</i>	Introduction to clinical lameness SA*	Guerrero
30 9:30 am <i>Sept 28</i>	Introduction to clinical lameness LA	Janicke

31 10:30 am <i>Sept 29</i>	Intro to Oncology	Bechtel
32 9:30 am <i>Sept 30</i>	SA nutrition for sick animals	Guttin
33 9:30 am <i>Oct 1</i>	ECCM: Patient Assessment and Triage and Shock	Guttin
	MIDTERM WEEK Oct 8- 12 pm AST	
34 10:30 am <i>Oct 12</i>	Dermatology Introduction	Paterson
35 10:30 am <i>Oct 13</i>	Dermatology Diagnostics/SA cases	Paterson
36 10:30 am <i>Oct 14</i>	EQ Dermatology introduction	Werners-Butler
37 11:30 am <i>Oct 15</i>	FA Dermatology introduction	Nigito
38 11:30 am <i>Oct 18</i>	Intro to Respiratory – PE, physiology comparative	Corrigan
39 10:30 am <i>Oct 19</i>	SA Respiratory Cases	Corrigan
40 9:30 am <i>Oct 21</i>	LA Respiratory Cases	Nigito
41 10:30 am <i>Oct 22</i>	EQ Respiratory Cases	Karasek
42 10:30 am <i>Oct 26</i>	Intro to cardiology- history, clinical signs, PE across species	Corrigan
43 11:30 am <i>Oct 29</i>	Diagnostics for cardio- ECG, radiology, echo	Corrigan
44 11:30 am <i>Nov 1</i>	SA Cardio cases	Corrigan
45	EQ Cardio cases	Werners-Butler

10:30 am <i>Nov 2</i>		
46 11:30 am <i>Nov 3</i>	Liver Physiology Review	Guttin
47 10:30 am <i>Nov 4</i>	SA Liver Diagnostics/Cases	Guttin
48 11:30 am <i>Nov 5</i>	EQ Liver-Cases	Karasek
49 10:30 am <i>Nov 8</i>	FA Liver-Cases	Byers
50 10:30 am <i>Nov 9</i>	EQ/LA sick animal nutrition	Werners-Butler
51 10:30 am <i>Nov 10</i>	Renal Physiology Review comparative SA vs. LA	Guttin
52 10:30 am <i>Nov 11</i>	Azotemia & Urolithiasis	Guttin
53 10:30 am <i>Nov 12</i>	PU/PD	Guttin
54 10:30 am <i>Nov 15</i>	LA theriogenology intro	Khan
55 10:30 am <i>Nov 16</i>	EQ theriogenology intro	Khan
56 10:30 am <i>Nov 17</i>	SA theriogenology intro	Khan
57 10:30 am <i>Nov 18</i>	SA Behavior	Bain
58 10:30 am <i>Nov 22</i>	Introduction to Endocrine	Corrigan
59 9:30 am <i>Nov 23</i>	Common Endocrine Diseases	Corrigan
60	Therio/ Endocrine	Khan/Corrigan

8:30 am Nov 24		
	FINALS WEEKS Dec 8-12 pm AST	

Where all * lectures are recordings NOT in person lectures

Large Animal Medicine and Surgery
Equine Internal Medicine (3 credits)

LAMS 505 TERM 6

Fall 2021

I. Course Faculty and Staff Information

Dr. Catherine Werners-Butler DVM, PhD, DECEIM Professor (Chair
Large Animal Medicine & Surgery)

Email: cwerners@sgu.edu

Office: Cassia (Q) Building 2nd floor

Office hours by appointment - email anytime

Dr. Nicki Wise DVM, PhD, DACVIM Professor (Assistant Dean of
Clinical Placement)

Email: lwis1@sgu.edu

Office hours scheduled through Zoom-email anytime

Collaborating Faculty:

Dr. Arno Werners DVM, MEd, PhD, DECVPT Professor

Email: awerners@sgu.edu

Staff members:

Ms Frances Emmanuel SVM Administrative Assistant

Email: FEmmanuel@sgu.edu

Ext: 3109

Ms Ruth Thornhill SVM Secretary

Email: RThornhill@sgu.edu

Ext: 3474

II. Course location

In class (Siss Hall) and Online teaching through Zoom / Panopto / Sakai (forum)

III. **Prerequisite and/or co-requisite courses**

Current sixth term SVM student

IV. **Required resources**

The required reading for each section will collectively come from:

1) Lecture video's and slides (on Sakai).

2) **Large Animal Internal Medicine**, Bradford P. Smith, 5th edition - pertinent page numbers will be provided.

3) Material covered in previous courses (example: anatomy, physiology, LAMS 501, 502, 503, 516, 519) is considered appropriate material for examinations.

V. **Recommended resources**

Supplemental reading for specific equine diseases may come from Equine Internal Medicine, Reed, Bayly, & Sellon, 4th edition and Equine Infectious Diseases, Sellon & Long 2nd edition.

VI. **Accommodation guidelines**

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. **Other requirements**

Internet access & zoom account

VIII. **Course rationale**

This course is designed to familiarize the 6th term SGU student with the etiology, pathophysiology, epidemiology, clinical presentation, diagnostic evaluation, and treatment of commonly observed equine diseases. **Emphasis** will be placed on the clinical approach of evaluation, diagnosis, and treatment of the equine patient, as well as up-to-date therapeutic opportunities available to equine veterinarians as detailed in the current scientific literature. Mastery of material presented in this course will prepare the student for clinical rotations of the senior year and for the NAVLE board exam.

IX. **Course Learning Outcomes**

Upon successful completion of this course, students will be able to:

- Understand the etiology and pathophysiology for common adult and neonatal equine medical diseases for ALL of the major organ systems
- Use presenting complaints, history, physical exam findings, and clinical signs to create differential lists and choose appropriate diagnostic tests in the equine patient
- Interpret diagnostic test results in the equine patient
- Recognize emergency presentations and how to approach the resolution of these issues
- Formulate an appropriate treatment regimen for the equine patient including fluid therapy, nutritional needs and preventative care.
- Discuss the prognosis of common equine diseases

X. **Lesson Learning Outcomes**

See Appendix XXI

XI. **Alignment of Course Learning Outcomes with Program Learning Outcomes**

See Appendix XXI

XII. **Course Schedule**

The midterm and final exams will be proctored exams which have to be taken on the scheduled day. An **approved excuse** needs to be provided before the exam will take place when there is a known conflict for that specific day (refer to point XVIII).

Wk	Date / Hour	Lecture topic	Modality/Location	Faculty
1	August 16 th 9:30-10:20	Course Intro/Physical exam	Sis Hall + Zoom	Werners-Butler
	August 17 th 9:30-10:20	GI-1: Anatomy review and Dx	Sis Hall + Zoom	Werners-Butler
	August 18 th 11:30-12:20	G-I 2: Equine Nutrition Review	Sis Hall + Zoom	Werners-Butler
	August 19 th 10:30-11:20	GI-3: Equine Esophagus	Sis Hall + Zoom	Werners-Butler
2	August 23 rd 9:30-10:20	GI 4: Equine Stomach	Sis Hall + Zoom	Werners-Butler
	August 24 th 9:30-10:20	GI-5: Inflammatory Bowel Dz	Sis Hall + Zoom	Werners-Butler
	August 27 th 11:30-12:20	GI-6 applied G-I related fluid therapy	Sis Hall + Zoom**	Werners-Butler
3	August 30 th 10:30-11:20	GI 7: Small Intestinal disorders	Sis Hall + Zoom	Werners-Butler
	August 31 st 9:30-10:20	GI 8: Large intestinal obstruction	Sis Hall + Zoom	Werners-Butler
	September 1 st 10:30-11:20	G-I 9: Large intestinal: diarrhea (acute / chronic)	Sis Hall + Zoom	Werners-Butler
	September 2 nd 10:30-11:20	Equine Diagnostics	Sis Hall + Zoom	Wise
4	September 6 th 9:30-10:20	Clin Pharm intro	Sis Hall + Zoom	Werners

	September 7 th 10:30-11:20	Clin Pharm – G-I disorders	Sis Hall + Zoom **	Werners
	September 8 th 10:30-11:20	G-I Cases	Sis Hall + Zoom**	Werners- Butler
	September 9 th 11:30-12:20	G-I cases continued	Sis Hall + Zoom**	Werners- Butler
5	September 13 th 10:30-11:20	Endotoxemia	Sis Hall + Zoom	Werners
	September 14 th 10:30-11:20	Laminitis	Sis Hall + Zoom	Werners- Butler
	September 16 th 8:30-9:20	Endocrine	Sis Hall + Zoom	Werners- Butler
6	September 20 th 10:30-11:20	Biosecurity Concepts	Sis Hall + Zoom	Werners- Butler
	September 21 st 10:30-11:20	Infectious Diseases	Sis Hall + Zoom	Werners- Butler
	September 23 rd 9:30-10:20	Infectious diseases	Sis Hall + Zoom	Werners- Butler
	September 24 th 8:30-9:20	Dermatology	Sis Hall + Zoom	Werners- Butler
7	September 27 th 9:30-10:20	Dermatology cases**	Sis Hall + Zoom	Werners- Butler
	September 28 th	MIDTERM preparation Q&A**	Sis Hall + Zoom	Werners- Butler

	9:30-10:20			
8	October 4th 12:00-1:30pm	MIDTERM EXAM		
9	October 12 th 11:30-12:20	Neurology	Sis Hall + Zoom	Werners-Butler
	October 13 th 9:30-10:20	Neurology	Sis Hall + Zoom	Werners-Butler
	October 14 th 9:30-10:20	Neurology	Sis Hall + Zoom	Werners-Butler
10	October 18 th 10:30-11:20	Neuro cases**	Sis Hall + Zoom**	Werners-Butler
	October 19 th 9.30-10.20	Ophthalmology	Sis Hall + Zoom	Werners-Butler
	October 20 th 11.30-12.20	Hemolymphatic	Zoom	Wise
	October 21 st 11.30-12.20	Hemolymphatic	Zoom	Wise
	October 22 nd 11.30-12.20	Cardiology	Zoom	Wise
11	October 26 th 11.30-12.20	Muscle	Zoom	Wise
	October 27 th 10.30-11.20	Muscle	Zoom	Wise
	October 28 th 11.30-12.20	Liver	Zoom	Wise
12	November 2 nd 11:30-12:20	Urinary	Zoom	Wise
	November 3 rd	Liver	Zoom	Wise

	11:30-12:20			
	November 4 th 11:30-12:20	Urinary	Zoom	Wise
13	November 8 th 10:30-11:20	Respiratory	TopHat Lesson	Wise
	November 9 th 10:30-11:20	Respiratory	TopHat Lesson	Wise
	November 10 th 10:30-11:20	Clin Pharm approach to different system disorders	Sis Hall + Zoom**	Werners
14	November 15 th 10:30-11:20	Respiratory Review	Sis Hall + Zoom	Wise
	November 16 th 9:30-10:20	Neonatology	Sis Hall + Zoom	Wise
	November 17 th 8:30-9:20	Neonatology	Sis Hall + Zoom	Wise
	November 18 th 10:30-11:20	Neonatology	Sis Hall + Zoom	Wise
	November 19 th 10:30-11:20	Final preparation Q&A	Sis Hall + Zoom **	CWB /NW/AW
17	December 9 12:00-2.00pm	FINAL EXAM (Comprehensive)		

XIII. Grading and assessment policy, and grading rubrics

Grading Policy: The final grade for this course reflects 2 exam scores. There will be a proctored midterm exam worth 40% and a proctored final exam worth 60% of the grade.

Midterm exam (40%): October 4th 12pm-1:30pm AST

Final exam (60%): December 9th 12:30-14:30pm AST.

A grade reduction of 5% will be applied to the exam score if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

Below is the grading scale for this course:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

XIV. **Recommended study strategies**

Prepare for the lectures by looking at the reading resources and listening to the Panopto recordings. Reach out to the course directors as soon as possible if you experience difficulties with the material.

XV. **Instructor's expectations of the student**

The student is expected to adhere to the guidelines provided

throughout this syllabus including attendance and examination policies

XVI. **Professionalism statement**

Please exhibit professional behavior at all times. Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior.

The Code of Conduct includes student comportment and the honor code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University.

Abuses of this Code, outline in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct.

XVII. **Attendance/Participation Policy** (refer to the student manual page if applicable)

Students are expected to be available during the standard 8:30-5pm AST school day, to attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other

extenuating circumstances, proper notification procedures must be followed.

XVIII. **Policy regarding missing examinations and/or failure of submission of assignments**

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) (cwarners@sgu.edu or lwise1@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. **ExamSoft policy**

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.

3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. **Copyright policy**

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

XXI. **Appendices**

Course level outcomes:

1. Explain the etiology and pathophysiology for common equine medical diseases for all the major organ systems
2. Utilize presenting complaints, history, physical exam findings, and clinical signs to create differential lists and to select appropriate diagnostic tests in the equine patient
3. Interpret diagnostic test results in the equine patient
4. Evaluate emergency cases and develop a plan for resolution of these issues
5. Formulate an appropriate treatment regimen for the equine patient including fluid therapy and preventative care.
6. Discuss the prognosis of common equine diseases

Lecture Level Outcomes Mapped to Course Level Outcomes (CLOs):

Lecture /lab name and number	Your lecture/lab Learning Outcomes:	CLO #
1. Physical Exam	<p>1 -Know how to perform a thorough equine physical examination in a safe way</p> <p>2 -Identify the locations for intramuscular injection and venipuncture in the horse</p> <p>3- Identify the specific differences in an equine PE compared to a small animal PE</p>	<p>2</p> <p>5</p> <p>2</p>
2. Equine Diagnostics	1 -Interpret abnormalities in routine equine laboratory tests	3
	2 - Differentiate cases of acute versus chronic inflammatory diseases based on laboratory data	3
	3 - Describe the basic principles of immunodiagnostic testing including selecting the	3

	appropriate test and knowing its limitations	
	4- Interpret basic immunodiagnostic and pathogen specific test results in the horse	3
3. Review equine gastro intestinal anatomy and additional diagnostic test options related to equine gastro intestinal disease (colic)	<p>1- Know the clinical anatomy of the equine gastro intestinal tract and identify the locations in the equine gastro intestinal tract that are predisposed to impactions or dislocations</p> <p>2- Recognize the clinical signs of equine colic</p> <p>3 -Understand when (and which) additional diagnostic tests are indicated in a colic case including fecal exam, urine analysis, rectal palpation, bloodwork, diagnostic imaging, biopsies and absorption tests.</p> <p>4- Interpret the test results and realize that certain additional tests have potential risks (for the patient and/or clinician)</p>	1 2 2 3
4. Fluid Therapy	<p>1 Develop a fluid plan for an individual equine patient based on physical examination findings and bloodwork distinguishing between hypovolemia and dehydration</p> <p>2 Know the indications for fluid therapy and the limitations of fluid therapy in</p>	4,5 5 2,3

	<p>horses</p> <p>3 Recognize the differences in equine fluid therapy compared to small animal fluid therapy with regards to fluid administration routes, fluid choice and fluid losses through sweating.</p>	
<p>5. Equine nutrition</p>	<p>1 Explain the relation of equine nutrition and nutritional related conditions in the horse with regards to the anatomy and function of the equine gastrointestinal tract including enzymatic digestion (of non-structural carbohydrates, fat and protein in the fore gut), hind gut fermentation (of structural carbohydrates (fiber)) and the vitamin + mineral dynamics.</p> <p>2- Revise a food label and formulate a correct ration for the individual horse taking performance level, age and nutritional related predisposed conditions into account</p> <p>3- Understand that acute changes in the equine diet are a major cause of colic</p>	<p>1,2</p> <p>5</p> <p>2</p>
<p>6. Equine Gastro Intestinal Tract: esophageal conditions</p>	<p>1- Identify common pathological conditions of the equine esophagus (including choke and hypomotility) and determine whether they are medical or surgical</p>	<p>1, 2</p> <p>4,5</p> <p>6</p>

	<p>2-Provide treatment options for medical conditions involving the equine esophagus including emergencies</p> <p>3-Provide information as to the prognosis and survival rate of the different conditions that can affect the esophagus</p>	
<p>7. Equine Gastro Intestinal Tract: stomach conditions</p>	<p>1-Understand the difference in the pathophysiology of Equine Gastric Ulcer Syndrome (EGUS) in adult horses and neonatal foals</p> <p>2-Recognize the clinical signs of EGUS and know how to diagnose the different forms of EGUS (Equine Squamous Gastric Ulcer Disease: ESGUD + Equine Glandular Gastric Ulcer Disease: EGGUD) including emergency cases</p> <p>3-Determine the risk factors for the development of EGUS and Identify treatment options for EGUS</p>	<p>1,2 2,3,4 5</p>
<p>8. Equine Gastro Intestinal Tract: small intestinal conditions</p>	<p>1-Explain the pathophysiology of equine inflammatory bowel disease and S-I enteritis.</p> <p>2-Identify the different forms of equine inflammatory bowel disease based on the utilization of signalment, history, clinical signs, a thorough PE and diagnostic test results</p>	<p>1 2,3 4,5 2,3,4 5 3,4,6</p>

	<p>3-Provide a prognosis and formulate a treatment plan for the different forms of inflammatory bowel disease and S-I enteritis</p> <p>4-Identify pathological obstructive conditions of the equine small intestinal tract and determine whether they are medical or surgical</p> <p>5-Provide medical treatment options for colic cases involving small intestinal obstruction / strangulation including: nasogastric intubation, administering medication (dewormers, nsaid's, antimicrobials, parasympaticolytica, prokinetic medication, fluid, electrolytes...)</p> <p>6- Provide information as to the prognosis and survival rate of the different S-I obstructions/ strangulations</p>	
<p>9. Equine large intestinal conditions (diarrhea and obstructions/strangulations)</p>	<p>1-Identify pathological conditions of the equine large intestinal tract including left dorsal displacement, right dorsal displacement, left ventral colon impaction, colon torsion, pedunculated lipoma of the small colon, sand impaction, right dorsal colitis, salmonellosis, clostridiosis, cyathostominosis, intussusception of ileum in</p>	<p>2,3</p> <p>3,4</p> <p>2</p> <p>5</p> <p>6</p>

	<p>cecum, cecum impaction</p> <p>2-Determine whether the colic caused by one of the conditions mentioned above is medical or surgical based on clinical signs, blood work results and belly tap results.</p> <p>3-Know the risk factors for the different large intestinal conditions</p> <p>4-Provide treatment options for medical and surgical conditions of the large intestine mentioned above</p> <p>5-Provide information as to the prognosis and survival rate of the different L-I conditions mentioned above</p>	
<p>10. Equine post operative care</p>	<p>1-Recognise post-operative complications including thrombophlebitis, laminitis, peritonitis, post-operative ileus, ventral midline incision infection, colic, fever through thorough monitoring of the patient using repeated physical exams, bloodwork and diagnostic imaging</p> <p>2- Formulate a treatment plan for the post-operative patient including antimicrobial administration, nsaid's, fluid and diet.</p>	<p>2,3,4</p> <p>5</p>

11. Equine Dermatology

1-Explain the etiology and pathophysiology of common equine dermatological conditions including equine sarcoid, melanoma, squamous cell carcinoma, dermatophilosis, dermatophytosis, hyperelastosis cutis, nodular necrobiosis, papilomatosis, folliculitis, pastern dermatitis, cellulitis/lymphangitis, abscesses (caused by streptococcus equi, Corynebacterium pseudotuberculosis, clostridium spp, multi resistant staphylococcus aureus), lice, mite and tick infestations, habronemiasis, onchocerciasis, insect hypersensitivity, alopecia areata, burns, decubitus lesions and contact dermatitis.

2-Recognize pathological conditions of the equine skin and determine whether they are medical or surgical

3-Choose appropriate additional diagnostic tests in order to get a final diagnosis in a horse with a skin condition

4-Recommend treatment and management options for the different equine skin conditions

5-Discuss the prognosis of horses suffering from the

1
2
3
5
6

	aforementioned diseases	
<p>12. Equine Neurology</p>	<p>1-Explain the etiology and pathophysiology of common equine neurologic diseases including rabies, equine protozoal myeloencephalitis, alpha virus encephalitis, west nile virus, equine herpes myeloencephalitis, leucoencephalomalacia, botulism, tetanus, cervical stenotic myelopathy, temporohyoid osteoarthropathy, rectus capitus avulsion, equine motor neuron disease, equine polyneuropathy and equine grass sickness.</p> <p>2-Formulate an appropriate diagnostic testing plan and differential list for a horse presenting with clinical signs of neurologic disease</p> <p>3-Perform a thorough neurological exam in the horse including cranial nerve examination, assessment of autonomic function, and a dynamic neurologic exam (gait analysis + assessment of</p>	<p>1 2,3 2 2,3 5 6</p>

	<p>proprioceptive deficits)</p> <p>4-Diagnose cases of common equine neurologic diseases based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results</p> <p>5-Develop a therapeutic and management plan for horses with aforementioned diseases</p> <p>6-Discuss the prognosis of horses suffering from the aforementioned diseases</p>	
13. Endotoxemia	<p>1-Integrate knowledge of the pathophysiology of endotoxaemia and drug targets to create treatment plans for horses with endotoxaemia</p> <p>2-Compare and contrast advantages and disadvantages of drugs used in equine endotoxaemia</p> <p>3-Clarify the clinical signs associated with equine endotoxaemia</p>	<p>1,5</p> <p>5</p> <p>5</p>
14. Equine clinical pharmacology	<p>1-Integrate knowledge on pathophysiology of common equine diseases to create treatment plans</p> <p>2-Evaluate treatment plans based on the therapeutic concept including Good Veterinary Practice and Antimicrobial Stewardship</p>	<p>1,5</p> <p>5</p> <p>5</p>

	3-Compare and contrast advantages and disadvantages of different treatment modalities	
15. Laminitis	1- Describe the pathophysiology of all forms of laminitis	1
	2- Recognize the risk factors and clinical signs of laminitis	2
	3- Evaluate diagnostic tests utilized in cases of laminitis	3
	4- Develop a therapeutic plan for the various presentations of laminitis including pain management	4,5
	5- Discuss the prognosis of laminitic horses	6
	6- Prepare a plan for laminitis prevention in the at risk horse	5
16. Endocrinology	1- Describe the major hormone imbalances/pathophysiology that occurs with pituitary pars intermedia dysfunction (PPID) and equine metabolic syndrome (EMS)	1
	2- Differentiate between the signalment and clinical signs of PPID and EMS	2
	3- Formulate a diagnostic testing plan for horses suspected of having PPID and/or EMS	2
	4- Interpret diagnostic testing results for PPID and	3

	EMS	
	5- Diagnose cases of hypothyroidism (congenital and acquired), anhidrosis and nutritional secondary hyperparathyroidism based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results	1,2,3
	6- Develop a therapeutic and management plan for horses with PPID and EMS	5
	7- Discuss the prognosis of horses diagnosed with an endocrinopathy	6
17. Hepatobiliary	1- Explain the etiology and pathophysiology of common equine liver diseases	1
	2- Formulate an appropriate diagnostic testing plan and differential list for a horse presenting for suspect liver dysfunction	2
	3- Interpret liver specific diagnostic test results	3
	4- Diagnose cases of: Theiler's disease (serum sickness), Tyzzer's disease, aflatoxicosis, bacterial cholangiohepatitis, cholelithiasis, chronic active hepatitis, hyperlipemia/hepatic lipidosis and pyrrolizidine alkaloid/clover toxicity based on the presenting	2,3,4

	complaints, relevant historical information, physical exam findings and diagnostic test results	
	5- Develop a therapeutic and management plan for horses with aforementioned diseases	4,5
	6- Discuss the prognosis of horses suffering from liver disease	6
18. Urinary	1- Explain the etiology and pathophysiology of common equine urinary tract diseases	1
	2- Formulate an appropriate diagnostic testing plan and differential list for a horse presenting for suspect urinary tract dysfunction	2
	3- Interpret urinalysis results from a horse	3
	4- Diagnose cases of: acute renal failure, chronic renal failure, NSAID toxicity, urolithiasis and incontinence based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results	2,3,4
	5- Develop a therapeutic and management plan for horses with aforementioned diseases	4,5
	6- Discuss the prognosis of horses suffering from urinary tract disease	6

19. Muscle	1-Explain the etiology and pathophysiology of common equine skeletal muscle diseases	1
	2- Formulate an appropriate diagnostic testing plan and differential list for a horse presenting for a muscle disorder	2
	3- Interpret muscle specific diagnostic test results	3
	4- Assess cases of: exertional rhabdomyolysis, polysaccharide storage myopathy, recurrent exertional rhabdomyolysis, hyperkalemic periodic paralysis, nutritional myodegeneration, clostridial myositis, and ionophore toxicity based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results	2,3,4
	5- Develop a therapeutic and management plan for horses with aforementioned diseases	4,5
	6- Discuss the prognosis of horses suffering from a myopathy	6
20. Hematologic	1-Explain the etiology and pathophysiology of common equine hemolympathic disorders	1

	2- Formulate an appropriate diagnostic testing plan and differential list for a horse presenting for anemia, a clotting disorder or lymphosarcoma	2
	3- Interpret specific diagnostic test results for the aforementioned complaints	3
	4- Diagnose cases of: blood loss (acute versus chronic), red maple leaf toxicity, anemia of chronic disease, iron deficiency anemia, moldy sweet clover toxicity, IMTP, DIC, snake envenomation and lymphosarcoma based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results	2,3,4
	5- Develop a therapeutic and management plan for horses with aforementioned diseases	4,5
	6- Discuss the prognosis of horses suffering from the aforementioned diseases	6
21. Infectious Disease	1-Analyze farm biosecurity and your role in management of cases of infectious disease	5
	2-Explain the etiology and pathophysiology of common equine infectious diseases including equine infectious	1

	<p>anemia, equine piroplasmiasis, equine viral arteritis, equine granulocytic ehrlichiosis, Lyme disease, leptospirosis, Corynebacterium pseudotuberculosis (pigeon fever) and vesicular stomatitis virus.</p>	
	<p>3- Formulate an appropriate diagnostic testing plan and differential list for a horse presenting for vasculitis or the aforementioned equine diseases</p>	2
	<p>4- Interpret specific diagnostic test results for the aforementioned diseases</p>	3
	<p>5- Diagnose cases of common equine infectious diseases based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results</p>	2,3
	<p>6- Develop a therapeutic and management plan for horses with aforementioned diseases</p>	5
	<p>7- Discuss the prognosis of horses suffering from the aforementioned diseases</p>	6
22. Ophthalmology	<p>1- Develop a plan for a comprehensive ophthalmologic exam in the equine patient including nerve blocks and topical</p>	2

	medications	
	2- Explain the etiology and pathophysiology of common equine diseases of the eye	1
	3- Formulate an appropriate diagnostic testing plan and differential list for a horse presenting for an ophthalmologic condition	2
	4- Interpret ophthalmologic diagnostic test results	3
	5- Diagnose cases of bacterial and fungal keratitis, equine recurrent uveitis, ocular habronomiasis, onchocerciasis and common ocular neoplasia including squamous cell carcinoma, sarcoids and melanoma based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results	2,3
	6- Develop a therapeutic and management plan for horses with aforementioned diseases	5
	7- Discuss the prognosis of horses suffering from the aforementioned diseases	6
23. Cardiology	1-Explain the etiology and pathophysiology of common equine cardiac disorders	1
	2- Formulate an appropriate diagnostic testing plan and	2

	differential list for a horse presenting for suspect cardiac disease	
	3- Interpret cardiac specific test results from a horse	3
	4- Diagnose cases of: atrial fibrillation, ventricular tachycardia. Ventricular septal defect, tetralogy of fallot, patent ductus arteriosus, degenerative valvular disease, endocarditis, pericarditis and myocardial disease based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results	2,3,4
	5- Develop a therapeutic and management plan for horses with aforementioned diseases	4,5
	6- Discuss the prognosis of horses suffering from cardiac disease	6
24. Respiratory	1-Explain the etiology and pathophysiology of common equine respiratory disorders	1
25. Neonatology	2- Formulate an appropriate diagnostic testing plan and differential list for a horse presenting for suspect respiratory disease	2
	3- Interpret respiratory specific test results from a horse	3

<p>4- Diagnose cases of: sinusitis, guttural pouch empyema & mycosis, <i>Rhodococcus equi</i> infection, bacterial/fungal pneumonia (pleuropneumonia), Equine Herpes Virus-1 & 4, Equine Influenza Virus, Strep. equi infection (“Strangles”), RAO, IAD and EIPH based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results</p>	<p>2,3,4</p>
<p>5- Develop a preventative, therapeutic and management plan for horses with the aforementioned diseases</p>	<p>4,5</p>
<p>6- Discuss the prognosis of horses suffering from respiratory disease</p>	<p>6</p>
<p>7- Develop a vaccination program to combat common respiratory pathogens</p>	<p>5</p>
<p>1- Differentiate and interpret normal and abnormal physical exam findings in the equine neonate as compared to the adult</p>	<p>1,2</p>
<p>2- Explain the etiology and pathophysiology of common equine neonatal disorders</p>	<p>1</p>
<p>3- Formulate an appropriate diagnostic testing plan and differential list for a foal</p>	<p>2</p>

	presenting with weakness, not suckling, seizures, respiratory distress, colic, a distended abdomen, dysuria, diarrhea, enlarged umbilicus or lameness.	
	4- Diagnose cases of: prematurity/dysmaturity, sepsis, failure of passive transfer, HIE (“dummy foal syndrome”), fractured ribs, meconium impaction, SCID & neonatal isoerythrolysis based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results	2,3,4
	5-Develop a preventative, therapeutic and management plan for foals with the aforementioned diseases	5
	6- Discuss the prognosis of foals suffering from the aforementioned conditions	6

Course Level Outcomes Mapped to Program Level Outcomes (PLOs):

Course Learning Outcome	SGUSVM Program Learning Outcome
Explain the etiology and pathophysiology for common equine medical diseases for all the major organ systems	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology</p>

	<p>of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.</p>
<p>Utilize presenting complaints, history, physical exam findings, and clinical signs to create differential lists and to select appropriate diagnostic tests in the equine patient</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p>

	<p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.</p>
<p>Interpret diagnostic test results in the equine patient</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary</p>

	medicine.
Evaluate emergency cases and develop a plan for resolution of these issues	<p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p>
Formulate an appropriate treatment regimen for the equine patient including fluid therapy and preventative care.	<p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable</p>

diseases.

PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.

PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.

Schedule overview

Wk	Date / Hour	Lecture topic	Modality/Location	Faculty
1	August 16 th 9:30-10:20	Course Intro/Physical exam	Sis Hall + Zoom	Werners-Butler
	August 17 th 9:30-10:20	GI-1: Anatomy review and Dx	Sis Hall + Zoom	Werners-Butler
	August 18 th 11:30-12:20	G-I 2: Equine Nutrition Review	Sis Hall + Zoom	Werners-Butler
	August 19 th 10:30-11:20	GI-3: Equine Esophagus	recorded / panopto	Werners-Butler
2	August 23 rd 9:30-10:20	GI 4: Equine Stomach	Sis Hall + Zoom	Werners-Butler
	August 24 th 9:30-10:20	GI-5: Inflammatory Bowel Dz	Sis Hall + Zoom	Werners-Butler
	August 27 th 11:30-12:20	GI-6 applied G-I related fluid therapy	Sis Hall + Zoom**	Werners-Butler
3	August 30 th 10:30-11:20	GI 7: Small Intestinal disorders	Sis Hall + Zoom	Werners-Butler
	August 31 st 9:30-10:20	GI 8: Large intestinal obstruction	recorded / Panopto	Werners-Butler
	September 1 st 10:30-11:20	G-I 9: Large intestinal: diarrhea (acute / chronic)	recorded / Panopto	Werners-Butler

	September 2 nd 10:30-11:20	Equine Diagnostics	Sis Hall + Zoom	Wise
4	September 6 th 9:30-10:20	Clin Pharm intro	Sis Hall + Zoom	Werners
	September 7 th 10:30-11:20	Clin Pharm – G-I disorders	Sis Hall + Zoom **	Werners
	September 8 th 10:30-11:20	G-I Cases	Sis Hall + Zoom**	Werners-Butler
	September 9 th 11:30-12:20	G-I cases continued	Sis Hall + Zoom**	Werners-Butler
5	September 13 th 10:30-11:20	Endotoxemia	Sis Hall + Zoom	Werners
	September 14 th 10:30-11:20	Laminitis	Sis Hall + Zoom	Werners-Butler
	September 16 th 8:30-9:20	Endocrine	Sis Hall + Zoom	Werners-Butler
6	September 20 th 10:30-11:20	Biosecurity Concepts	Sis Hall + Zoom	Werners-Butler
	September 21 st 10:30-11:20	Infectious Diseases	Sis Hall + Zoom	Werners-Butler
	September 23 rd 9:30-10:20	Infectious diseases	Sis Hall + Zoom	Werners-Butler
	September 24 th 8:30-9:20	Dermatology	Sis Hall + Zoom	Werners-Butler
7	September 27 th 9:30-10:20	Dermatology cases**		Werners-Butler
	September 28 th 9:30-10:20	MIDTERM preparation Q&A**		Werners-Butler
8	October 4th 12:00- 1:30pm	MIDTERM EXAM		

9	October 12 th 11:30-12:20	Neurology	Sis Hall + Zoom	Werners-Butler
	October 13 th 9:30-10:20	Neurology	Sis Hall + Zoom	Werners-Butler
	October 14 th 9:30-10:20	Neurology	Sis Hall + Zoom	Werners-Butler
10	October 18 th 10:30-11:20	Neuro cases**	Sis Hall + Zoom**	Werners-Butler
	October 19 th 9.30-10.20	Ophthalmology	Sis Hall + Zoom	Werners-Butler
	October 20 th 11.30-12.20	Hemolympatic	Zoom	Wise
	October 21 st 11.30-12.20	Hemolympatic	Zoom	Wise
	October 22 nd 11.30-12.20	Cardiology	Zoom	Wise
11	October 26 th 11.30-12.20	Muscle	Zoom	Wise
	October 27 th 10.30-11.20	Muscle	Zoom	Wise
	October 28 th 11.30-12.20	Liver	Zoom	Wise
12	November 2 nd 11:30-12:20	Urinary	Zoom	Wise
	November 3 rd 11:30-12:20	Liver	Zoom	Wise
	November 4 th 11:30-12:20	Urinary	Zoom	Wise
13	November 8 th 10:30-11:20	Respiratory	TopHat Lesson	Wise

	November 9 th 10:30-11:20	Respiratory	TopHat Lesson	Wise
	November 10 th 10:30-11:20	Clin Pharm approach to different system disorders	Sis Hall + Zoom**	Werners
14	November 15 th 10:30-11:20	Respiratory Review	Sis Hall + Zoom	Wise
	November 16 th 9:30-10:20	Neonatology	Sis Hall + Zoom	Wise
	November 17 th 8:30-9:20	Neonatology	Sis Hall + Zoom	Wise
	November 18 th 10:30-11:20	Neonatology	Sis Hall + Zoom	Wise
	November 19 th 10:30-11:20	Final preparation Q&A	Sis Hall + Zoom **	CWB /NW/AW
17	December 9 12:00-2.00pm	FINAL EXAM (Comprehensive)		



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

LARGE ANIMAL MEDICINE AND SURGERY DEPARTMENT

LIVESTOCK MEDICINE II SYLLABUS (3 credits)

LAMS 515 TERM 6

FALL 2021

I. Course faculty and staff information

Course director

Dr. Stacey Byers, DVM, MS, DACVIM(LA), *Associate Professor*
sbyers1@sgu.edu

Office Location: Cassia First Floor

Office Hours: On request

Other faculty

Dr. Inga Karasek, DVM
ikarasek1@sgu.edu

Staff members

Mrs. Frances Emmanuel, Executive Secretary,
LAMS/SAMS Department, femmanuel@sgu.edu

Mrs. Ruth Thornhill, Secretary, LAMS/SAMS
Department, rthornhill@sgu.edu

II. Course location

Sis Lecture Hall and Sakai My Courses

III. Prerequisite and/or co-requisite courses

Current 6th term SVM student.

IV. Required resources

- Working computer with camera, microphone, and internet access for exams.

- Notes, lecture slides, Panopto recordings (see Sakai).
- Material covered in LAMS 544 (Livestock Medicine I) and previous courses are considered appropriate material for examinations.

V. Recommended resources

- Supplemental reading will be posted on Sakai.
- Useful livestock-oriented texts:
 - Large Animal Internal Medicine, 6th Edition, Smith BP, Van Metre DC, Pusterla N.
 - Diseases of Swine, Zimmerman JJ, Karriker LA, Ramirez A, Schwartz KJ, Stevenson GW.
 - Goat Medicine, Smith MC and Sherman DM.
 - Llama and Alpaca Care, Cebra C, Anderson D, Tibary A, VanSaun R, Johnson L.
 - Sheep and Goat Medicine, Pugh DG and Baird AN.
 - Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs, and Goats, Radostits OM, Gay CC, Hinchcliff KW, Constable PD.

VI. Accommodations

- a. Students who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Not applicable

VIII. Course rationale

The principles of diagnosis, treatment, and prevention of diseases in ruminants, camelids, and swine, are taught utilizing a lecture format with integrated case discussions. Individual and herd medicine and the role of the veterinarian in promotion of a healthy food supply are addressed. Mastery of material presented in this course will prepare the student for clinical rotations of the senior year and for the NAVLE board exam. This course will continue to build on the livestock topics presented in earlier courses.

- IX. Course learning outcomes
Upon successful completion of this course, the student will be able to:
- A. Explain the etiology and pathophysiology for livestock animal diseases.
 - B. Create appropriate differential diagnoses based on presenting complaints, history, physical exam findings, and clinical signs.
 - C. Determine the appropriate diagnostic tests and interpret the results.
 - D. Recognize emergency presentations and determine appropriate management strategies.
 - E. Formulate appropriate treatment and prevention/control strategies for diseases in individuals and herds. Integrate knowledge of legislation regarding appropriate use of therapeutic agents in food producing animals.
 - F. Identify disease processes and clinical presentations that have a public health significance, including zoonoses and/or those diseases that are reportable to a designated authority.

- X. Lesson learning outcomes
See Appendix 1

- XI. Alignment of course learning outcomes with program learning outcomes
See Appendix 2

- XII. Course schedule
See Appendix 3

- XIII. Grading and assessment policy, and grading rubrics
Grades for this course will be based on 3 assignments and a midterm and comprehensive final. The assignment links are in the Weekly Lessons; they are untimed but must be completed by the due dates listed in the Weekly Lessons. The due dates will also be posted on the calendar.

Optional (ungraded) study materials in Weekly Lessons:

- A NAVLE-type question each week

- Short answer study questions
- Formative assessments

Assessment	Points
Therapeutics and fluid therapy	5
Vaccine protocol	5
Swine Modules (7 parts)	20
Midterm exam	45
Final exam	55
Total	130

The grading scale for this course is:

>89.5%	A
84.50-89.49	B+
79.50-84.49	B
74.50-79.49	C+
69.50-74.49	C
64.50-69.49	D+
59.50-64.49	D
<59.49	F

Assessments using ExamSoft and Exam Monitor: A grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

It is highly recommended to look at the plan at the start of each week in the Sakai Weekly Lessons. Links to all the materials for the week/topic will be provided there. Panopto videos will be linked by the end of the day. Reminders and due dates will be listed in the Weekly Lessons and in the calendar.

Additional individual or group office hours can be made if needed. If a student feels they are falling behind or their grades are inadequate, they should arrange a meeting with their academic advisor as well as someone from the DES office.

For the grading of examinations, the slides and notes, lecture handouts, and the statements made during lecture will be considered correct. Your correction of the notes and information provided is encouraged. However, information found which contradicts these sources must be brought to the attention of the instructor prior to an examination. The source will be evaluated and if indicated, corrections made (to the entire class). Do not expect to receive credit for information that contradicts these sources unless this procedure is followed.

XV. Instructor's expectations of the student

You are expected to attend and participate in classes and keep up with the weekly tasks. If you are having difficulty with the subject matter, are unsure of terminology, etc. please contact the course director (email or in class), ask a classmate, or check reputable sources on the internet.

Assignment extensions must be requested BEFORE the due date. Valid reasons as posted in the student manual.

XVI. Professionalism statement

Students are expected to conduct themselves in an appropriate professional manner in their interactions with lecturers and fellow students. Please be respectful, courteous and open to other people's opinions. Cell phones should be switched off or silenced during lectures. Please arrive on time for lectures.

XVII. Attendance/participation policy

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation

is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

You must notify the instructor BEFORE the due date to request an extension for an assignment. Approval requires a valid reason as posted in the student manual. Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (Dr. Stacey Byers, sbyers1@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for Exam Monitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is 2.3.8)
 - b. [The Examsoft student perspective video 30 mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these

materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendix 1: Topics and Lecture Learning Objectives

Introduction and Species Reviews

1. Explain the components of a history and signalment for a herd and individual.
2. Explain the components of a complete PE.
3. Compare and contrast beef and dairy cattle attributes, behavior, breeds, BCS, and production cycle.
4. Compare and contrast the small ruminant species and breeds for behavior, handling, BCS, and production cycles.
5. Compare and contrast camelid and ruminant behavior, handling, BCS, husbandry, and herd health management.

Parasites

1. Review the common internal and external parasites affecting livestock species and the clinical signs, pathophysiology, and zoonotic risks.
2. Select appropriate treatment and control strategies.

Weight loss

1. Explain the common causes of weight loss in ruminants and camelids.
2. Describe diagnostic tests useful for weight loss investigations and interpret results.
2. Develop treatment and management strategies for improving body condition of ruminants and camelids.

Therapeutics and Vaccines

1. Determine the most appropriate medication for a health situation.
2. Determine the appropriate dose, duration, route, and withdrawal times.
3. Become familiar with trade and generic drug names, banned drugs, and extra label usage.
4. Review the common vaccines, usage, label and extra label use.
5. Design a vaccination protocol for a herd/flock.
6. Explain the risks and protocols for MLV and bacterin vaccines, and where to report adverse reactions.

Euthanasia

1. Review the AVMA and AAEP guidelines for euthanasia.
2. Determine the appropriate euthanasia method based on the situation, species, personnel, disposal, and safety.

Swine

1. Explain the terminology and identification systems used in the swine industry.
2. Describe the production phase and disease risks in each.
3. Describe the reproduction cycle, normal and abnormal parturition, and causes for piglet losses.
4. Describe normal and abnormal PE, behavior, restraint, and treatment methods for various ages, sizes in commercial and potbelly pigs.
5. Explain the etiology, clinical signs, diagnosis, treatment, and control of noninfectious and infectious swine diseases.
6. Explain which swine diseases are zoonotic or reportable.

Respiratory Tract

1. Describe the etiology, risk factors, and agents involved in respiratory disease in livestock.
2. Explain the clinical signs of upper and lower respiratory tract diseases.
3. Explain the diagnostic tests and results for respiratory diseases.
4. Describe the various control and treatment strategies for infectious respiratory disease and associated economic considerations.
5. Explain the development and clinical signs of pulmonary hypertension in cattle and caudal vena cava thrombosis.

Hemolymphatics

1. Explain the etiology, transmission, clinical signs, treatment, and control methods for infectious and non-infectious causes of anemia.
2. Identify the etiology, clinical signs, diagnosis, and management of anthrax in livestock.
3. Compare and contrast sporadic lymphosarcoma from enzootic LSA (BLV) in cattle and LSA in small ruminants and camelids including diagnostics, treatment, and management strategies.
4. Explain the etiology, transmission, clinical signs, treatment, and control methods for caseous lymphadenitis in small ruminants.

Liver

1. Describe the etiology, clinical signs, diagnostics, treatment, and control of infectious and non-infectious liver disease in livestock.
2. Describe the pathophysiology of liver abscesses and parasites, treatment, control, and potential sequela of each.
3. Describe the pathophysiology, clinical signs, diagnosis, treatment, and prevention of ketosis and fatty liver syndrome.

Neurology

1. Explain the clinical signs and common associated diseases based on neurological lesion locations.
2. Explain the etiology, clinical signs, diagnostics, treatment, and prevention strategies for cortical, cerebellar, brainstem, spinal cord, and peripheral neurologic diseases.

Endocrinology

1. Describe the etiology, clinical signs, diagnosis, treatment, and control mechanisms for calcium, magnesium, and potassium endocrinopathies and imbalances.

Mammary

1. Describe the anatomy, physiology, and immunology of the mammary gland and milk production of various livestock species.
2. Compare and contrast signs, diagnosis, agents, and treatment/prevention of the various types of mastitis.
3. Explain the etiology, clinical signs, and management of non-infectious udder and milk abnormalities.

Multisystemic

1. Explain the clinical signs found in acute, persistent and mucosal BVDV.
2. Select the appropriate diagnostic tests and explain the results. Explain how the results can be used for control or management of the disease.
3. Explain pathogenesis, clinical signs, treatment, and control of listeriosis, leptospirosis, salmonellosis, Histophilus, Mycoplasma, CAEV/PPV.

Appendix 2: PLO to CLO mapping

Upon successful completion of this course, students will be able to:

Course Learning Outcomes	Program Learning Outcomes (PLO)
A. Explain the etiology and pathophysiology for livestock animal diseases.	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p>
B. Create appropriate differential diagnoses based on presenting complaints, history, physical exam findings, and clinical signs.	<p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create a differential list.</p>
C. Determine the appropriate diagnostic tests and interpret the results to rule in or rule out differential diagnoses to make a diagnosis.	<p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem</p>

	<p>solving skills to arrive at a diagnosis. Create a differential list.</p>
<p>D. Recognize emergency presentations and determine appropriate management strategies.</p>	<p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 25 Analyze, design and execute appropriate plans for emergency and critical care case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.</p>
<p>E. Formulate appropriate treatment and prevention</p>	<p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of</p>

<p>regimens for individual and herd level issues. Integrate knowledge of legislation regarding appropriate use of therapeutic agents in food producing animals.</p>	<p>therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>PLO 21 Create comprehensive treatment plans. Includes prognosis</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 24 Analyze, design and execute appropriate plans for medical case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.</p>
<p>F. Identify disease processes and clinical presentations that have a public health significance, including zoonoses and/or those diseases that are reportable to a designated authority.</p>	<p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>

	<p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create a differential list.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.</p>
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Appendix 3: Schedule

Week	Date		Time	Lecture	Topic	Assignments
1	16-Aug	Mon	11:30	1	Review - Hx and PE	Antibiotics and Fluids Open
	17-Aug	Tues	10:30	2	Bovine	
	18-Aug	Wed	9:30	3	Therapeutics and Cases	
2	23-Aug	Mon	10:30	4	Small Ruminants	
	23-Aug	Mon	11:30	5	Small Ruminants	
	24-Aug	Tues	10:30	6	Camelids	
	25-Aug	Wed	8:30	7	Camelids	
	25-Aug	Wed	11:30	8	Case	
	26-Aug	Thur	8:30	9	Parasites	
	27-Aug	Fri	10:30	10	Parasites	Abx/Fluids Closes Sun 11:55 pm AST
3					NO LAMS 515 this week	
4	6-Sep	Mon	8:30	11	Euthanasia	Dr. Karasek lecture
	7-Sep	Tues	9:30	12	Weight Loss	Vaccine Protocol Opens
	7-Sep	Tues	11:30	13	Vaccines	
	10-Sep	Fri	11:30	14	Vaccine and Euthanasia Cases	
5	13-Sep	Mon	8:30	15	Swine - Self Study	Swine Modules Opens
	14-Sep	Tues	8:30	16	Swine - Self Study	
	15-Sep	Wed	8:30	17	Swine - Self Study	
	17-Sep	Fri	8:30	18	Swine - Self Study	
6	20-Sep	Mon	8:30	19	Swine - Self Study	Vaccine Closes Sun 11:55 pm AST
	21-Sep	Tues	8:30	20	Swine - Self Study	
	22-Sep	Wed	8:30	21	Swine - Self Study	
	23-Sep	Thur	11:30	22	PBP Case	
7	27-Sep	Mon	9:30	23	Respiratory Tract	
	28-Sep	Tues	9:30	24	Respiratory Tract	
	29-Sep	Wed	11:30	25	Respiratory Tract	
	30-Sep	Thur	9:30	26	Respiratory Tract	
8	4-Oct	Mon			Midterm Week	
	6-Oct	Wed	12:30		Midterm	
9	12-Oct	Tues	9:30	27	Hemolytic Disorders	
	13-Oct	Wed	10:30	28	Hemolytic Disorders	
	14-Oct	Thur	10:30	29	Lymphoid Disorders	
10	18-Oct	Mon	9:30	30	Liver	
	19-Oct	Tues	10:30	31	Liver	
	21-Oct	Thur	10:30	32	Liver	
11	27-Oct	Wed	9:30	33	Neurology	
	28-Oct	Thur	10:30	34	Neurology	
	29-Oct	Fri	11:30	35	Neurology	
12	1-Nov	Mon	9:30	36	Neurology	

	2-Nov	Tues	10:30	37	Neurology	
	4-Nov	Thur	10:30	38	Neurology	
13	8-Nov	Mon	9:30	39	Endocrine Disorders	
	9-Nov	Tues	9:30	40	Endocrine/Mammary Gland	
	10-Nov	Wed	9:30	41	Mammary Gland	
	11-Nov	Thur	9:30	42	Mammary Gland	
14	15-Nov	Mon	9:30	43	Multisystemic Diseases	
	16-Nov	Tues	10:30	44	Multisystemic Diseases	
	17-Nov	Wed	9:30	45	Multisystemic Diseases	Swine Close Sun 11:55 pm AST
15	No LAMS 515 this week					
16	29-Nov	Mon	12:30		Final Exam	



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT OF LARGE ANIMAL MEDICINE AND SURGERY

LARGE ANIMAL SURGERY I (2 Credits)

LAMS 516 TERM 5

FALL 2021

I. Course Faculty and Staff Information

Dr Heidi Janicke, VetMed, PhD, MRCVS, Dipl. ECVS, SFHEA
Associate Professor in Large Animal Surgery
Office: Cassia Building (SGU campus map: # 17)
Tel: 444 - 4175 ext. 3306
Email: hjanicke@sgu.edu
Office Hours: by appointment

II. Course location

Ray & Jan Sis Lecture Theater I

MyCourses: 2021-08-LAMS516-V-0-Large Animal Surgery I in Sakai

All Panopto recordings, additional Resources, Tests & Quizzes, Assignments, etc. will be available through the Lessons tab on the LAMS 516 MyCourses site.

III. Pre-requisite and/or co-requisite courses

Current 5th term SVM student

- ANPH 506/503 Veterinary Anatomy I/II
- ANPH 512/513 Veterinary Physiology I/II
- SAMS 501/502 Radiology I/II
- LAMS 502 Veterinary Clinical Orientation
- LAMS 501 Veterinary Physical Diagnosis II
- SAMS 513 Diagnostic Imaging

IV. Required resources

Unfortunately, there is no one single text that encompasses all of the material covered in this course. The published long notes, lecture handouts and additional reading provided on MyCourses as well as information delivered in lectures and in your previous courses (see above) will provide basic information.

V. Recommended resources

Reference texts that provide additional information, images and discussion include:

- Auer & Stick: Equine Surgery
- Blowey: Cattle Lameness and Hoofcare: An illustrated guide
- Fubini & Ducharme: Farm Animal Surgery
- Knottenbelt: Handbook of Equine Wound Management
- McIlwraith & Turner: Techniques in Large Animal Surgery

Online dictionaries of equine terms that you might find helpful are:

- <https://www.thehorse.com/tools/glossary>
- <https://aaep.org/sites/default/files/Documents/EDCCGlossaryofTerms.pdf>

A large amount of information is available at this site: <http://www.vin.com>. You need to register, but there is no cost to veterinary students.

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at <https://mycampus.sgu.edu/group/saas>

VII. Other requirements

TurningPoint app on device, internet access

VIII. Course rationale

This is part 1 of the 2 part Large Animal Surgery course series. It aims to introduce students to surgical conditions, including trauma, encountered in the livestock animal (bovine, porcine, ovine, caprine and camelids) and equine species in terms of pathogenesis,

diagnosis, treatment, prognosis and management. Emphasis will be placed on the clinical approach to evaluate, diagnose and treat the patient, as well as up-to-date therapeutic opportunities and prognosis where available. Clinical reasoning will be honed using case-based scenarios, which in addition will encourage better in-depth learning of the material. Mastery of material presented in this course will prepare the student for 4th year clinical rotations, the NAVLE board exam, and veterinary practice after graduation.

IX. Course-learning outcomes

Upon successful completion of this course, the student will be able to

1. Recognize challenges specific to large animal surgery.
2. Identify the aetiology and pathogenesis of surgical conditions of the major organ systems in the livestock animal (bovine, porcine, ovine, caprine and camelids) and equine species.
3. Recognize the clinical signs of surgical conditions of the major organ systems in the livestock animal (bovine, porcine, ovine, caprine and camelids) and equine species.
4. Determine appropriate techniques for diagnosis of surgical conditions of the major organ systems in the livestock animal (bovine, porcine, ovine, caprine and camelids) and equine species.
5. Determine treatment and management plans for surgical conditions of the major organ systems in the livestock animal (bovine, porcine, ovine, caprine and camelids) and equine species.
6. Provide a prognosis for individual cases of surgical conditions of the major organ systems in the livestock animal (bovine, porcine, ovine, caprine and camelids) and equine species.

X. Lesson-learning outcomes

Principles of large animal surgery (equine, bovine, porcine, ovine, caprine and camelids)

1. Recognize the challenges specific to large animal surgery
2. Identify appropriate suture materials and patterns for use in large animals
3. Determine appropriate analgesic and anaesthetic techniques for surgery in large animals

Dehorning

1. Determine appropriate analgesia/ anaesthesia for surgery of the horn
2. Determine the appropriate method of dehorning, depending on the signalment of the individual animal

Teat conditions

1. Review the clinical anatomy of the teat and safe handling/ examination of the mammary glands
2. Determine appropriate analgesia/ anaesthesia for surgery of the teat
3. Identify surgical conditions of the teats and describe simple surgical procedures of the teat

Livestock miscellaneous conditions (bovine, porcine, ovine, caprine and camelids)

1. Appreciate reasons for and determine the appropriate method of tail docking, depending on the signalment of the individual animal
2. Identify rectal prolapse in pigs and describe corrective procedures
3. Determine the appropriate method of canine tooth removal in llamas.

Livestock (bovine, porcine, ovine, caprine and camelids) and equine urogenital tract conditions

1. Review the clinical anatomy of the urogenital tract in livestock animals and equines
2. Identify pathological conditions of the urogenital tract in livestock animals and equines
3. Determine the appropriate surgical treatment for pathological conditions of the urogenital tract and recognise their advantages and limitations
4. Appreciate the indications for castration in the different species
5. Appreciate pre-operative considerations in the different species and determine appropriate restraint and analgesia/ anaesthesia
6. Determine the appropriate castration method, depending on the signalment of the individual animal
7. Identify complications of castration
8. Determine the appropriate method of treatment for castration complications.

Livestock abdominal conditions

1. Identify surgical conditions of the bovine gastrointestinal tract
2. Determine appropriate surgical approaches to bovine gastrointestinal conditions
3. Review the clinical anatomy of the umbilicus and associated structures
4. Differentiate between causes of umbilical masses and identify the appropriate surgical treatment of each

Livestock musculoskeletal surgery (bovine)

1. Describe how to carry out a lameness examination and foot trim in cattle
2. Identify surgical conditions of the musculoskeletal system in production animals
3. Determine the appropriate treatment for surgical conditions of the musculoskeletal system and recognise their advantages and limitations

Conditions of the integument (wound management, cutaneous conditions)

1. Identify the appropriate method of treating and repairing different types of wounds and cutaneous conditions
2. Identify complications of wound repair and determine how to manage them
3. Appreciate the different concepts of skin grafting and be able to identify when to use them

Eye conditions

1. Determine appropriate analgesia/ anaesthesia for surgery of the eye
2. Identify surgical conditions of the eye and describe simple surgical procedures of the eye

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SGUSVM program level outcome
CLO A Recognize challenges specific to large animal surgery	A. Core Medical Knowledge PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines. PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.

	<p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>B. Core Professional Attributes</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>C. Core Clinical Competencies (Skills)</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 23 Analyze, design and execute appropriate plans for basic surgery and surgical case management.</p>
<p>CLO B Identify the aetiology and pathogenesis of surgical conditions of the major organ systems in the livestock and equine species.</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p>
<p>CLO C Recognize the clinical signs of surgical conditions of the major organ systems in the livestock and equine species.</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p>
<p>CLO D Determine appropriate techniques for diagnosis of surgical conditions of the major organ systems</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p>

<p>in the livestock and equine species.</p>	<p>B. Core Professional Attributes PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>C. Core Clinical Competencies (Skills) PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>CLO E Determine treatment and management plans for surgical conditions of the major organ systems in the livestock and equine species</p>	<p>A. Core Medical Knowledge PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine. PLO 11 Understand and apply basic principles of research, and recognize the contribution of research to all aspects of veterinary medicine.</p> <p>B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy. PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team. PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>C. Core Clinical Competencies (Skills) PLO 21 Create comprehensive treatment plans. PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare. PLO 23 Analyze, design and execute appropriate plans for basic surgery and surgical case management.</p>

	<p>PLO 25 Analyze, design and execute appropriate plans for emergency and critical care case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, and food safety, biosafety and biosecurity.</p> <p>PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.</p>
<p>CLO F Provide a prognosis for individual cases of surgical conditions of the major organ systems in the livestock and equine species.</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 11 Understand and apply basic principles of research, and recognize the contribution of research to all aspects of veterinary medicine.</p> <p>B. Core Professional Attributes</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.</p> <p>C. Core Clinical Competencies (Skills)</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, and food safety, biosafety and biosecurity.</p> <p>PLO 27 Demonstrate and model effective client communication and ethical conduct.</p> <p>PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.</p>

XII. Course Schedule

See Appendix

XIII. Grading and assessment policy, and grading rubrics

a. Grading scale

>89.5%	A
84.5-89.49	B+
79.5-84.49	B
74.5-79.49	C+
69.5-74.49	C
64.5-69.49	D+
59.5-64.49	D
<59.49	F

b. Assessment policy

There will be a Midterm (30 questions) and cumulative Final (60 questions) given in ExamSoft with ExamMonitor and ExamID. Please ensure you read the instructions in **XIX. ExamSoft policy** to ensure you are set up for the exam ahead of time.

The exam material will come from in class discussions and materials available on MyCourses/Lessons. Questions will be multiple-choice with one single best answer or short answer questions.

A grade reduction of 5% will be applied to the exam if the student does not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

All other exam policies are followed according to the SGU Assessment Guidelines and the Student Handbook.

In addition, there will be formative (no points) quizzes and clinical reasoning cases for self-assessment of understanding of the material and concepts. Feedback will be available immediately upon submission.

XIV. Recommended study strategies

A number of sessions will be case based discussions. You will have access to an abridged version of the lecture notes in advance. It is **strongly advised** to work through the appropriate material **BEFORE** the sessions using the lecture and long notes to be able to participate in the discussions and clarify any questions at the time of the session. This will reduce the amount of time you will need to revise the material at a later date.

It may be useful to bring your reading materials available to add information during the discussions. In addition, please have the TurningPoint app downloaded on your device to be able to actively participate in the sessions.

The *further reading/recommended resources* (see IV/V) literature will be helpful in consolidating the subject matter, as will the resources in the 'Additional resources' link in Lessons.

Regular review of the course material is encouraged. This reduces panic the night prior to an examination, poor performance on the exams, and poor retention of information. The formative quizzes in Lessons will help you self-assess your learning.

If a student feels they are falling behind or their grades are inadequate, they should arrange a meeting with the Course Director or their academic advisor as well as someone from the DES office.

For the grading of examinations the long notes, lecture handouts and the statements made during lecture will be considered correct.

A correction of the notes and information provided in lecture is encouraged. However, information found which contradicts these sources must be brought to the attention of the instructor prior to an examination. The source will be evaluated and if indicated, corrections made (to the entire class). *Do not expect to receive credit for information that contradicts these sources, unless this procedure is followed.*

In addition to information provided in the long notes, handouts and in lecture, students are expected to have command of the information provided in previous courses and from recommended reading resources.

XV. Instructor's expectations of the student

The student is expected to attend the case study sessions prepared

by having read and worked through the required material before class.

You will benefit the most from these sessions by actively participating. The virtual classroom is a safe environment and questions are not only welcome, but encouraged. If you are unsure of something you can guarantee you will not be the only one, so please present your questions.

XVI. Professionalism statement

The classroom is designated a safe environment. Please respect the fact that not all students have the same experience and may ask questions that seem obvious to you. Do not make fun of students either in or after class.

Participation in the discussions will benefit your learning experience, please make use of this opportunity.

XVII. Attendance/Participation Policy

Students are expected to be available during the standard 8:30am - 5:30pm AST school day, to attend, engage with in-person and online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (hjanicke@sgu.edu) and IT

(tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call 866-429-8889) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day.
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to contact the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner if located in Grenada or organize an alternative device.

7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#)
 - b. [The examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. [Examsoft information page](#)
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices:

Course Schedule

Week	Lecture No.	Date	Time	Topics
1	1 LAS	Aug 16 th	1:30	Intro to LAS I & Principles of LAS 1
	3 LAS	18 th	2:30	Principles of LAS 2 & Dehorning
2	7 LAS	26 th	1:30	Teat & Miscellaneous conditions
3	10 LAS	31 st	4:30	Livestock male UGT
	11 LAS**	Sep 1 st	1:30	Livestock male UGT cases
	12 LAS	2 nd	1:30	Castration
	14 LAS	3 rd	1:30	Castration complications
4	15LAIM/ LAS **	6 th	2:30	LAIM/LAS – UGT CASE
	18 LAS	18 th	4:30	Equine male UGT
5	21 LAS	14 th	4:30	Equine female UGT
	23 LAS	16 th	4:30	Equine UGT cases
6	24 LAS	20 th	1:30	Livestock female UGT 1
	27 LAS	24 th	3:30	Livestock female UGT 2
7	30 LAS	29 th	3:30	Livestock female UGT cases
8	EXAM WEEK	Mon Oct 4 th	12pm	MIDTERM
9	35 LAS	14 th	2:30	Livestock gastrointestinal conditions 1

10	40 LAS	21 st	3:30	Livestock gastrointestinal conditions 2
11	41 LAS	26 th	3:30	Umbilical masses
	42 LAS**	27 th	1:30	Livestock gastrointestinal cases
	44 LAIM/ LAS**	28 th	1:30	LAIM/LAS – GIT CASE
12	46 LAS	Nov 2 nd	1:30	Livestock MSK
	49 LAS**	4 th	1:30	Livestock MSK cases
13	51 LAS	9 th	1:30	Integument conditions 1
	53 LAS	10 th	4:30	Integument conditions 2
	54 LAS	11 th	4:30	Integument cases
	55 LAS**	11 th	1:30	Eye conditions
14	57 LAS	16 th	2:30	Eye cases
	58 LAS**	17 th	1:30	Catch up
15				
16	58 LAIM/ LAS**	30 th	1:30	LAIM/LAS EYE CASE
	59 LAIM/ LAS**	30 th	2:30	LAIM/LAS EYE CASE
17	EXAM WEEK	Tues Dec 7 th	12pm	FINAL

Lectures marked with ** are case studies and every attempt should be made to attend these sessions prepared. Material from these session will be included in the examinations.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

LARGE ANIMAL MEDICINE AND SURGERY

THERIOGENOLOGY SYLLABUS (4 credits)

LAMS 519 TERM 5

FALL 2021

I. Course Faculty and Staff Information

Course Director:

Dr. Firdous Khan, BVSc, MVSc, DVSc, Diplomate ACT
Associate Professor, Department of Large Animal Medicine and Surgery
Office Location: Large Animal Resource Facility (LARF)
Email: fkhan8@sgu.edu; Phone: 444-4175 ext. 3343
Office Hours: By appointment through email

Supporting faculty:

Dr. Jaelene Haynes, DVM, MVPH
Instructor, Department of Large Animal Medicine and Surgery
Email: jhaynes2@sgu.edu

Dr. Afroza Khanam, BSc, MSc, PhD
Instructor, Department of Large Animal Medicine and Surgery
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Dr. Kerri Nigito, DVM, CPH, MPH, DABVP (Food Animal Practice)
Assistant Professor, Department of Large Animal Medicine and Surgery
Email: knigito1@sgu.edu

Dr. Nyoni Winchester, DVM, MVS
Instructor, Department of Large Animal Medicine and Surgery
Email: NWinches@sgu.edu

II. Course location

LAMS 519 course website on MyCourses (learning resources and activities organized in Lessons); Ray & Jan Sis Term 5 lecture hall for all lectures; LARF, Simulation Lab, Necropsy Lab and Charter Hall Lab for lab sessions

III. Prerequisite and/or co-requisite courses

- ANPH 501 Veterinary Histology and Embryology
- ANPH 503 Veterinary Anatomy II
- ANPH 513 Veterinary Physiology II
- PTHB 503 Veterinary Bacteriology/Mycology
- LAMS 502 Veterinary Clinical Orientation
- ANPH 505 Veterinary Pharmacology II
- LAMS 501 Veterinary Physical Diagnosis II
- LAMS 503 Introduction to Clinical Medicine
- PTHB 507 Veterinary Pathology II

IV. Required resources

Study material posted on MyCourses (lecture slides in resources, Panopto and Zoom recordings, journal articles, lab resources) or discussed in the lectures and lab sessions, laptop with functional microphone and camera, and internet access

V. Recommended resources

Recommended textbooks:

- Pathways to Pregnancy and Parturition – P.L. Senger (ISBN 0-9657648-1-8)
- Current Therapy in Large Animal Theriogenology (2nd Ed) – R.S. Youngquist & W.R. Threlfall (ISBN 0-7216-9323-7)
- Veterinary Reproduction and Obstetrics (9th Ed) – D.E. Noakes, T.J. Parkinson & G.C.W. England (ISBN 978-0-7020-2887-8)
- Canine and Feline Theriogenology – S.D. Johnston, M.V. Root Kustritz & P.N.S. Olsen (ISBN 0-7216-5607-2)
- BSAVA Manual of Canine and Feline Reproduction and Neonatology – G.C.W. England & A. von Heimendahl (ISBN 1-905319-19-0)
- Current therapy in equine reproduction – J.C. Samper, J.E. Pycock & A.O. McKinnon (ISBN 0-7216-0252-5)

- Manual of Equine Reproduction (3rd Ed) Steven Brinsko et al. (ISBN-13: 978-0-323-06482-8)
- Equine Reproductive Procedures (1st Ed) J. Dascanio & P. McCue (ISBN 978-0-470-96039-4)
- Equine Reproduction (2nd Ed) – A.O. McKinnon et al. (ISBN 978-0-8138-1971-6)

VI. Accommodations

- Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Scrubs, gumboots, closed toe shoes, white lab coat

VIII. Course rationale

This course aims to equip students with an integrated and holistic view of all aspects of reproduction as it relates to cows, horses, small ruminants, pigs, dogs and cats.

IX. Course-level outcomes

Upon successful completion of this course, the student will be able to:

- Discuss and illustrate the normal reproductive cycles of domestic animal species
- Apply the knowledge of reproductive physiology and endocrinology to control or manage domestic animal reproduction
- Identify reproductive abnormalities and formulate therapeutic or preventative management strategies
- Discuss various reproductive techniques employed in management of reproduction or control of infertility

X. Lesson-level outcomes

Lectures	
Title	Learning outcomes
Bovine	
Reproductive anatomy and physiology review	1. Describe the different organs of the bovine reproductive system and state their function(s) and clinical relevance
	2. Explain the physiology underlying normal bovine estrous cycle

	3. Define puberty and list the factors affecting the onset of puberty
Estrus synchronization and artificial insemination	4. Explain the mechanism of action of common estrus synchronization protocols used in cattle
	5. Compare and contrast different estrus synchronization protocols and evaluate their suitability for use in different situations by applying knowledge of reproductive physiology
	6. Describe the procedure of artificial insemination and state the correct site of semen deposition and the optimal time of insemination
Pregnancy and parturition	7. Discuss the major events and regulation of bovine pregnancy
	8. Analyze information about history, clinical findings from transrectal palpation and/or ultrasonography, and laboratory findings to diagnose pregnancy and differentiate it from other conditions (e.g. pyometra, mucometra, mummification, maceration etc.)
	9. Identify the stages of parturition and determine if and when assistance is required for delivery of the fetus
	10. Choose a method for induction of parturition/termination of pregnancy appropriate to the stage of gestation
Gestational abnormalities	11. Explain the pathogenesis of important gestational abnormalities (mummification, maceration, hydrops, vaginal prolapse)
	12. Differentiate between the important gestational abnormalities based on information about history and clinical findings
	13. List the treatment(s) and state the prognosis for each of the abnormalities
Obstetrics and dystocia	14. Classify the common causes of dystocia in the cow
	15. Analyze information about the birth canal and fetal viability and disposition to select the most appropriate obstetrical method
	16. Identify common obstetrical instruments and state their use
The puerperium	17. Describe the events that occur during the puerperal period and determine how they can affect reproductive efficiency
	18. Distinguish between different postpartum abnormalities and select the most appropriate method of treatment
Failure of pregnancy	19. List the infectious and non-infectious causes of failure of pregnancy in the cow
	20. Explain how to investigate and treat infertility or pregnancy failures in a herd
Assisted reproductive techniques	21. List the common assisted reproductive techniques used in the cow
	22. Illustrate how the common assisted reproductive techniques are employed for improving reproductive efficiency or herd productivity
Male reproduction	23. State how to perform a breeding soundness evaluation in a bull
	24. Identify the common male reproductive abnormalities and state the most appropriate treatment, preventive measures, and prognosis for future fertility

Equine	
Comparative anatomy and physiology	25. List the anatomical and physiological differences from cattle and explain how they affect reproductive management in this species
Breeding management	26. Discuss breeding soundness evaluation in a mare
	27. List and explain the methods used for hastening the onset of breeding season in mares
	28. Describe the different breeding systems used in mares
Pregnancy and parturition	29. Discuss the major events and regulation of equine pregnancy
	30. State how to diagnose pregnancy in a mare with special emphasis on twin pregnancy diagnosis and management
	31. Identify the stages of parturition and determine if and when assistance is required for delivery of the fetus
	32. Describe the examination of fetal membranes postpartum and discuss the implications of abnormal findings
Obstetrics and dystocia	33. Classify the common causes of dystocia in the mare
	34. Analyze information about the birth canal and fetal viability and disposition to select the most appropriate obstetrical method
	35. Discuss the important conditions/reproductive problems associated with parturition in the mare
Failure of pregnancy	36. List the infectious and non-infectious causes of pregnancy failure in the mare
	37. Analyze history and clinical findings to provide a diagnosis of common gestational problems and choose the most appropriate treatment
	38. Describe how to diagnose and treat infertility in the mare
Assisted reproductive techniques	39. List the common assisted reproductive techniques used in equine reproduction
	40. Illustrate how the common assisted reproductive techniques are employed for improving reproductive efficiency or control of infertility
Male reproduction	41. State how to perform a breeding soundness evaluation in a stallion
	42. Identify the common male reproductive abnormalities and state the most appropriate treatment, preventive measures, and prognosis for future fertility
Canine	
Comparative anatomy and physiology	43. List the anatomical and physiological differences from cattle and explain how they affect reproductive management in this species
	44. Describe how to monitor a bitch for ovulation and state the optimal time of breeding
	45. Identify normal and abnormal estrous cycles based on the provided history and clinical findings
Pregnancy and parturition	46. Discuss the major events and regulation of canine pregnancy
	47. State how to diagnose pregnancy and estimate the litter size in a bitch

	<p>48. Identify the stages of parturition and determine if and when assistance is required for delivery of the fetus</p> <p>49. Explain how to determine the expected date of whelping and the appropriate time for an elective cesarean section</p>
Obstetrics and dystocia	<p>50. List the common causes of dystocia in the bitch</p> <p>51. Select the most appropriate obstetrical method based on the provided history and clinical findings</p> <p>52. Identify the common postpartum problems in a bitch and state the most appropriate treatment</p>
Female infertility	<p>53. List the common causes of infertility in the bitch</p> <p>54. Analyze the provided history and clinical findings to identify the cause of infertility</p> <p>55. State the methods for treating infertility including the use of assisted reproductive techniques</p>
Contraception/Control of reproduction	<p>56. List and explain the methods (surgical and non-surgical) to prevent, postpone or suppress reproduction in the bitch</p> <p>57. State the methods used to prevent or terminate unwanted pregnancy in the bitch</p>
Male reproduction	<p>58. State how to perform a breeding soundness evaluation in the dog</p> <p>59. Identify the common male reproductive abnormalities and state the most appropriate treatment, preventive measures, and prognosis for future fertility</p>
Small ruminant reproduction	<p>60. List the comparative anatomical and physiological features of small ruminants (using bovine for comparison) and explain how the differences impact their reproductive management</p> <p>61. Discuss the methods used in reproductive management of small ruminants</p> <p>62. State how to diagnose and manage the common reproductive abnormalities in small ruminants</p>
Porcine reproduction	<p>63. List the comparative anatomical and physiological features of pigs and explain how the differences impact their reproductive management</p> <p>64. Discuss the methods used in reproductive management of pigs</p> <p>65. State how to diagnose and manage the common reproductive abnormalities in pigs</p>
Feline reproduction	<p>66. List the comparative anatomical and physiological features of cats (using canine for comparison) and explain how the differences impact their reproductive management</p> <p>67. Discuss breeding management and control of reproduction in cats</p> <p>68. State how to diagnose and manage the common reproductive abnormalities in the cat</p>
Labs	
Reproductive anatomy	<p>69. Identify different parts of the reproductive tract</p> <p>70. State the clinical relevance of different organs of the reproductive tract</p>

Bovine transrectal palpation and ultrasonography	71. List the preparatory steps and precautions that need to be taken before and during transrectal examination in the cow
	72. Describe how to safely perform transrectal palpation for pregnancy diagnosis in a cow
	73. List the definitive and suggestive signs of bovine pregnancy
Bull breeding soundness evaluation	74. List the essential components of a bull breeding soundness evaluation (BSE)
	75. Describe how to safely perform BSE in a bull
	76. Interpret the findings of the BSE to classify the bull as a satisfactory, questionable or unsatisfactory breeder.
Obstetrics	77. Identify the common obstetric equipment and state their use
	78. Assess the presentation, position and posture of the fetus
	79. Describe how to determine fetal viability using different reflexes
	80. Describe how to perform epidural anesthesia in a cow
Mare breeding soundness evaluation	81. List the components of a mare breeding soundness evaluation (BSE)
	82. State how to safely perform BSE in a mare
	83. Interpret the findings of a mare BSE
Canine reproduction	84. Describe how to collect and evaluate semen in a dog
	85. Describe how to perform vaginal cytology in a bitch
	86. Evaluate vaginal cytology pictures to determine the stage of estrous cycle in a bitch

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SVM program level outcome
CLO1: Discuss and illustrate the normal reproductive cycles of domestic animal species	<p>A. Core Medical Knowledge Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. Evaluate and analyze normal versus abnormal animal behavior.</p> <p>B. Core Professional Attributes Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p>
CLO2: Apply the knowledge of reproductive physiology and endocrinology to control or manage domestic animal reproduction	<p>A. Core Medical Knowledge Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application,</p>

	<p>including relevant legislation and guidelines on the use of medicines. Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>B. Core Professional Attributes Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy. Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>C. Core Clinical Competencies (Skills) Analyze, design and execute appropriate plans for medical case management. Design and execute plans for health promotion, disease prevention, and food safety. Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.</p>
<p>CLO3: Identify reproductive abnormalities and formulate therapeutic or preventative management strategies</p>	<p>A. Core Medical Knowledge Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases. Explain the relationship between disease processes and clinical signs. Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines. Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p>

	<p>B. Core Professional Attributes Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy. Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>C. Core Clinical Competencies (Skills) Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create comprehensive treatment plans.</p>
<p>CLO4: Discuss various reproductive techniques employed in management of reproduction or control of infertility</p>	<p>A. Core Medical Knowledge Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>B. Core Professional Attributes Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy. Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>C. Core Clinical Competencies (Skills) Analyze, design and execute appropriate plans for medical case management. Design and execute plans for health promotion, disease prevention, and food safety.</p>

XII. Course Schedule

Lecturers:

Dr. Firdous Khan (Bovine, Porcine, Equine, Canine, Feline and Exotic sections)

Dr. Nyoni Winchester (Small Ruminant section)

LAMS 519 Lecture Schedule Fall 2021

Lecture No.	Date	Day	Time	Section	Lecture title(s)
1	16 th August	Monday	4:30-5:20 pm	Bovine	Reproductive anatomy and physiology review
2	19 th August	Thursday	3:30-4:20 pm		Follicular dynamics and endocrinology review
3	20 th August	Friday	1:30-2:20 pm		Estrus synchronization and artificial insemination
4	23 rd August	Monday	1:30-2:20 pm		Pregnancy
5	24 th August	Tuesday	1:30-2:20 pm		Diagnosis of pregnancy
6	25 th August	Wednesday	3:30-4:20 pm		Accidents of gestation
7	27 th August	Friday	2:30-3:20 pm		Parturition
8	31 st August	Tuesday	3:30-4:20 pm		Dystocia
9	1 st September	Wednesday	3:30-4:20 pm		Postpartum problems
10	2 nd September	Thursday	3:30-4:20 pm		Abortion I
11	3 rd September	Friday	2:30-3:20 pm		Abortion II
12	7 th September	Tuesday	1:30-2:20 pm		Infertility
13	9 th September	Thursday	3:30-4:20 pm		Assisted reproductive techniques
14	10 th September	Friday	2:30-3:20 pm		Clinical reproductive physiology and breeding soundness evaluation of the bull
15	13 th September	Monday	1:30-2:20 pm		Bull infertility
16	14 th September	Tuesday	1:30-2:20 pm		Clinical cases
17	15 th September	Wednesday	3:30-4:20 pm		Small ruminant reproduction I

18	16 th September	Thursday	3:30-4:20 pm	Small ruminants	Small ruminant reproduction II
19	17 th September	Friday	3:30-4:20 pm		Small ruminant reproduction III
20	21 st September	Tuesday	1:30-2:20 pm	Porcine	Porcine reproduction I
21	22 nd September	Wednesday	3:30-4:20 pm		Porcine reproduction II
22	23 rd September	Thursday	3:30-4:20 pm	Equine	Clinical reproductive anatomy and physiology of the mare
23	24 th September	Friday	4:30-5:20 pm		Manipulation of the estrous cycle
24	27 th September	Monday	1:30-2:20 pm		Breeding soundness evaluation
25	28 th September	Tuesday	1:30-2:20 pm		Breeding management
26	29 th September	Wednesday	4:30-5:20 pm		Pregnancy
27	30 th September	Thursday	1:30-2:20 pm		Clinical cases
	1st October	Friday	12:00-1:00 pm		Midterm exam
28	12 th October	Tuesday	3:30-4:20 pm		Diagnosis of pregnancy
29	13 th October	Wednesday	3:30-4:20 pm		Infectious pregnancy losses
30	14 th October	Thursday	3:30-4:20 pm		Non-infectious pregnancy losses
31	15 th October	Friday	2:30-3:20 pm		Parturition and dystocia
32	18 th October	Monday	3:30-4:20 pm		Postpartum problems
33	19 th October	Tuesday	3:30-4:20 pm		Infertility
34	20 th October	Wednesday	1:30-2:20 pm		Assisted reproductive techniques
35	22 nd October	Friday	1:30-2:20 pm		Clinical reproductive physiology and breeding soundness evaluation of the stallion
36	26 th October	Tuesday	2:30-3:20 pm		Stallion infertility
37	27 th October	Wednesday	4:30-5:20 pm		Clinical cases
38	28 th October	Thursday	3:30-4:20 pm	Canine	Clinical reproductive anatomy and physiology of the bitch

39	2 nd November	Tuesday	3:30-4:20 pm		Breeding management I
40	3 rd November	Wednesday	2:30-3:20 pm		Breeding management II
41	3 rd November	Wednesday	3:30-4:20 pm		Pregnancy and parturition
42	4 th November	Thursday	2:30-3:20 pm		Obstetrics I
43	5 th November	Friday	2:30-3:20 pm		Obstetrics II
44	8 th November	Monday	2:30-3:20 pm		Gestational and postpartum problems
45	9 th November	Tuesday	2:30-3:20 pm		Control of reproduction
46	10 th November	Wednesday	1:30-2:20 pm		Female infertility I
47	10 th November	Wednesday	2:30-3:20 pm		Female infertility II
48	12 th November	Friday	3:30-4:20 pm		Male breeding soundness examination and infertility
49	15 th November	Monday	3:30-4:20 pm		Clinical cases
50	16 th November	Tuesday	1:30-2:20 pm	Feline	Feline reproduction I
51	17 th November	Wednesday	2:30-3:20 pm		Feline reproduction II
52	18 th November	Thursday	1:30-2:20 pm	Exotics	Exotic animal reproduction (Optional)
53	19 th November	Friday	3:30-4:20 pm		Review and Formative Assessment
	1st December	Wednesday	12:00-1:30 pm		Final exam

LAMS 519 (Theriogenology) Laboratory Schedule Fall 2021

Week	Day	Date	Time	Lab	Groups	Location
1	Tue	17-Aug	8:30-10:20 am	Reproductive Anatomy	Group A	Necropsy lab
	Wed	18-Aug	8:30-10:20 am	Reproductive Anatomy	Group B	Necropsy lab
	Thur	19-Aug	8:30-10:20 am	Reproductive Anatomy	Group C	Necropsy lab
2	Tue	24-Aug	8:30-9:20 am	Bovine transrectal palpation I	Groups C1-C3	LARF
			9:30-10:20 am	Bovine transrectal palpation I	Groups C4-C6	LARF
	Wed	25-Aug	8:30-10:20 am	Bull BSE	Groups A1-A4	LARF

	Fri	27-Aug	8:30-10:20 am	Bull BSE	Groups B1-B4	LARF
3	Tue	31-Aug	8:30-9:20 am	Bovine transrectal palpation I	Groups B1-B3	LARF
			9:30-10:20 am	Bovine transrectal palpation I	Groups B4-B6	LARF
	Wed	1-Sep	8:30-10:20 am	Bull BSE	Groups C1-C4	LARF
	Fri	3-Sep	8:30-10:20 am	Bull BSE	Groups A9+B9+C9	LARF
4	Tue	7-Sep	8:30-9:20 am	Bovine transrectal palpation I	Groups A1-A3	LARF
			9:30-10:20 am	Bovine transrectal palpation I	Groups A4-A6	LARF
	Wed	8-Sep	8:30-10:20 am	Obstetrics & calving equipment	Groups A6-A9	Simulation lab
	Fri	10-Sep	8:30-10:20 am	Obstetrics & calving equipment	Groups C6-C9	Simulation lab
5	Tue	14-Sep	8:30-9:20 am	Bovine transrectal palpation I	Groups A7-A9	LARF
			9:30-10:20 am	Bovine transrectal palpation I	Groups C7-C9	LARF
	Wed	15-Sep	8:30-10:20 am	Bull BSE	Groups B5-B8	LARF
	Fri	17-Sep	8:30-10:20 am	Bull BSE	Groups A5-A8	LARF
6	Tue	21-Sep	8:30-9:20 am	Bovine transrectal palpation I	Groups B7-B9	LARF
	Wed	22-Sep	8:30-10:20 am	Obstetrics & calving equipment	Groups A1-A5	Simulation lab
	Fri	24-Sep	8:30-10:20 am	Obstetrics & calving equipment	Groups B1-B5	Simulation lab
7	Tue	28-Sep	8:30-9:20 am	Bovine transrectal palpation II	Groups B1-B3	LARF
			9:30-10:20 am	Bovine transrectal palpation II	Groups B4-B6	LARF
	Wed	29-Sep	8:30-10:20 am	Bull BSE	Groups C5-C8	LARF
9	Tue	12-Oct	8:30-9:20 am	Bovine transrectal palpation II	Groups C1-C3	LARF
			9:30-10:20 am	Bovine transrectal palpation II	Groups C4-C6	LARF
	Wed	13-Oct	8:30-10:20 am	Bull BSE	Groups A5-A8	LARF
	Fri	15-Oct	8:30-10:20 am	Mare BSE	Groups B1-B4	LARF
10	Tue	19-Oct	8:30-9:20 am	Bovine transrectal palpation II	Groups A1-A3	LARF
			9:30-10:20 am	Bovine transrectal palpation II	Groups A4-A6	LARF
	Wed	20-Oct	8:30-10:20 am	Mare BSE	Groups A1-A4	LARF
	Thur	21-Oct	8:30-10:20 am	Obstetrics & calving equipment	Groups C1-C5	Simulation lab
11	Tue	26-Oct	8:30-9:20 am	Bovine transrectal palpation II	Groups A7-A9	LARF
			9:30-10:20 am	Bovine transrectal palpation II	Groups C7-C9	LARF
	Wed	27-Oct	8:30-10:20 am	Obstetrics & calving equipment	Groups B6-B9	Simulation lab
12	Tue	2-Nov	8:30-9:20 am	Bovine transrectal palpation II	Groups B7-B9	LARF

	Wed	3-Nov	8:30-10:20 am	Mare BSE	Groups C1-C4	LARF
13	Tue	9-Nov	8:30-10:20 am	Mare BSE	Groups C5-C8	LARF
	Thur	11-Nov	8:30-10:20 am	Mare BSE	Groups A5-A8+B9	LARF
14	Tue	16-Nov	8:30-10:20 am	Mare BSE	Groups B5-B8	LARF
	Wed	17-Nov	8:30-10:20 am	Small Animal Reproduction	Group A	Charter Hall Lab
	Thur	18-Nov	8:30-10:20 am	Mare BSE	Groups A9+C9	LARF
15	Tue	23-Nov	8:30-10:20 am	Small Animal Reproduction	Group B	Charter Hall Lab
	Thur	25-Nov	8:30-10:20 am	Small Animal Reproduction	Group C	Charter Hall Lab

XIII. Grading and assessment policy, and grading rubrics

Grading scale

>89.5%	A
84.5-89.49	B+
79.5-84.49	B
74.5-79.49	C+
69.5-74.49	C
64.5-69.49	D+
59.5-64.49	D
<59.49	F

The following summative assessments will be conducted during the course:

Assessment	Percent of the total grade
5 lab quizzes	10%
Midterm	30%
Final cumulative exam	60%

The exam questions will be based on the learning material posted on MyCourses.

For the midterm and final exams, questions will be in the multiple-choice format with one correct answer. Breakdown of questions will be provided prior to the exam.

Lab quizzes will be posted on MyCourses (Tests & Quizzes) with links within the Lessons tool. These quizzes will be based on the resources posted for each lab.

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

- Timely completion of learning activities
- Pre-reading lecture material and class attendance will go a long way to help understanding the material. Understanding the material, rather than parrot-fashion learning, is encouraged, as is making comparisons of similar conditions between different species. Active participation in discussions and formative questions during the lectures is highly recommended.
- Active participation in Zoom office hour sessions
- Using LLOs and formative quizzes within each lecture to guide your learning

XV. Instructor's expectations of the student

Students are expected to come prepared for lectures and lab sessions by having read the lecture slides and lab resources or any additional information posted on SAKAI. Learning activities are expected to be completed in a timely manner. Active participation in Zoom office hours is highly recommended.

XVI. Professionalism statement

Students are expected to abide by the University Code of Conduct outlined in the student manual.

“Students attending St. George’s University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community.

Learning experiences at St. George’s University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior.”

XVII. Attendance/Participation Policy

Students are expected to be available during the standard 8am-5pm AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students’ lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (fkhan8@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. [Examsoft information page](#)
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Large Animal Medicine and Surgery
Professional Veterinary Development 6 (2 credits)
LAMS 533 TERM 6
Fall 2021

I. Course Directors

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- II. Course location:** Charter Hall, Allen Pensick Hall, KB Taylor, Panopto, Zoom, Sakai Lessons/Assignments/Tests and Quizzes.
- III. Prerequisite and/or co-requisite courses:** Current sixth term SVM student.
- IV. Required resources:** This course does not have a required or recommended textbook. All recommended resources will be provided electronically on Sakai or in class.
- V. Recommended resources:** None
- VI. Special accommodation**
- Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
 - Information can be found at mycampus.sgu.edu/group/saas
- VII. Other requirements:** None
- VIII. Course rationale:** This 6th term course is designed to re-emphasize the essential American Veterinary Medical Association (AVMA) "non-technical" competencies and professional attributes presented during Term 1 as well as to introduce additional concepts and tools that will allow the students to enter their clinical year and their career prepared for many of the significant challenges that veterinarians face on a daily basis. The skills introduced in this course are essential in order to develop into a competent and successful veterinarian.
- IX. Course-level objectives:** Upon successful completion of this course, students will be able to:
- Demonstrate effective clinical communication skills.
 - Evaluate colleagues and offer effective feedback.
 - Summarize their personal and professional financial responsibilities and options for loan repayment.
 - Explain the legal and ethical issues facing veterinarians and be equipped to deal with such issues.
 - Design a simulated veterinary business plan with attention to practice and personnel management.
 - Review the non-technical competencies related to communication, teamwork, self-awareness and servant leadership in the context of entering their clinical year and career.
 - Discuss the importance of wellness and mental health for veterinarians.
- X. Lesson Level Outcomes:**

At the conclusion of the sections listed below, the student will be able to:

Client Communication:

- Demonstrate knowledge of communication skills described in the Calgary Cambridge Guide and how to apply these skills in a variety of settings
- Complete an effective client interview focusing on:
 - Forming a rapport with the client and generating a contract for their animal's care
 - Gaining the information necessary to form an accurate diagnostic plan
 - Recognize and react to verbal and non-verbal cues from the client
 - Providing general information in an accurate and supportive way to the client
- Participate in small group interactions including giving and receiving constructive and specific feedback from their coaches, peers and simulated clients.
- Develop self assessment techniques and be able to reflect on the interviews and what can be done to improve their communication skills

Veterinary Business Practices:

- Interviewing and salary negotiation
- Licensing
- Develop career SMART goals (Specific, Measurable, Attainable, Realistic, Time-Based)
- Learn how to establish fees and understand the basic finances behind running a practice
- Understand the veterinarian's role in management
- Understand how to prepare for job interviews and other professional interactions

Other Lectures:

- Review the concept of effective feedback and review guidelines for giving and receiving it
- Discuss the different mindsets and how they are related to feedback
-
- Prepare for their 4th clinical year
- Discuss all aspects of the NAVLE as well study strategies that can be used to be successful
- Review aspects of personal financial literacy including clinical year finances, loan repayment and budgeting
- Define resiliency and recall and apply the necessary steps to develop and improve resiliency in their personal and professional lives.
- Identify and recognize societal cues that may affect their mental health in their personal and professional lives.
- Strengthen their social awareness and create healthy boundaries which, together with resiliency, will foster a safe, healthy, and growth mindset .

- Identify and use resources which will help them thrive mentally, emotionally, and spiritually after graduation.
- Understand ethical and legal issues facing veterinarians

XI. Alignment of Course Learning Objectives with Program Learning Objectives/Competencies: See Appendix XXI

XII. Course Schedule

Changes in this schedule may occur at the course director's discretion, students will be notified at the earliest convenience. See schedule in Sakai under "Lessons" and as a table at the end of this document.

XIII. Assignments, grading and assessment policy

The course will consist of a mix of lectures, Zoom sessions and one communication lab.

This course is graded pass/fail based on **attendance and assignments described below.**

Attendance: Attendance is mandatory for all Term 6 students and participation is expected. If you have a conflict, please let us know (email both course directors), and we will deal with this on a case-by-case basis. Life happens, but professional communication that is timely is expected. If you miss a lecture, you are expected to watch the lecture recording promptly (we will monitor this). *If you cannot make your communication lab due to a medical issue at the last minute, please urgently email: Ms. Keshia John (kjohn5@sgu.edu) AND Dr. Wise (lwise1@sgu.edu) AND Dr. Guttin (tguttin@sgu.edu), along with submitting a medical excuse through the DOS.*

Failure to attend your communication lab without an excuse will result in course failure. Failure to submit a required assignment will result in course failure. Students are also expected to be on time! Arriving after attendance has been taken or leaving before the end of class will count as an unexcused absence. Any student unable to adhere to the attendance policies of this course is mandated to complete the online "Medical Excuse Submission" form PRIOR to missing the required activity. Failure to complete the "Medical Excuse Submission" form will result in an unexcused absence.

Virtual Learning Students: Your presence at lectures as they are streaming on Zoom is mandatory. Let us know ahead of time if you have a conflict (email both course directors), and we will deal with this on a case-by-case basis, as well as monitor that you watched the Panopto video recording for the missed session.

Assignments/Lab: Students must submit the following assignments on time in order to pass the course and attend one communication session.

Feedback/Mindset Assignment: After watching the feedback lecture and the TED Talk, please submit the reflective journal assignment - details found in Sakai assignments. **DUE DATE SEPTEMBER 12th.**

Business Assignments: To complete the business module, you must complete the following assignments. More details will be provided by Dr. Douglas. **DUE DATE AUGUST 29th.**

- a. CV Review and Cover letter - Review your CV and make final changes to prepare for applying for your first job or internship. Create a cover letter that emphasizes how you will be a valuable team member and what you can offer to the practice.
- b. Salary Calculator - Use the salary calculator on the AVMA website to determine what your approximate salary should be based on geography and interests. <https://bit.ly/2ZGsHs3>
- c. SMART Goals - Create a SMART goal for applying for your first position. It must be Specific, Measurable, Attainable, Relevant and Time-Bound.
- d. Contract Negotiation - Evaluate the contract provided. Propose changes to the contract and describe how you would negotiate with the practice owner to obtain those changes.
- e. Write 5 interview questions and record your responses as if you were being interviewed for a position. Submit video recorded responses. Limit to 5 minutes.

Wellness Assignments: Note that these are due BEFORE the Wellness lecture on 11/16.

- f. Complete both the QPR/Kognito Training Certificates **DUE DATE 11/7**
- g. Complete the Mental Wellbeing in Vet Med assignment – details to be provided by Dr. Rodriguez. **DUE DATE 11/14**

ICVA Practice Test: completing this practice test is required for you to pass the course. This will be available for you for 60 days, starting on Sept 20th. DUE DATE is November 21st by 11:59pm. Additional details will be provided during the NAVLE lecture/session.

Communication Lab: This term, you will virtually attend **ONE** 4-hour communication session on Fridays from 1:30pm-5:30pm AST. The date you sign up for is your choice, but you must complete one lab from Weeks 4 – 13.

- You will be guided through these communication simulations by a faculty member on zoom.
- Each student will conduct 2 interviews at each session (time permitting) – the other member(s) of the group will observe and offer feedback after the interview using the Calgary Cambridge Guide (as you did during Term 5).
- More details on this will be provided by Dr. Wise and Dr. Guttin.
- Attendance of ONE lab is **mandatory** to pass the course.

Communication Assignment: After your communication lab, you will review your video and complete the SELF Assessment QUIZ on sakai. **DUE BY SUNDAY, NOVEMBER 21st. It is recommended that you complete this assignment by 1 week from your lab date.**

- XIII. Recommended study strategies:** Remain engaged throughout the course to benefit from the various active learning activities.
- XIV. Instructor's expectations of the student:** The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and assignment policies
- XV. Professionalism statement:**
Please exhibit professional behavior at all times. Respond to emails from faculty within 24 hours.
- XVI. Attendance policy:** (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Attendance is required for ONE communication lab session. If you cannot attend the session you signed up for, notify Dr. Guttin and Dr. Wise immediately. Please see section XIII for details about mandatory attendance at lectures.

- XVII. Policy regarding missing exams and/or failure to submit assignments:** Failure to submit the assignments will result in course failure.
- XVIII. ExamSoft Policy** – not applicable in this course.
- XIX. Copyright policy:** The materials (slides, handouts, pictures and videos) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

XX. APPENDIX: PLO, CLO, LLO Mapping:

Mapping CLOs to PLOs and Competencies

1. Demonstrate effective clinical communication skills
2. Evaluate colleagues and offer effective feedback
3. Summarize their personal and professional financial responsibilities and options for loan repayment
4. Explain the legal and ethical issues facing veterinarians and be equipped to deal with such issues
5. Design a simulated veterinary business plan with attention to practice and personnel management
6. Review the non-technical competencies related to communication, teamwork, self awareness and servant leadership in the context of entering their clinical year and career
7. Discuss the importance of wellness and mental health for veterinarians

	Lecture/lab Learning Outcomes:	CLOs
1. Client Communication Simulations	1- Demonstrate knowledge of communication skills described in the Calgary Cambridge Guide and how to apply these skills in a variety of settings	1,6
	2- Complete an effective client interview	1,6
	3- Form a rapport with the client and generate a contract for their animal's care	1
	4- Obtain the information necessary to form an accurate diagnostic plan	1
	5- Recognize and react to verbal and non-verbal cues from the client	1
	6- Provide general information in an accurate and supportive way to the client	1,6
	7- Giving and receive constructive and specific feedback from their coaches, peers and simulated clients.	1,2,6
	8- Develop self assessment techniques and be able to reflect on the interviews and what can be done to improve their communication skills	1,2
2. Veterinary Business Practices	1- Create a resume and cover letter	5
	2- Negotiate a salary	5
	3- Develop SMART goals (Specific, Measurable, Attainable, Realistic, Time-Based)	5
	4- Create a business plan	5
	5- Create a mission, vision, and value statement	5
	6- Practice establish fees and understand the basic finances behind running a practice	5

	7- Understand the veterinarian's role in management	5, 6
	8- Develop hospital regulatory plans for OSHA, DEA, Hazardous Waste, and Radiology	5
	9- Develop a marketing plan	5
	10- Develop a hiring strategy	5
3. Job Interview Preparation	1- Discuss the basics concepts of professional etiquette in reference to externships and job interviews	6
	2- Understand how to prepare for a job interview	6
	3- Review commonly asked interview questions and how to answer them	6
	4- Discuss the appropriate follow up procedure after the interview	6
4. Giving and receiving effective feedback	1- Discuss the importance of feedback within a healthy veterinary team	2,6
	2- Review guidelines for receiving feedback in an effective manner	2,6
	3-Review guidelines for giving both ongoing and formal feedback	2,6
5. AVMA PLIT – Veterinary Liability & Malpractice	1-Review the terminology and types of claims that are brought against veterinarians	4
	2-Explore cases of malpractice and negligence	4
	3- Discuss the importance of proper record keeping, documentation and informed consent	4
	4- Understand how veterinary students and veterinarians can protect themselves from litigation	4
6. Financial Literacy	1- Review all aspects of personal financial literacy including preparing a budget	3
	2- Review clinical year financial aid information	3
	3- Discuss available loan repayment options	3
	4- Develop a loan repayment strategy	3
7. Mental Well Being in Veterinary Medicine	1- Discuss the state of mental well-being in the average veterinarian 2- Review the literature related to depression, anxiety and suicidal ideation in veterinarians 3- Discuss the concepts of perfectionism and compassion fatigue 4- Review strategies to improve personal and professional wellness	7
8. The Clinical Year Survival Guide	1- Review details of clinical rotations including scheduling, patient care and evaluations 2- Review the process of a NAVLE application, state licensure and applying for internships 3-Understand the daily responsibilities of a 4 th year veterinary student 4-Review the importance of teamwork and communication during clinical year	6,7

Course Level Learning Outcomes SGU SVM Program Outcomes RCVS Outcomes

Demonstrate effective clinical communication skills	B1, 2, 8 C8	5, 14, 15, 48
Evaluate colleagues and offer effective feedback	B1	15
Summarize their personal and professional financial responsibilities and options for loan repayment	B7	8
Explain the legal and ethical issues facing veterinarians and be equipped to deal with such issues	B2	2, 49
Design a simulated veterinary business plan with attention to practice and personnel management	B7	3, 15, 48
Review the non-technical competencies related to communication, teamwork, self awareness and servant leadership in the context of entering their clinical year and career	B2, 3, 5, 6	12, 13
Discuss the importance of wellness and mental health for veterinarians	B5, 6	8, 12, 13

SCHEDULE:

LAMS 533 Fall 2021 Schedule

Duration/Date/Time	Modality/Location	Lecture Topic	Faculty	Due Date*
Week 1 (August 16-22)				
Tuesday Aug 17 1:30-3:20pm (2 hr)	Charter Hall & Zoom	Watch Orientation Panopto Video (on your own) Getting Paid to Do What You Love	Dr. H Douglas	
Friday Aug 20 3:30-5:20pm (2 hr)	Charter Hall & Zoom	The Business of Veterinary Medicine	HD	
Week 2 (August 23 -29)				
Tuesday Aug 24 1:30-3:20pm (2 hr)	Charter Hall & Zoom	Veterinary Medicine is More than Puppies and Kittens	HD	Aug 29
Wed Aug 25 1:30-3:20pm (2 hr)	Charter Hall & Zoom	Comm Intro Feedback and Mindset	NW & TG	Sept 12
Thursday Aug 26 1:30-3:20pm (2 hr)	Allen Pensick Hall & Zoom	Year Four Preparation	NW	----
Friday Aug 27 1:30-3:20pm (2 hr)	Charter Hall & Zoom	NAVLE Preparation	NW & TG	Nov 21
Week 3 (August 30- September 5) – No content				

Week 4 (September 6-12) – No content				
Week 5 (September 13-19)- No content				
Week 6 (September 20-26) - No content				
Week 7 (September 27-Oct 1) - No content				
Week 8 (October 4-10) MIDTERMS				
Week 9 (October 11-17)				
Friday Oct 15 10:30-12:20 am (2 hr)	Sis Hall & Zoom	Financial Aid and Loan Repayment Webinar	SGU Financial Aid Team	
Week 10 (October 18-24) - No content				
Week 11 (October 25-31) - No content				
Week 12 (November 1-7) – No content				
Week 13 (November 8-14) – No content				
Week 14 (November 15-21)				
Tuesday Nov 16 1:30-3:20pm (2 hr)	KBT Blue & zoom	Wellbeing in Veterinary Medicine: Your Wheel of Life/Wellness Wheel & Mindfulness and Self-Compassion in Veterinary Medicine	AR	Note: due <i>before</i> lecture 11/7 & 11/14
Wednesday Nov 17 1:30-3:20pm (2 hr)	KBT Blue & zoom	The Impact of Societal Expectations and Finding Support after SGU & PDC Survey	AR	
Thurs Nov 18 1:30-3:20pm (2 hr)	ZOOM	Managing Risk & Communication Challenges	AVMA PLIT	----
ICVA Practice Exam Due November 21st				
Week 15 (November 22-28) – No content				

COMMUNICATION LABS:

FRIDAYS, 1:30-5:20 PM AST Week 4 – Week 13 based on SAMS 528 rotation schedule

Communication Assignment due by November 21st (we recommend completing within 1 week of your lab date)

*See Syllabus for description of assignments



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Large Animal Medicine and Surgery

Special Topics in Equine Practice (1 credit)

LAMS 537 (Term 6)

Fall (2021)

I. **Course Faculty and Staff Information**

Course Director: Inga Karasek BSc. DVM, MS, CVA, Associate Professor

Email: ikarasek1@sgu.edu

Phone ext. 3829

Office Location: LARF office block (behind the SAC)

Office Hours: by appointment

Other participating faculty contact information can be found in the directory.

II. **Course location**

LARF, unless otherwise notified.

Online course location: Sakai (Panopto, Lessons, Resources, Assignments, Forums)

III. **Prerequisite and/or co-requisite courses** Current sixth term SVM student

IV. **Required resources**

The required reading for each section will collectively come from:

1) Lecture slides /articles (on Sakai-Resources) and discussions that occur during the sessions.

2) **Large Animal Internal Medicine**, Bradford P. Smith, 5th edition

3) Material covered in previous courses (example: anatomy, physiology, LAMS 501, 502, 503, 516, and 519)

V. **Recommended resources:** Supplemental reading for specific equine diseases may come from Equine Internal Medicine, Reed, Bayly, & Sellon, 4th edition, Diagnosis and Management of Lameness in the Horse, Ross & Dyson, 2nd edition or newer.

LAMS 516-Large Animal Surgery notes/lecture material. Equine Surgery Auer and Stick, 3rd edition or newer.

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

It is important to come to this selective dressed appropriately. A complete set of scrubs or coveralls and rubber boots are appropriate attire for the **LARF**. If a session is to take place in the **SIM lab**, a complete pair of scrubs and closed-toed shoes are the required attire.

VIII. Course rationale

This course is a selective course in the veterinary curriculum. It was designed to give those students with an interest in equine medicine more hands-on experience and further didactic material before beginning fourth year clinical rotations.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Understand and demonstrate the common lameness tests; palpation, provocative tests, hoof testers and perineural anesthesia
2. Use presenting complaint, history, physical exam findings, and clinical signs to create differential lists and choose appropriate diagnostic tests in the equine patient
3. Be familiar with how to perform a dental floatation, digital radiographs, and basic distal limb ultrasound
4. Perform appropriate stabilization techniques for fracture management
5. Be able to perform basic colic, neurological, ophthalmological, and dermatological examinations
6. Understand the theory and use of complementary therapies
7. Appreciate normal/abnormal equine behaviour and low stress training techniques
8. Become familiar with management of large animals in a natural disaster

X. Lesson Learning Outcomes

See Appendix 1 Table 1.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See Appendix 1 Table 2.

XII. Course Schedule

See Appendix 1 Table 3.

XIII. Grading and assessment policy, and grading rubrics

Examinations: There will be 1 exam for this course, a comprehensive final exam, worth 40% of the final grade in the course. Exam material will come from required readings, lectures and in class discussions. The exam date and time are listed below, and on the class schedule posted on Sakai. Any deviation from the schedule will be announced on Sakai and during class:

- Final Comprehensive Exam (40% of grade) –Thursday November 25th at 12 pm AST.
40 MCQs on Exam Soft using Exam Monitor.
- Class participation – (10 % of grade see Attendance/Participation Policy)
- Journal article review – (10% of the grade)-details and rubric in addendum
- Hurricane Plan - (10% of the grade) details and rubric in the Assignment posting
- Pregnancy diagnosis and gestational aging Sakai test- (10% of the grade)
- 3 examination forms (15 % of the grade). Due on or before November 24th at 12 pm.
 - Please submit 3 completed equine examination forms from the relevant classes (could be an Acupuncture exam form, Dental exam form, Neurological exam form, Dermatological exam form)
- Colic post-lab quiz (5% of the grade)

Excuses from examinations will be accepted only with the use of the online “Medical Excuse” policy. Please consult the SVM Dean of Students office for additional information regarding acceptable excuses. Make-up examinations may be essay or short answer using Exam Soft.

Grading Policy: The final grade for this course reflects the exam scores. Below is the grading scale for this course:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

A grade reduction of 5% will be applied to the final exam if students do not observe the following parameters during this exam that is monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is always recording your full face with adequate lighting.

XIV. Recommended study strategies

Review available resources provided after each class. Assigned readings will be given.

XV. Instructor’s expectations of the student

The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and examination policies

XVI. Professionalism statement

Please always exhibit professional behavior. Turn cell phones off or silence them during lectures/labs. Please arrive on time. Notify faculty of medical or other excuses.

XVII. Attendance/Participation Policy

Attendance to sessions is mandatory and participation is expected. Failure to attend classes/labs without a valid excuse will result in a 2% deduction of each class/lab missed (class participation grade - with a total of 10 % value, more than 5 classes missed = 0 in the course). Please consult the SVM Dean of Students office for additional information regarding acceptable excuses. Students are expected to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (ikarasek1@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. Exam Soft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by Exam Soft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from Exam Soft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [An Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices

Table 1: Lesson Learning Outcomes

Lecture/ Lab	Description of Outcomes
1	Equine Behaviour & Welfare and Low stress training techniques <ul style="list-style-type: none"> • Demonstrate a positive reinforcement training technique • Demonstrate a negative reinforcement training technique
2	Acupuncture lecture and hands-on demonstration/practice <ul style="list-style-type: none"> • Each pair of students completed an Eastern history • Each pair examined the animal; pulse, tongue, temperature and body scan • Each pair of students completed an Eastern medicine acupuncture form • Each student to place a minimum of one needle
3	Dentistry lecture and hand floating <ul style="list-style-type: none"> • Each student demonstrated correct use of a hand-float • Each pair of students completed a dental form for the patient
4	Dental endoscopy session <ul style="list-style-type: none"> • Each student to assess the oral anatomy imaged • Each student to propose further diagnostic testing based on findings • Students to complete a physical exam form for each horse to include endoscopic findings
5	Equine dermatology lecture and hands-on techniques (tape test, skin scrapes) <ul style="list-style-type: none"> • Each pair of students obtained a history pertaining to a dermatological lesion • Each pair of students performed a diagnostic test of their choosing • Each pair of students completed a dermatological form for the patient
6	Lameness videos, common forelimb and hind limb causes of lameness, with hands-on full body palpation and flexion tests <ul style="list-style-type: none"> • Dynamic lameness's interpreted • Each pair of students demonstrated complete full body examination • Each pair demonstrated one flexion test to the class
7	Lameness case-carpal disease with hands-on radiographs <ul style="list-style-type: none"> • Equine carpal anatomy reviewed • Correct positioning of the patient for imaging demonstrated • Diagnostic carpal radiographs obtained
8	Initial fracture stabilization in the field with hands-on splinting/bandaging exercise in the SIM lab <ul style="list-style-type: none"> • Each team of 2 students correctly stabilized the fracture they were given • Each student demonstrated the correct placement of a jugular catheter in the SIM model
9	Ophthalmology lecture and hands-on laboratory (nasolacrimal flushing, ocular blocks, etc.) <ul style="list-style-type: none"> • Each pair of students performed a diagnostic test of their choosing • Each pair of students accurately demonstrated the appropriate ophthalmic nerve block for examination of an equine eye

10	Distal limb imaging/ultrasound lab <ul style="list-style-type: none"> • Each student demonstrated imaging a distal limb with the U/S in transverse and linear orientation • Each student named all the relevant anatomy of the distal limb
11	Neurological examination in horses and hands-on practice <ul style="list-style-type: none"> • Each pair of students demonstrated a complete cranial nerve exam • Each pair of students completed a neurological form for the patient • Each pair of students performed a diagnostic neurological test of their choosing
12	Colic cases with hands-on palpation/NGT/abdominocentesis SIM lab <ul style="list-style-type: none"> • Each student calculated dosages for a colic patient • Each student calculated a fluid rate for a colic patient • Each student performed a rectal palpation of the SIM model to diagnose the colic • Each student performed an abdominocentesis on the SIM model
13	Equine Rescue Session & Disaster Preparedness <ul style="list-style-type: none"> • All students to participate in a simulated evacuation of equines and large animals from natural disaster • Formulate a hurricane plan for the LARF herd

Table 2: Alignment of Course Level Outcomes to Program Learning Outcomes

Course Level Outcome#	SGU SVM Program Learning Outcome
	A. Core Medical Knowledge
1	PLO 01 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
2, 3, 5	PLO 02 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.
2	PLO 03 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.
3,5, 6	PLO 06 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.
7	PLO 07 Evaluate and analyze normal versus abnormal animal behavior.
7	PLO 08 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.
	B. Core Professional Attributes

8	PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.
8	PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.
	C. Core Clinical Competencies (Skills)
1,2	PLO 20 Execute a comprehensive patient diagnostic plan (differential diagnosis list) and demonstrate problem solving skills to arrive at a diagnosis.
1	PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.
4,5	PLO 25 Analyze, design and execute appropriate plans for emergency and critical care case management.

Table 3: Course Schedule

Lecture/Lab #1 August 16th 1:30 pm	Equine Behaviour & Welfare and Low stress training techniques
Lecture/Lab #2 August 19th 1:30 pm	Acupuncture lecture and hands-on demonstration/practice Acupuncture exam form could be submitted (5 pts)
Lecture/Lab #3 August 23rd 1:30 pm	Dentistry lecture and hand floating Dental exam form could be submitted (5 pts)
Lecture/Lab #4 August 30th 1:30 pm	Dental endoscopy session
Lecture/Lab #5 September 6th 1:30 pm	Equine dermatology lecture and hands-on techniques (skin scraping, brushing, biopsy techniques) Dermatological exam form could be submitted (5 pts)
Lecture/Lab #6 September 13th 1:30 pm	Lameness videos, common forelimb and hindlimb causes of lameness, with hands-on full body palpation and flexion tests.
Lecture/Lab #7 September 20th 1:30 pm	Lameness case-carpal disease with hands-on radiographs Pregnancy diagnosis and gestational aging Sakai test (10 pts) is due October 1st, 5 pm
Lecture/Lab #8 September 27th 1:30 pm	Initial fracture stabilization in the field with hands-on splinting/bandaging exercise in the SIM lab
Lecture/Lab #9 October 18th 1:30 pm	Ophthalmology lecture and hands-on laboratory (naso-lacrimal flushing, ocular blocks, etc.)

Lecture/Lab #10 November 1st 1:30 pm	Distal limb imaging/ultrasound lab
Lecture/Lab #11 November 8th 1:30 pm	Neurological examination in horses and hands-on practice Neurological exam form could be submitted (5 pts)
Lecture/Lab # 12 November 15th 1:30 pm	Colic case in the SIM lab Complete Colic Sakai quiz post SIM lab session (5 pts) Journal article review (10 pts) is due November 19th, 5 pm
Lecture/Lab # 13 November 22nd 1:30 pm	Equine Rescue in the Field & Disaster Preparedness Hurricane Plan for the LARF (10 pts) is due November 24th, 5 pm
Final Exam November 25th 12 pm AST	

Addendum

Journal Article Review-

No more than 3 paragraphs summarizing a recent peer-reviewed journal article (2012-2021) on one of the following topics:

- Acupuncture use in horses-
E.g. for lameness, anhidrosis, back soreness
- Equine colic-
E.g. case reports, survivability post- surgery, effect of age on prognosis
- Apical infections/common dental problems in horses or donkeys
- Vaccination protocols in the face of a viral outbreak (EEE, WNV, EHV-1 etc.)
- Unique treatment protocols in cases of natural disaster-e.g. wildfires

Due on November 19th, 5 pm. This can be submitted as a printed hardcopy to my office (no hand-written reviews accepted) or electronically via Word/PDF document attachment to ikarasek1@sgu.edu. The article title, journal name, volume and issue number as well as the date published & author(s) name to be given.

Rubric

Recent Article (2012-2021)	2 pt.
Peer-reviewed journal (JAVMA, Equine Veterinary Journal, Veterinary Clinics of North America, Equine Veterinary Education etc.)	2 pt.
Relevance to topics given	2 pt.
Concise and accurate review	2 pt.
Discussion of importance to equine veterinary medicine	2 pt.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

LARGE ANIMAL MEDICINE AND SURGERY DEPARTMENT

PRODUCTION ANIMAL MEDICINE AND SURGERY (1 Credit)

LAMS 539 TERM 6

Fall 2021

I. Course Faculty and Staff Information

Course directors:

Dr. Stacey Byers, DVM, MS, DACVIM(LA), Associate Professor

sbyers1@sgu.edu

Office Phone 444-4175 ext 3833

Cell Phone 473-421-1050

Office Location: Cassia Building, 1st Floor

Office Hours: By appointment

Dr. Kerri Nigito, DVM, CPH, MPH, DABVP (Food Animal Practice), Assistant Professor

knigito1@sgu.edu

Office: Large Animal Resource Facility (LARF) offices

Office hours: By appointment

Other contributing faculty members

- Dr. Nyoni Winchester, nwinches@sgu.edu
- Dr. Firdous Khan, fkhan8@sgu.edu
- Dr. Heidi Janicke, hjanicke@sgu.edu

Staff members

- Mrs. Frances Emmanuel, Executive Secretary, LAMS/SAMS Department, femmanuel@sgu.edu
- Mrs. Ruth Thornhill, Secretary, LAMS/SAMS Department, rthornhill@sgu.edu

II. Course location

Miscellaneous – see syllabus

III. Prerequisite and/or co-requisite courses

Current sixth term SVM student

IV. Required Resources (texts, journal articles, course notes, laptop specs, etc.)

The required reading for each section will collectively come from:

- Articles (on Sakai>Resources) and discussions that occur during the lectures.
- Material covered in previous and concurrent courses (example: anatomy, physiology, and LAMS 501, 502, 503, 515, 516, 519).

V. Recommended resources (texts, journal articles, course notes, laptop specs, etc.)

1. Supplemental reading for specific topics may be posted on Sakai and students are recommended to read these.
2. Useful livestock-oriented texts:
 - Veterinary Clinics of North America: Food Animal Practice. These are quarterly publications that cover a topic in each issue and are also available online through the library
 - Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs, and Goats, Radostits OM, Gay CC, Hinchcliff KW, Constable PD.
 - Farm Animal Surgery, Fubini S, Ducharm N
 - Noordsy's Food Animal Surgery, Ames, NK
 - Turner and McIlwraith Techniques in Large Animal Surgery, Hendrickson DA, Baird AN
3. Reputable online resources that may be helpful include: <http://www.vin.com> (free registration is available), Web of Science, Pubmed, and CAB abstracts.

VI. Special accommodation

Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Appropriate dress for laboratory sessions is mandatory. Failure to comply will result in dismissal from the lab and be considered an unexcused absence.

Please leave your book bags/back-packs in lockers on campus or at home. Please leave your valuables at home as we are not responsible for their loss or damage.

Hair needs to be tied back (no long ponytails), no dangling earrings, and nails must be cut short.

The following is compulsory attire for the LARF:

- A pair of clean coveralls or a complete set of clean scrubs.
- Rubber boots OR rubber pullover boots may also be worn if they are covering a pair of closed-toe shoes. They must be cleaned/disinfected at the end of each

laboratory session. The boots must be at least mid-length and made of impervious material. Cracks or tears or duct tape on boots will not be accepted, please check your boots for patency before arriving at LARF area

Please always be conscious of biosecurity: Do not wear farm boots from campus to the LARF (or from the LARF back to campus), this is a biosecurity hazard. Bring your boots with you and change at the LARF. Change from your scrubs or coveralls as soon as you are finished in the wet labs to reduce disease transmission to yourself and others. This is an important biosecurity habit to develop after handling any livestock.

VIII. Course Rationale

This course is aimed at students with an interest in production animal medicine. The goal is to expose students to relevant topics in more depth and give them the opportunity to have hands-on experience to learn common skills in the field. The course is taught through a combination of group discussions, wet labs, role play and case studies. Students will be required to present a case study as well as show professional behavior throughout the course.

X. Course Learning Outcomes

- a. Formulate appropriate diagnosis, prognosis and treatment regimens, including appropriate analgesia and antimicrobials, as well as preventive care from a herd health perspective. Integrate knowledge of legislation and resources regarding appropriate use of therapeutic agents in food producing animals.
- b. Demonstrate how to perform appropriate analgesic and surgical procedures used in livestock.
- c. Explain how to establish a valid veterinary, client, patient relationship (VCPR) for individual animals and herds. Explain how to end a VCPR.
- d. Identify the various stages in the beef and dairy cattle production cycle and the common problems and diseases that can develop in these stages. Formulate treatment and control/prevention plans.
- e. Identify, evaluate, and appropriately manage disease outbreak/emergency situations and communicate information to clients.
- f. Identify and be able to explain disease processes and clinical presentations that have a public health significance, including zoonoses and/or those diseases that are reportable to a designated authority. Explain how to perform common tests and prevention plans and demonstrate how to complete regulatory paperwork.

XI. Lesson and Laboratory Learning Outcomes

See Appendix I

XII. Alignment of Course Level Outcomes with Program Level Outcomes

Course level outcome	SVM program level outcome
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<p>1. Formulate appropriate diagnosis, prognosis and treatment regimens, including appropriate analgesia and antimicrobials, as well as preventive care from a herd health perspective. Integrate knowledge of legislation and resources regarding appropriate use of therapeutic agents in food producing animals.</p>	<p>A. Core Medical Knowledge Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases.</p> <p>B. Core Professional Attributes Model lifelong continuing education and professional development. Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p>
<p>b. Demonstrate how to perform appropriate analgesic and surgical procedures used in livestock.</p>	<p>A. Core Medical Knowledge Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. Explain the relationship between disease processes and clinical signs. Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine. Evaluate and analyze normal versus abnormal animal behavior. Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>B. Core Professional Attributes Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.</p> <p>C. Core Clinical Competencies (Skills) Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>c. Explain how to establish a valid veterinary, client, patient relationship (VCPR) for individual animals and herds. Explain how to end a VCPR.</p>	<p>A. Core Medical Knowledge Analyze homeostasis and disturbances thereof. Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p>

	<p>B. Core Professional Attributes Model lifelong continuing education and professional development. Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p>
<p>4. Identify the various stages in the beef and dairy cattle production cycle and the common problems and diseases that can develop in these stages. Formulate treatment and control/prevention plans.</p>	<p>A. Core Medical Knowledge Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines. Explain the relationship between disease processes and clinical signs. Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>B. Core Professional Attributes Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy. Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice. Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>C. Core Clinical Competencies (Skills) Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create comprehensive treatment plans. Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare. Analyze, design and execute appropriate plans for emergency and critical care case management.</p>
<p>5. Identify, evaluate, and appropriately manage disease outbreak/emergency</p>	<p>A. Core Medical Knowledge Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic</p>

<p>situations and communicate information to clients.</p>	<p>agents and their application, including relevant legislation and guidelines on the use of medicines. Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p> <p>Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.</p> <p>B. Core Professional Attributes Model lifelong continuing education and professional development. Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>C. Core Clinical Competencies (Skills) Create comprehensive treatment plans. Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare. Analyze, design and execute appropriate plans for basic surgery and surgical case management. Analyze, design and execute appropriate plans for medical case management.</p>
<p>6. Identify and be able to explain disease processes and clinical presentations that have a public health significance, including zoonoses and/or those diseases that are reportable to a designated authority. Explain how to perform common tests and prevention plans and demonstrate how to complete regulatory paperwork.</p>	<p>A. Core Medical Knowledge Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases. Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>B. Core Professional Attributes Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care</p>

	<p>and client relations, such as, honesty, respect, integrity and empathy. Demonstrate and model adaptability and resilience. Understand and evaluate the organization, management and legislation related to veterinary practice.</p> <p>C. Core Clinical Competencies (Skills) Design and execute plans for health promotion, disease prevention, and food safety. Demonstrate and model effective client communication and ethical conduct.</p>
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XIII. Course Schedule

See Appendix II

XIV. Grading and assessment policy, and grading rubrics

Students will prepare a case study on a relevant topic. They will present the topic to the rest of the class in the form of an oral presentation (70%) covering Course Learning Outcomes (CLOs) 1, 4 and 6. There will also be a grade (30%) for professionalism, clinical skills, and participation covering CLOs 2, 3 and 5. A grading rubric will be made available to the students for both evaluations.

This is the grading scale for this course:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Rubrics for Laboratory and Discussion Sessions

	Insufficient	Incomplete	Developing	Competent	Pt
	1 point	2 points	3 points	4 points	s

Clinical skills	Little attention to detail, or extra effort is evident, overall below average	Some attention to detail, and extra effort are evidence with improvements needed, overall average	Attention to detail, or extra effort is evident with some room for improvement, overall above average	Attention to detail, or extra effort is evident; overall well above average
Discussions	Little attention to detail, seeing problems and seeking ways to solve them, or extra effort is evident, overall below average	Some attention to detail, seeing problems and seeking ways to solve them, and extra effort are evidence with improvements needed, overall average	Attention to detail, seeing problems and seeking ways to solve them, or extra effort is evident with some room for improvement, overall above average	Attention to detail, seeing problems and seeking ways to solve them, or extra effort is evident; overall well above average
Professionalism	The student communication skills and professional behavior was lacking and would require major changes to be adequate	The students' behavior was adequate, but areas of improvement are needed in communication skills, professionalism	The student communicated efficiently and in a professional manner but minor areas of improvement exist	The student communicated very efficiently and in a professional manner. They demonstrated respect, no improvement needed
Total Score				

Professional behavior is defined as, but not limited to punctuality, appropriate dress, adhering to appropriate safety standards, respectful attitude and approach when interacting with professors/staff/fellow students and being engaged during laboratory sessions.

Rubric for Case Presentations

	Competent 4 points	Developing 3 points	Incomplete 2 points	Insufficient 1 point	Pts
Title	Explanatory and complete	Adequate but not complete	Lack of understanding	Inappropriate	
Introduction	Sufficient and complete	Adequate but not complete	Lack of understanding	Inappropriate	
Problem List	Complete	Adequate but not complete	Lacked a few important problems	Incomplete	
Diagnostics	Complete	Adequate but not complete	Lacked a few important details	Incomplete	
Differentials	Complete	Adequate but not complete	Lacked a few important details	Absent or incorrect	
Treatment	Complete	Adequate but not complete	Lacked a few important details	Absent or incorrect	
Management	Complete	Adequate but not complete	Lacked a few important details	Absent or incorrect	
Discussion/ impact	Complete	Adequate but not complete	Lacked a few important details	Does not reflect case	
Presentation w/in time limit	Within 12 minute limit	30 seconds over time limit	1 minute over time limit	More than 1 minute over time limit	
Appropriate answers to questions	Correct answers and well presented	Adequate but not complete	Answers indicate a lack of understanding	Inappropriate	
Professionalism (appearance, volume, language, preparation)	Excellent volume, Clear and distinct pronunciation, positive language, friendly impression of speaker, clear and distinct use of language, well-practiced, fluent, concise	Good presentation, with minor areas of improvement, practice was evident	Adequate presentation, with improvement needed, practice was not evident	Unclear speech, volume too low, unprofessional appearance, talk not practiced, overall poor	
Total Score					

XV. Recommended study strategies

Study strategies include class attendance and participation, reading the posted articles and other course materials, and reviewing cases discussed in class.

Individual or group office hours can be made by appointment if additional assistance is needed.

If a student feels they are falling behind or their grades are inadequate, they should arrange a meeting with their academic advisor as well as someone from the DES office. (Ms. Lauren Orlando, is well versed in helping students, email: LOrlando@sgu.edu).

In addition to information provided for the group discussions and laboratory sessions, students are expected to have command of the information provided in previous courses.

XVI. Instructor's expectations of the student

The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and participation.

Pre-reading discussion materials is required to enhance your learning and participation in discussion sessions and laboratories.

You will benefit the most by actively participating. The discussion and lab sessions are a safe environment and questions are not only welcome but encouraged. If you are unsure of something you can guarantee you will not be the only one in the group, so please speak up.

You are expected to reach out to the appropriate instructors or course director if you are having difficulty with the subject matter.

Office hours with the course directors will be available by appointment.

XVII. Professionalism statement

Professional behavior is expected in group discussions, presentations, and laboratory sessions. **Turn cell phones off during these sessions and arrive on time.**

This course is designated a safe environment. Please respect the fact that not all students have the same experience and may ask questions that seem obvious to you. Do not make fun of students either in or after class.

XVIII. Attendance policy

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and

clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Attendance is mandatory for this course. Participation in discussions, case workups, and laboratories will assist in your learning of the materials.

XIX. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) (COURSE DIRECTOR email HERE) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XX. ExamSoft policy

Not applicable

XXI. Copyright policy

The materials (slides, handouts, pictures and videos) provided to students at St. George's University (SGU) are the intellectual property of the Faculty and Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

APPENDIX 1: Lesson and Laboratory Learning Outcomes

Lecture topics often cover multiple days. See the schedule (Appendix II) for more details on lecture topic dates.

Session title	Learning outcomes
Lab: Anesthesia procedures	<ul style="list-style-type: none"> a. Identify the most common local nerve blocks used for on-farm procedures in livestock. b. Formulate an appropriate anesthetic protocol for common surgical procedures performed in livestock species. c. Demonstrate the external anatomic locations for the common local anesthetic blocks (e.g. epidural, paravertebral, line and inverted L, caudal vertebral) used in common procedures on livestock species.
Lab: Limb procedures	<ul style="list-style-type: none"> a. Identify key features of ruminant foot anatomy as well as common causes of foot disease and lameness in ruminants b. Assess hoof overgrowth and appropriately trim a ruminant foot using the 'Dutch 5 Step Method. a. Differentiate how and when to use block placement and claw amputation techniques to treat common causes of hoof disease and lameness in ruminants. c. Demonstrate appropriate use of local anesthetic techniques including a ring block and Bier block when performing a claw amputation in ruminants.
Lab: Ophthalmic procedures	<ul style="list-style-type: none"> a. Identify and demonstrate the various nerve blocks, analgesia, and antimicrobial protocols used for ophthalmic conditions. b. Demonstrate how to perform a third eyelid flap and amputation. c. Demonstrate how to perform an enucleation.
Lab: Suture techniques	<ul style="list-style-type: none"> a. Identify and explain which suture pattern would be used in the common surgical procedures performed on livestock and why. b. Demonstrate the Utrecht suture pattern. c. Demonstrate a suture pattern used to close a flank incision. d. Demonstrate the suturing technique used for mammary/teat surgery.
Lab: Ultrasound lab	<ul style="list-style-type: none"> a. Identify organ structures using correct ultrasound technique in the abdomen and thorax
Discussion session: Cow-calf beef production	<ul style="list-style-type: none"> a. Discuss the events occurring throughout a typical calendar year in a cow-calf beef production system. These include vaccination, nutritional needs, veterinary intervention points. b. Describe the main health concerns surrounding a cow-calf operation and what can be done to prevent those from occurring. c. Identify the common welfare issues in beef operations.
Discussion session: Dairy Production	<ul style="list-style-type: none"> a. Examine basic principles of nutrition and feeding in dairy production systems. b. Review common herd management problems associated with feed intake and nutrition.

Discussion session: Case studies	<ul style="list-style-type: none"> a. Apply clinical reasoning skills to work through a herd health case problem. b. Develop teamwork and case presentation skills
Discussion session: Basics of Bee Production	<ul style="list-style-type: none"> a. Discuss basic bee husbandry b. Explain the veterinarian's role in bee production
Discussion Session: Basic Production Nutrition and Ration analysis or formulation	<ul style="list-style-type: none"> a. Identify appropriate rations for different food animal production groups b. Discuss basic nutritional strategies for different food animal production groups
Discussion session: Case studies presentations	<ul style="list-style-type: none"> a. Give an oral presentation to classmates and faculty demonstrating the principles of clinical reasoning including: presenting complaint, signalment, history, PE findings, problems, assessment, plan and recommendations for treatment and prevention/control strategies.
Discussion session: VCPR and pharmaceuticals	<ul style="list-style-type: none"> a. Classify what constitutes a veterinary client patient relationship (VCPR) and appropriate medical records in production management systems. b. Explain the use of a veterinary feed directive (VFD) and how to establish one. c. Examine current recommendations and guidelines regarding judicious use of antimicrobials in food producing animals. d. Evaluate implications of the animal medicinal drug use classification act (AMDUCA), extra-label drug use (ELDU), and using the food animal residue avoidance databank (FARAD).

APPENDIX II: Course Schedule

Date	Time	Topic	Venue	Faculty
Mon, Aug 16	1:30-3:20	Intro, VCPR and pharmaceuticals & Antibiotics/FARAD/Pain Management	PTHB Conference Room	Byers
Mon, Aug 23	1:30-3:20	Anesthesia lab	LARF	Janicke, Nigito
Mon, Aug 30	Self-Directed Study (Review Resources for Dairy/Suture Sessions)			
Mon, Sept 6	1:30-3:20	Suture techniques wet lab	LARF	Janicke, Nigito
Mon, Sept 13	1:30-3:20	Basic Production Nutrition and Ration analysis or formulation	Upper Belford Level 3 Break Room	Winchester
Mon, Sept 20	1:30-3:20	Dairy production Discussion Session	KB Taylor Hall Blue	Nigito, Khan
Mon, Sept 27	1:30-3:20	Basics of Bee Production	Upper Belford Level 3 Break Room	Fitzpatrick
MIDTERMS				
Mon, Oct 18	1:30-3:20	Ultrasound Wet Lab	LARF	Byers, Nigito
Mon, Oct 25	Self-Directed Study (Review Resources for Beef Session)			
Mon, Nov 1	2:30-4:20	Beef Production Discussion Session	KB Taylor Hall Blue	Winchester, Khan
Mon, Nov 8	1:30-3:20	Case Preparation	Upper Belford Level 3 Break Room	Nigito
Mon, Nov 15	1:30-3:20	Limbs/Ophthalmic wet lab	Anatomy/Necropsy Lab	Janicke, Nigito
Mon, Nov 22	1:30-3:20	Case presentations	Upper Belford Level 3 Break Room	All available LAMS faculty

Commented [KN1]: I combined this into a 2 hour session since Catherine has selectives scheduled on only Monday

Commented [SB2]: Delete if we don't have time.

Commented [SB3R2]: or do 1 hour nutrition and 1 hour intro to bees. We could also run the limbs and eye lab at the same time.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Large Animal Medicine and Surgery Department

Basic Small Animal Nutrition (1 credit)

LAMS 540 Term 1

Fall 2021

I. Course Faculty and Staff Information

Course directors:

Dr. Catherine Werners-Butler Professor DVM, PhD, MRCVS, Dipl. ECEIM

Email: cwerners@sgu.edu

Contact via email and/or zoom office hours

Dr. Afroza Khanam Instructor BSc, MSc, PhD

Email: akhanam@sgu.edu

Contact via email and/or zoom office hours

Visiting Professor:

Dr. Cailin Heinze VMD, MS, DACVN

Chief Academic officer Mark Morris Institute

Please contact via Course Directors: cwerners@sgu.edu or akhanam@sgu.edu

Staff members:

Ms. Ruth Thornhill SVM Secretary

Email: RThornhill@sgu.edu

Ext: 3474

Ms. Frances Emmanuel SVM Administrative Assistant

Email: FEmmanuel@sgu.edu

Ext: 3109

II. Course location

Sakai resources: Lessons / quizzes / assignments / forum

Mark Morris institute modules (a link for access will be provided in Sakai)

Zoom sessions (synchronous and asynchronous)

III. Prerequisite and/or co-requisite courses

Admission into the SVM program. Current registered Term 1 SVM student

IV. Required resources

Mark Morris modules (a link will be provided before the start of the course)

V. Recommended resources

Links to recommended sources for background information on small animal nutrition will be provided in Sakai

VI. Accommodation guidelines

a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Internet access & zoom account

VIII. Course rationale

This course is designed to familiarize the 1st term student with the different aspects of basic animal nutrition focused on small animal nutrition. Emphasis is placed on basic knowledge about how animals obtain, process and use feed and nutrients. This course is designed to give students a broad understanding of how nutrition is related to animal health, production and performance of different companion animal species. Each of the nutrition concepts will be discussed in relation to its importance to overall health. The online practical/lab component of this course will help students to provide hands on skills and apply nutritional information into feeding the different species of companion animals.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Perform a nutritional assessment and identify nutrition risk factors for companion small animals based on a detailed diet history and accurately performing a body condition scoring / muscle scoring
2. Describe the main nutritional/physiological differences between dogs and cats and also their similarities
3. Calculate energy requirements and feeding amounts for healthy dogs and cats of all life stages, including large breed puppies. Be able to give recommendations on appropriate treating (% of calories, types, etc.)
4. Evaluate commercial pet foods based on label information, manufacturer's website, marketing materials, peer-reviewed literature when available
5. Identify the pros and cons of raw and home-cooked diets.
6. Identify risk factors for obesity and create a plan for both obesity prevention and treatment (i.e. weight loss plan) including an appropriate diet
7. Address common myths about pet food - grain-free, natural, by-products
8. Describe how pet food is regulated - what organizations are involved and which aspects they are responsible for?

X. Lesson Learning Outcomes

Lecture /lab name and number	Your lecture/lab Learning Outcomes:	CLO #
<p>1. Nutritional assessment for small animal species</p>	<p>1- Identify and describe the steps involved in performing a nutritional assessment</p> <p>2- Compare and contrast muscle and body condition scoring</p> <p>3- List common dietary and patient risk factors that indicate a need for further evaluation</p> <p>4- Obtain a detailed diet history from a pet owner</p> <p>5- Describe the components of a good nutrition recommendation</p>	<p>1</p> <p>2</p> <p>2, 5, 6</p> <p>1</p> <p>2, 3</p>
<p>2. Introduction to Pet Foods & Feeding Pets</p>	<p>1- Compare and contrast forms of pet food – dry, wet, semi-moist, treats</p> <p>2- Categorize pet foods into common marketing classifications</p>	<p>4</p> <p>4</p>
<p>3. Pet Food Labels</p>	<p>1- Explain what AAFCO is and how it works</p> <p>2- Compare and contrast the role of the FDA vs AAFCO in pet food regulation</p> <p>3- Examine a pet food label and identify the major parts of the label and describe the importance of each</p> <p>4- Compare and contrast the different methods of determination of nutritional adequacy</p>	<p>8</p> <p>8</p> <p>4</p> <p>4</p>

	<p>5- Describe the aspects of a pet food label that provide information on the nutritional quality or appropriateness of the diet versus those that are largely or completely marketing</p> <p>6 Define common pet food marketing terms and describe how these terms relate to the nutritional properties of a diet</p> <p>7 List the nutrients included in a guaranteed analysis and describe the limitations of the guaranteed analysis as a source of nutritional information</p>	<p>4</p> <p>4</p> <p>4</p>
4. Pet Food Math	<p>1 Be able to describe the difference between nutrients being provided on an as-fed, as-packaged, dry matter, or energy basis</p> <p>2 Be able to interconvert nutrients between as-fed, as-packaged, dry matter, and energy basis (g/1000 kcal)</p>	<p>3</p> <p>3</p>
5. Alternative Diets	<p>1- Argue for and against the use of home-cooked diets for healthy and for pets with health concerns</p> <p>2- List the factors that can contribute to nutritional adequacy concerns in home-cooked diets</p> <p>3- Perform a preliminary assessment of homemade diet recipes based on the provided checklist</p> <p>4- Explain the major risks of feeding raw diets to a friend or colleague</p> <p>5- Differentiate between known and anecdotal attributes of raw diets</p>	<p>5</p> <p>5</p> <p>5</p> <p>5</p> <p>5</p>

<p>6. Feeding healthy dogs and cats</p>	<p>1- Select an appropriate diet for a pet of any life stage</p> <p>2- Estimate energy needs for any pet</p> <p>3- Calculate a feeding dose for a specific pet using a given diet</p> <p>4- Compare and contrast the nutritional needs and physiology of dogs and cats</p> <p>5- Explain differences in nutrient needs for small breed vs large breed puppies</p> <p>6- Discuss the differences in nutritional needs between growth, reproduction, maintenance, and aged life stages</p>	<p>1, 2, 3</p> <p>3</p> <p>3</p> <p>2</p> <p>1, 3</p> <p>2,3</p>
<p>7. Dietary Supplements & Fatty Acids</p>	<p>1- Explain how dietary supplements are regulated and potential concerns with their use</p> <p>2- Be able to discuss the pros and cons of commonly recommend joint supplements</p>	<p>7</p> <p>3,7</p>
<p>8. Obesity</p>	<p>1- List 3 serious health concerns associated with overweight/obesity for dogs and for cats</p> <p>2- List 3 risk factors for obesity for dogs and for cats</p> <p>3- Compare and contrast options for determining ideal body weight</p>	<p>6</p> <p>6</p> <p>1,6</p>

	<p>4- Compare OTC “weight management” diets to therapeutic weight loss diets</p> <p>5- Formulate a weight loss plan for a cat or dog to include initial calorie goal, diet, treats, amounts to feed of each, weight loss goals, and follow-up plan</p>	<p>6</p> <p>6</p>
<p>9. Pet Food Label Lab</p>	<p>1- Locate and evaluate nutritional adequacy information on a pet food label</p> <p>2- Recognize products that have the VOHC seal and be able to explain the differences between these products and other products without the seal that are marketed for dental benefits</p> <p>3- Utilize the AAFCO manual to look up pet food ingredients, label regulations, and protocols for determining nutritional adequacy.</p> <p>4- Calculate the cost of feeding of a specific food for a specific pet</p> <p>5- Describe common marketing categories and provide an example of a well-known diet that would fall into each category</p> <p>6- Evaluate commercial diets for their suitability for a specific pet</p>	<p>4</p> <p>4,8</p> <p>8</p> <p>3</p> <p>4</p> <p>4</p>

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Updates provided by the Visiting Professor will be posted as soon as possible.

Updated learning lecture outcomes will be presented by the Visiting Professor at the beginning of each lecture and posted on Sakai.

Course Learning Outcome	SGUSVM Program Learning Outcome
Perform a nutritional assessment and identify nutrition risk factors for companion small animals based on a detailed diet history and accurately performing a body condition scoring / muscle scoring	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.
Describe the main nutritional/physiological differences between dogs and cats and also their similarities	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.
Calculate energy requirements and feeding amounts for healthy dogs and cats of all life stages, including large breed puppies. Be able to give recommendations on appropriate treating (% of calories, types, etc)	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions. PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.
Evaluate commercial pet foods based on label information, manufacturer's website, marketing materials, peer-reviewed literature when available	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions. PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine

<p>Identify the pros and cons of raw and home-cooked diets</p>	<p>PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p>
<p>Identify risk factors for obesity and create a plan for both obesity prevention and treatment (i.e. weight loss plan) including an appropriate diet</p>	<p>PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>Address common myths about pet food - grain-free, natural, by-products</p>	<p>PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p>
<p>Describe how pet food is regulated - what organizations are involved and which aspects they are responsible for?</p>	<p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>

XII. Course Schedule

LAMS 540 Small Animal Nutrition (12137) Fall 2021- Class Schedule		
Name	Description	Date
Week # 10:		
Lecture 1: (Live Zoom & recorded)	General introduction to animal nutrition	Oct 18 (1:30PM - 2:20PM AST) 1h
Lecture 2: (E-module)	Nutritional Assessment	Oct 19 (4:30PM - 5:20PM AST) 1h
Lecture 3: (E-module)	Intro to Feeding Pets	Oct 20 (4:30PM - 5:20PM AST) 0.75h
Lecture 4: (E-module)	Interpreting Pet Food Labels	Oct 21 (4:30PM - 5:20PM AST) 1.25h
Lecture 5: (E-module)	Energy requirements and selecting pet food	Oct 22 (4:30PM - 5:20PM AST) 40m
Week # 11:		
Assignment	Online pet food label lab	Oct 26 Due Monday, Nov 1 (by 12:00 PM AST)
Lecture 7: (Live Zoom & attendance required)	Discussion of pet food lab	Oct 26 (1:30PM - 2:20PM AST) 1h
Lecture 8: (E-module)	Alternative Diets	Oct 27 (4:30PM - 5:20PM AST) 1h
Lecture 9: (Live Zoom & recorded)	Pet Food Math lecture	Oct 28 (1:30PM - 2:20PM AST) 1h
Lecture 10 & 11: (E-module)	Feeding Healthy Dogs & Cats	Oct 29 (3:30PM - 5:20PM AST) 2h
Week # 12:		
Assignment	Sakai Quiz will be posted on Sakai	Nov 1 Due Monday, Nov 8 (by 12:00 PM AST)
Lecture 13: (Live Zoom & recorded)	Dietary supplements	Nov 2 (1:30PM - 2:20PM AST) 1h
Lecture 14: (E-module)	Obesity	Nov 3 (4:30PM - 5:20PM AST) 1h
Lecture 15: (Live Zoom & attendance required)	Case examples & Q&A	Nov 5 (1:30PM - 3:20PM AST)
Week# 17	Final Exam Dec 8 (12:00 PM)	

XIII. Grading and assessment policy, and grading rubrics

Examinations:

Your final grade will be made up of the following:

Participation in the modules and 2 mandatory live zoom sessions: 10%

Nutrition Lab assignment: 5%

Sakai quiz: 5%

Final exam: 80%

The exam material will come from E-modules / lecture slides and online “in-class” discussions. There will be approximately 2-3 questions from each lecture. The final exam date is listed below. Any deviation from the schedule will be announced on Sakai.

• **Final Comprehensive Exam (80% of grade) Wednesday December 8th, 12:00 pm AST**

Excuses from examinations will be accepted only with the use of the online “Medical Excuse” policy. Please consult the SVM Dean of Students office for additional information regarding acceptable excuses. Make-up examinations may be essay or short answer using ExamSoft.

Grading Policy: The final grade for this course reflects 2 scores. Below is the grading scale for this course:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

Prepare for the lectures by looking at the reading resources and participation in the E-modules. If after the lecture/s, you are still having difficulties with material or resources, please contact the course director immediately.

XV. Instructor's expectations of the student

The student is expected to participate in the E-modules and zoom sessions. Students are encouraged to reach out for assistance in a timely manner, if they find the course material challenging. The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and examination policies.

XVI. Professionalism statement

Please exhibit professional behavior at all times. Please address any complaints either through your class representative or to the Course Director directly. Turn cell phones off or silence them during lectures.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) (cwerners@sgu.edu or akhanam@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Exemplify on their laptop prior to exam day. Once Exemplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for Exam Monitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop

must visit the Office of Institutional Advancement (OIA) to request an exam loaner.

7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy (if applicable):

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Large Animal Medicine and Surgery Department

PROFESSIONAL DEVELOPMENT I (2cr)

LAMS 541 (Term 1)

Fall 2021

I. Course Faculty and Staff Information

Dr. Kerri Nigito, DVM, CPH, MPH, DABVP (Food Animal Practice)
Co-course Director
Assistant Professor, Department of Large Animal Medicine and Surgery
knigito1@sgu.edu
Office hours by appointment on Zoom or in person. Please email anytime with questions or concerns.

Dr. María Mercedes Abeyá, DVM, PhD.
Co-course Director
Assistant Professor, Department of Pathobiology
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Other lecturers/faculty:

Dr. Austin Kirwan
Email: barnlodge@aol.com

Dr. Adria Rodriguez
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Ms. Kemi Burgen
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Dr. Lorraine Steele
Email: Lsteele@sgu.edu

II. Course location

In-person lecture hall for students in Grenada. Online via synchronous Zoom sessions and/ asynchronous Panopto recordings for students off island
Online Sakai Site and/or Top Hat for resources, recordings, and assignments.

III. Prerequisite and/or co-requisite courses

- a. Current first term SVM student

IV. Required resources

- a. A functional computer with microphone and camera.

V. Recommended resources

- a. None

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

- a. None

VIII. Course Rationale

- a. This course is the first of 6 courses within the Professional Development Curriculum focused on professional development. Through experiential learning methods including a 2-day workshop, students will be exposed to the concepts of non-technical attributes such as teamwork, communication, self and social awareness, and self-care that are vital to their success as a student and veterinarian. Specific coursework related to study skills, ethics, financial literacy and evidence-based medicine is included. This course provides the foundation for their time at SGU; developing a sense of community within their class as they grow together into young professionals.

IX. Course Learning Outcomes

- a. Upon completion of this course, students will be able to:
 - i. Discuss the fundamentals of the six domains of professional development
 - ii. Recognize the professional attributes of a successful veterinarian including attitude, appearance, respect, responsibility, self-awareness and social awareness, tolerance, and self-management.

X. Lesson Learning Outcomes

Lesson	Outcomes
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<p>Domain 1: Professionalism lecture series and PAWS 2-day seminar</p>	<ol style="list-style-type: none"> 1. Discuss the importance of and be able to recognize professional attributes of a successful veterinarian including attitude, appearance, respect, responsibility, self-awareness and social awareness, tolerance, and self-management. 2. Recognize the importance of team building and communication skills for a successful career in veterinary medicine. 3. Recognize the appropriate and inappropriate uses of social media for a professional career. 4. Compare and contrast effective and ineffective methods of conflict management within the context of challenging situations that may arise during veterinary school. 5. Recognize the various student support services at SGU and be able to effectively utilize these resources. These services include the Department of Educational Services and Psychological Services. 6. Recognize the importance of externships and the role they play in advancing one's veterinary career. 7. Recognize the importance of mentorship, identify the characteristics of an effective mentor, and determine how to find an appropriate mentor for your career. 8. Recognize and discuss appropriate professional etiquette for interaction with faculty and potential employers. 9. Identify leaning strategies and study plans that will foster good time management and academic success. 10. Compose a "Class Code of Conduct" that is agreed upon and accepted by all students in the Term 1 class. 11. Recognize the importance of clinical communication for a successful career in veterinary medicine.
<p>Domain 2: Wellness lecture series and faculty mentor group meeting</p>	<ol style="list-style-type: none"> 1. Discuss common mental health issues (depression, suicide, bullying) plaguing veterinarians and be equipped with the tools necessary to help themselves and others should the need arise. 2. Recognize the skills that are necessary to cope with stress and test anxiety through a variety of methods. 3. Identify the various student support networks at SGU and discuss ways to seek help when difficult situations arise. 4. Compose a self-care regimen to address specific wellness areas

Domain 3: Ethics and Welfare lecture series	<ol style="list-style-type: none"> 1. Appreciate the concept of ethics and moral action. 2. Discuss the nature of the person and nonhuman animals. 3. Describe the philosophy behind discovering the truth and birth of the professions and how this relates to societal responsibility. 4. Discuss the dynamics of a team, components, hierarchy and servant leadership. 5. Recognize and apply professionally informed consent in the 5-step process.
Domain 5: Financial Literacy lecture series	<ol style="list-style-type: none"> 1. Determine and apply the skills necessary for financial literacy as it pertains to reduction of student loan debt and personal responsibility. 2. Create a personal budget. 3. Understand the available opportunities for obtaining employment during breaks from school. 4. Understand the scholarship opportunities available to SGU students.
Domain 6: Evidence-Based Veterinary Medicine	<ol style="list-style-type: none"> 1. Explain the concept and importance of EBVM. 2. Be aware of the research opportunities at SVM SGU. 3. Know where to find the information and requirements to expand their research experience. 4. Give key examples of research projects (bat, aquatic animals, antimicrobial resistance research, public health) 5. Introduce dual degree, VSRI & IVSP programs (how many positions are available, application process, etc). 6. Describe the steps in the Research Method. 7. Distinguish between a Research question and a hypothesis; understand the role of the null hypothesis 8. Define a confidence interval and describe its purpose. 9. Describe data with measures of shape, center, and spread. 10. Calculate sample sizes and confidence intervals for tests of proportions and tests of means. 11. Choose appropriate statistical tests for testing proportions and means. 12. Describe the significance of public trust in science and scientific research; and discuss associated responsibilities of veterinary students, faculty, clinicians, and researchers. 13. Define the responsibilities of an IACUC, mechanisms through which IACUCs fulfill these responsibilities, and sources of guidance for IACUC members.

	<p>14. Identify and access ethics guidance regarding animal use in teaching and research, assess the credibility and relevance of that guidance, and apply it to case scenarios.</p> <p>15. Develop skills essential to obtaining IACUC and IRB approval for animal use in teaching or research.</p>
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XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	Program Level Outcome
Discuss the fundamentals of the six domains of professional development	<p>B. Core Professional Attributes</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 16 Demonstrate and model adaptability and resilience.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p>
Recognize the professional attributes of a successful veterinarian including attitude, appearance, respect, responsibility, self-awareness and social	<p>B. Core Professional Attributes</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior</p>

awareness, tolerance, and self-management	<p>in relation to animal care and client relations, such as, honesty, respect, integrity and empathy</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 16 Demonstrate and model adaptability and resilience.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p>
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XII. Course Schedule

Date / Hour	Lecture topic	Faculty	Assignment
August 16 & 17 ALL DAY	PAWS Workshop!	PAWS Family	
August 18 th 1.30-2.20p	Personal Budgeting, Finance and Loans Part 1	Dr. Heather Douglas	**Mandatory** In-Class Activity: Create a personal budget reflecting your current financial status and upload it to Sakai (30 min) Due: September 12th by 11:55pm AST
August 19 th 1.30-2.20p	Personal Budgeting, Finance and Loans Part 2	Dr. Heather Douglas	
August 20 th 1.30-2.20p	Job Opportunities During Breaks	Dr. Heather Douglas	
August 25 th 1.30-2.20p	Study Skills	Dr. Peter Slinger	
August 26 th 2:30-3:20p	Scholarships & Grants	Dr. Heather Douglas	

September 2 nd 1.30-2.20p	Wellness in Vet Med	Dr. Adria Rodriguez	
September 2 nd 2:30-3:20p	Coping with Stress	Ms. Kemi Burgen (DES) & Ms. Lorraine Steele (PSC)	
September 7 th 8.30a-9.20a	Your Veterinary Career	Dr. Kerri Nigito	**Mandatory** Externship Assignment: Research 3 externship opportunities and discuss how they would be helpful for your veterinary career/education Due: Tuesday, September 21st @ 11:00pm AST (upload to Sakai)
September 14 th 10.30-11.20p	Professional Etiquette & Class Code of Conduct	Dr. Kerri Nigito	**Mandatory** In Class Activity: Class Code of Conduct: Working in groups develop a set of 3-5 guidelines to follow and post on your class Facebook page Due: in Class
September 15 th 1.30-2.20p	Intro to EBVM & Research at SGU	Dr. Heidi Janicke & Dr. Sonia Cheetham Brow	
September 16 th 1.30-2.20p	Research Possibilities at SGU	Dr. Cheetham-Brow & Dr. Bidaisee	
September 22 nd 1.30-2.20p	Research Methods	Dr. Paul Fields	**Mandatory** In-Class Reflection Activity: Qualitative and quantitative research questions Due: in Class (in Weekly Requirements)
September 30 th 1.30-2.20p	Scientific Inquiry	Dr. Paul Fields	**Mandatory** In-Class Reflection Activity: Go through the steps of the inquiry process with one of your research questions Due: in class (in weekly requirements)

October 1 st 1.30-2.20p	Responsible Conduct of Research in Veterinary Medicine	Dr. Cheryl Cox-Macpherson	**Mandatory** Quiz Research and EBVM at SGU Quiz in Sakai Tests & Quizzes Due: Sunday, October 3 rd by 11:55pm AST
Midterm Exams			
October 12 th 1.30-3.20p	Introduction to Ethics	Dr. Austin Kirwan	**Mandatory** In-Class Reflection Activity: (15 min) How do you now compare and contrast human rights and animal rights? Due: October 19 th by 11:55pm AST
October 13 th 1.30-2.20p	Approach to Second Half of the Term	Dr. Peter Slinger	
October 22 nd 1.30-3.20p	Animals in Society & the Role of the Vet	Dr. Austin Kirwan	**Mandatory** In-Class Reflection Activity: (15 min) What problem(s) do you see with anthropomorphism when treating your patients? Due: October 29 th by 11:55pm AST
November 18 th 1.30-2.20p	Wellness Check In – Focus on Support	Dr. Adria Rodriguez	

Faculty mentor group meetings will be scheduled in the second half of the term. You will be required to go to **ONE** of these sessions based on your faculty mentor availability. (See Faculty mentor Assignments Posted on Sakai)

XIII. Grading and assessment policy, and grading rubrics

a. The course will be graded Pass/Fail.

100-69.5% = Pass

<69.5% = Fail

Evaluation	Weighted	Points
Externship Assignment	20%	28pts
Wellness Regimen Assignment	20%	24pts
Budgeting Workshop	5%	P/F
Class Code of Conduct	5%	P/F
Ethics In-Class Reflection Questions (2)	2% (1% Each)	P/F
EBVM Quiz	6%	10 pts
EBVM In-Class Reflection Questions (2)	2% (1% Each)	P/F
Professionalism Evaluation at Midterm	20%	20pts
Professionalism Evaluation at Final	20%	20pts

A grade of passing will be determined by:

- ii. Successful completion of 2 assignments (see below)
- iii. Mandatory attendance at the Faculty mentor meeting
- iv. Mandatory engagement in the course content which includes:
 1. Attendance of all lecture sessions
 2. Review of all asynchronous recorded seminars
 3. Completion of “in-class” assignments, activities, and reflection questions.
- v. No unexcused absences are allowed. Any absences or technical difficulties must be immediately addressed by emailing one of the course directors (Dr. Kerri Nigito knigito1@sgu.edu or Dr. Mercedes Abeya mabeya@sgu.edu). Failure to attend mandatory meetings, lectures, and/or engage in course content may result in course failure AND the student may be placed on non-academic probation by the CAPPS committee.

vi. See Rubrics in Appendix

Course Assignments:

1. **Externship Assignment:** Identify three potential Summer Externship opportunities that would be beneficial for your career goals. For each opportunity, include a 1-2 paragraph summary that highlights the type of mentors you would like to work with and the specific experiences that you would like to gain. Briefly describe how this opportunity will advance your career. This is graded pass/fail based on a rubric encompassing the important components of the assignment (see Appendix A). This assignment will be covered in more detail during the seminar "Your Veterinary Career" on **Tuesday, September 7th @ 8:30pm AST. The Due Date for this assignment is Tuesday, September 21st @ 11:00pm AST.** Assignments must be uploaded as a **single PDF document** in My Courses (Sakai) before the due date expires.

2. **Professional Development Mentor Group Meeting/Self Care Regimen Assignment:** Students meet with their assigned group and faculty mentor to discuss wellbeing in our profession and how to develop a regimen for self-care/wellness. Students will then submit their proposed self-care regimen encompassing emotional, spiritual, social and physical aspects to their faculty mentor. **The Due Date for this assignment will be one week after your assigned faculty mentor meeting.** Please refer to Appendix B for grading rubric.

A passing grade is determined by attending the mandatory meeting and completing the assignment. If the group interaction or assignment quality is inadequate and indicates the need for faculty intervention or remediation, this will be discussed with the course director to find an appropriate solution. Failure to meet these minimum standards will require one-on- one remediation with the course director and/or the faculty mentor before being allowed to progress to Term 2. Remediation will be tailored to the deficiency and the individual.

XIV. Recommended study strategies

a. Remain engaged throughout the course to benefit from the various active learning activities.

XV. Instructor's expectations of the student

- a. The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and assignment submission.
- b. The student is expected to communicate with the Course director professionally and in a timely manner in the event of technical/medical/personal difficulties resulting in the inability to attend lectures or hand in assignments on time for

any reason.

XVI. Professionalism statement

- a. Please exhibit professional and respectful behavior at all times to colleagues, faculty and staff. Turn cell phones off or silence them during lectures. Please be on time and engaged in course content.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Attendance is mandatory for all Term 1 students during the PAWS Workshop, all professionalism lectures and the professional mentor group meetings. One unexcused absence may result in course failure and the student may be placed on non-academic probation by the CAPPS committee. Please review the "Professionalism" rubric in Appendix C.

Students are expected to be on time; arrival after the first 10 minutes or leaving before the end of class (less than 70% of the session) will count as an absence. Any student unable to adhere to the attendance policies of this course is mandated to complete the online "Medical Excuse Submission" form PRIOR to missing the required activity. Failure to complete the "Medical Excuse Submission" form will result in an unexcused absence. Please communicate with the Course Director (Dr. Kerri Nigito knigito1@sgu.edu or Dr. Mercedes Abeya mabeya@sgu.edu) immediately in the event of an unexpected absence due to extenuating circumstances.

Mandatory engagement and participation expectations:

- i. Mandatory attendance at the Faculty mentor meeting
- ii. Mandatory engagement in the course content which includes:
 - 1. Attendance of all lecture seminar sessions

Commented [KN1]: In the new template, which we haven't received yet, I believe there will be new wording for this section so we will just wait and see what the new template will say.

2. Review of all mandatory asynchronous recorded seminars
3. Completion of all assignments and activities.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination. Students who have technical issues during the examination MUST inform the Course Director (COURSE DIRECTOR email HERE) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call *****)) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

Failure to submit any assignment or submit an assignment late may result in **course failure AND the student may be placed on non-academic probation by the CAPPs committee.**

XIX. ExamSoft policy

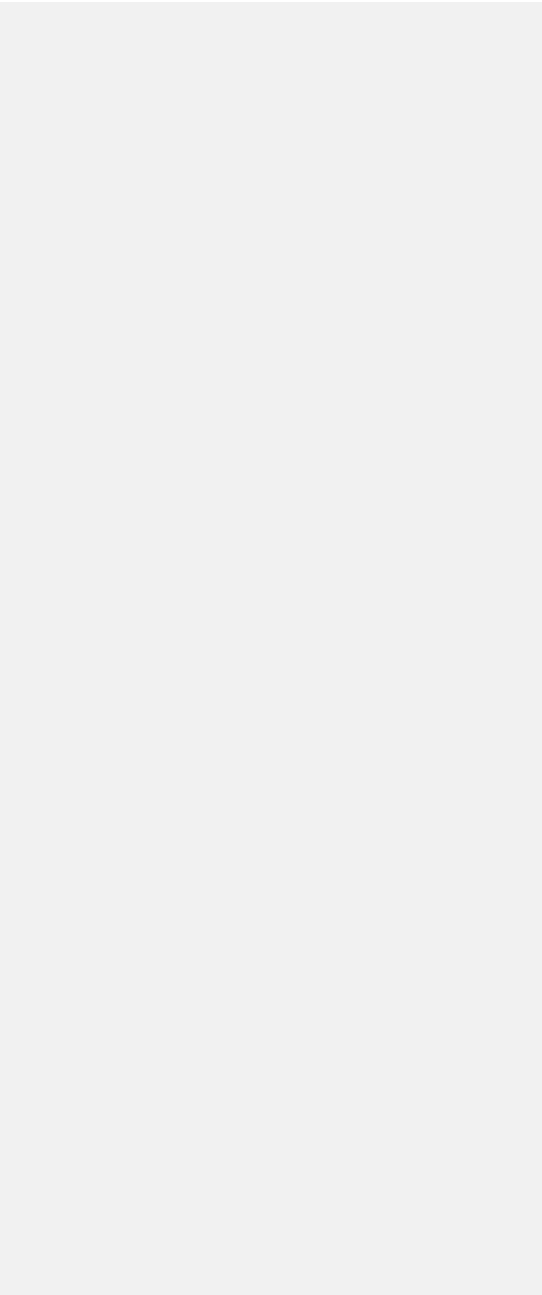
All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

XX. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George’s University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices:

Appendix A:
Externship Assignment Grading Rubric:



COLUMNS (Performance Levels) Externship Assignment Mentor Evaluation				
ROWS (Dimensions)	Meets expectations consistently (4)	Meets expectations most of the time (3)	Occasionally meets expectations (2)	Does not meet expectations (1)
Student demonstrates a clear understanding of the externship concept	Student clearly and concisely described 3 different externship opportunities including the type of experience, the specific area of specialty, and the format of the experience.	Student generally clearly and concisely described 3 different externship opportunities and may have excluded no more than 1 of the following: the type of experience, the specific area of specialty, and the format of the experience.	Student occasionally clearly and concisely described 3 different externship opportunities and/or excluded information on the type of experience, the specific area of specialty, and the format of the experience.	The student did not clearly and concisely describe 3 different externship opportunities and/or excluded information on the type of experience, the specific area of specialty, and the format of the experience.
Student demonstrates a clear understanding of the mentorship concept	Consistently and clearly explained the type of mentorship available and/or the type of mentor that the student would like to gain for each externship experience	Generally explained the type of mentorship available and/or the type of mentor that the student would like to gain for each externship experience with an occasional lack of clarity.	Inconsistently explained the type of mentorship available and/or the type of mentor that the student would like to gain for each externship experience	The student did not explain the type of mentorship available and/or the type of mentor that the student would like to gain for any externship experience
Student discusses the relevance of externship content	Consistently and clearly explained the relevance of each externship experience to personal professional development.	Generally explained the relevance of each externship experience to personal professional development with an occasional lack of clarity at times.	Inconsistently explained the relevance of each externship experience to personal professional development.	The student failed to explain the relevance of each externship experience to personal professional development.
Demonstrates appropriate writing and grammar skills	Wrote an appropriate assignment using correct grammar and spelling with no mistakes.	The assignment had 2 or fewer minor grammatical and/or spelling errors.	The assignment had 3-4 major grammatical and/or spelling errors	The assignment had more than 4 grammatical and/or spelling errors.

Organization and Structure	The assignment was very well organized and easy to follow with a natural flow.	The assignment generally was organized, however there were times when it was difficult to follow the thought process or content.	The assignment was generally disorganized making it difficult to follow the thought process and content	There was no discernible organization or flow of the assignment and it was difficult to follow the writing and content.
Appropriately adheres to word count guidelines	Student submitted an assignment within the 400 word count maximum requirements	Student submitted an assignment that was less than 450 words	Student submitted an assignment that was less than 500 words	Student submitted an assignment that was greater than 500 words
Appropriately adheres to deadlines	Assignment was submitted by the deadline and/or student communicated with course director PRIOR to deadline with any technical/medical/personal issues	Assignment was submitted after the deadline and/or not submitted and student communicated with course director the same day of assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student communicated with course director more than 24 hours after assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student never communicated with course director

Appendix B:

Wellness Regimen Grading Rubric:

COLUMNS (Performance Levels)				
Wellness Regimen Assignment Mentor Evaluation				
ROWS (Dimensions)	Meets expectations consistently (4)	Meets expectations most of the time (3)	Occasionally meets expectations (2)	Does not meet expectations (1)
Student demonstrates a clear understanding of their Wellness Self-Evaluation	Student clearly and concisely described the wellness areas from the self-evaluation that received low scores.	Student generally clearly and concisely described the wellness areas from the self-evaluation that received low scores.	Student occasionally clearly and concisely described the wellness areas from the self-evaluation that received low scores.	The student did not clearly and concisely describe the wellness areas from the self-evaluation that received low scores.
Student presents a clear schedule of events addressing specific wellness concerns from the self-evaluation	Consistently and in a clear schedule format explained the type of activities/techniques student will utilize to address the wellness areas that received lower scores.	Generally explained in an unclear schedule format the type of activities/techniques student will utilize to address the wellness areas that received lower scores.	Inconsistently explained in an unclear schedule format the type of activities/techniques student will utilize to address the wellness areas that received lower scores.	The student did not explain or use any type of schedule format the type of activities/techniques student will utilize to address the wellness areas that received lower scores
Student discusses the relevance of each event to address each wellness concern	Consistently and clearly explained the relevance of each activity/technique and how it will address the wellness areas that received lower scores.	Generally explained, sometimes unclearly the relevance of each activity/technique and how it will address the wellness areas that received lower scores.	Inconsistently explained the relevance of each activity/technique and how it will address the wellness areas that received lower scores.	The student failed to explain the relevance of each activity/technique and how it will address the wellness areas that received lower scores.
Student demonstrates appropriate writing and grammar skills	Wrote an appropriate assignment using correct grammar and spelling with no mistakes.	The assignment had 2 or fewer minor grammatical and/or spelling errors.	The assignment had 3-4 major grammatical and/or spelling errors	The assignment had more than 4 grammatical and/or spelling errors.
Organization and Structure	The assignment was very well organized and easy to follow with a natural flow.	The assignment generally was organized, however there were times when it was	The assignment was generally disorganized making it difficult to follow the thought	There was no discernible organization or flow of the assignment and it was

		difficult to follow	process and content.	difficult to follow the writing and content.
Appropriately adheres to deadlines	Assignment was submitted by the deadline and/or student communicated with course director PRIOR to deadline with any technical/medical/personal issues	Assignment was submitted after the deadline and/or not submitted and student communicated with course director the same day of assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student communicated with course director more than 24 hours after assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student never communicated with course director

Appendix C:

Professionalism Grading Rubric:

Criteria	Meets expectations consistently (4)	Meets expectations most of the time (3)	Occasionally meets expectations (2)	Does not meet expectations (1)
Punctuality	Student is on time for all sessions and/or communicates with the course director within 2 hours of the session if more than 10 minutes late	Student is more than 10 minutes late and communicates with course director on the same day as the session	Student is more than 10 minutes late and communicate with course director but not on the same day as the session	Student is not on time for sessions and does not communicate at any time with the course director
Attendance	Student attends or views all mandatory sessions for the entire duration of the session and/or	Student misses/does not view 1 or more mandatory sessions and/or does not attend for the entire	Student misses/does not view 1 or more mandatory sessions and/or does not attend for the entire	Student misses/does not view 1 or more mandatory zoom sessions and/or does

	communicates with the course director within 2 hours of the session	duration of the session (90%) and communicates with course director on the same day as the session	duration of the session (90%) and communicate with course director but not on the same day as the session	not attend for the entire duration of the session (90%) and does not communicate at any time with the course director
Engagement - Assignments	Student completes assignments on time and/or communicates with the course director PRIOR to deadline with any technical/medical/personal issues.	Student submitted assignment after the deadline and/or not submitted and student communicated with course director the same day of assignment deadline with any technical/medical/personal issues	Assignment reflection question was not submitted, and student communicated with course director more than 24 hours after assignment deadline with any technical/medical/personal issues	Student does not turn in assignments on time and did not communicate with the course director at any time.
Engagement – Reflection/in-class activity	Student completes reflection questions/in-class activities on time and/or communicates with the course director PRIOR to deadline with any technical/medical/personal issues.	Student submitted reflection questions/in-class activity after the deadline and/or not submitted and student communicated with course director the same day of assignment deadline with any technical/medical/personal issues	Reflection question/in-class activity was not submitted, and student communicated with course director more than 24 hours after assignment deadline with any technical/medical/personal issues	Student does not complete reflection questions/in-class activity on time and did not communicate with the course director at any time.
Communication	Student always communicates in a professional tone and timely manner.	Communication is mostly professional and timely with some minor areas of improvement needed.	Communication is generally professional in tone, but often untimely and major improvement is needed.	Student does not communicate in a professional tone and/or timely manner.
Total (20 points)				



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

LARGE ANIMAL MEDICINE AND SURGERY DEPARTMENT

PROFESSIONAL DEVELOPMENT II SYLLABUS (2 credits)

LAMS 542 (TERM 2)

Fall 2021

I. Course Faculty and Staff Information

Course Director:

Adria Rodriguez, DVM, MSc, CVA, CVCH, MS TCVM

Associate Professor, Small Animal Medicine and Surgery, Professional Development

Certified Holistic Life, Career, and Executive Coach

Wellbeing, Diversity and Inclusion Officer, SVM

Email: AIRodriguez@sgu.edu

Office: Cassia Building Ground Floor (SGU Campus map #17)

Office Hours: By appointment (office or Zoom)

Course Faculty:

Domain 1: Personal Development - Dr. Kerri Nigito (nigker1@sgu.edu)

Domain 2: Wellness - Dr. Adria Rodriguez (airodriguez@sgu.edu)

Domain 3: Ethics and Welfare - Dr. Austin Kirwan (akirwan@sgu.edu)

Domain 4: Communication - Dr. Talia Guttin (tguttin@sgu.edu) and Dr. Stacey Byers (sbyers1@sgu.edu)

Domain 5: Business and Financial Literacy - Dr. Heather Douglas (hdouglas@sgu.edu)

Domain 6: Evidence-Based Veterinary Medicine - Dr. Heidi Janicke (hjanicke@sgu.edu)

Collaborating Faculty:

Ms. Jill Paterson (jpaterso@sgu.edu)

Ms. Suzanne Paparo (spaparo@sgu.edu)

Course Assistant: Ms. Keshia John (kjohn5@sgu.edu)

Faculty Mentors

II. Course location: All lectures are mandatory in David Brown Hall and live online on Zoom for authorized students who are not on island.

III. Prerequisite and/or co-requisite courses:

Current SVM Term 2 Student

LAMS 541: Professional Development I

IV. Required resources:

Equipment: Desktop or laptop computer, and/or tablet or other smart mobile device; functional camera, speakers and microphone

Software requirements: Sakai, Zoom, Panopto, Turning Point Mobile, Google Drive, Google Slides

V. Recommended resources:

Text: *The Art of Veterinary Practice Management*, 2nd ed., 2014; M. Opperman

VI. Accommodations

A. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

B. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Reliable internet connection

VIII. Course rationale

This course is the second of six courses within the curriculum focused on professional development. Through experiential learning methods, students will be exposed to topics and skills related to personal development, self-care, ethics and animal welfare, communication skills, business and financial literacy, and evidence based veterinary medicine.

IX. Course-Learning Outcomes

Upon successful completion of this course, the student will be able to discuss and model the fundamentals and skills covered in the six professional development domains: personal development, wellness, ethics and welfare, communication, business and financial literacy, and evidence-based veterinary medicine.

X. Lecture-Learning Outcomes

Domain 1- Personal Development:

1. Compose a professional letter of intent that may be used to communicate with potential externship clinics, mentors and/or employers in your desired field
2. Construct professional curriculum vitae that may be used for future applications and will be maintained and updated throughout your career
3. Discuss non-traditional careers in veterinary medicine including specialization

Domain 2-Wellness:

1. Define the meaning of the practice of mindfulness
2. Describe the benefits of practicing mindfulness
3. Apply mindfulness principles to personal and professional life
4. Define self-compassion
5. Describe the benefits of applying self-compassion
6. Apply self-compassion to personal life and in a professional setting
7. Define QPR
8. Apply QPR/Kognito Principles by: Recognizing the warning signs of suicide - Knowing how to offer hope -Knowing how to get help and save a life
9. Apply prevention, intervention, and postvention in a crisis.

Domain 3-Ethics and Welfare:

1. Differentiate between clinical care and research.
2. Discuss the role of clinical research and trials and compare human and veterinary research limitations.
3. Evaluate the function of journal clubs in practice and how to peer review a paper with an open mind.
4. Describe the components of EBVM and the interface between clinical skills/availability, research and owner preferences.
5. Evaluate the value of each component and make judgements informing sound clinical care to ensure animal welfare.
6. Introduce the concept of lifelong learning and how this is a professional responsibility.

7. Determine opportunities for learning, how they will be highlighted, identified, and recorded.
8. Appraise the learning required by regulatory bodies in the jurisdiction they are going to practice and record and report them as required.
9. Identify who you communicate with nonverbally.
10. Develop the links of between stake holders in nonverbal communication, e.g. Professional bodies, insurers, clients, patients, etc.
11. Understand the consequences of incorrect or lack of communication, i.e. RCVS v. Mulvey (2018).
12. Diagnose the pathology of a communication breakdown and introduce how to remediate poor communication.
13. Manage and develop clinical governance systems in the light of best and poor practice of nonverbal communication.
14. Determine how money is accounted for in a business.
15. Analyze practice accounts to determine how one can ethically manage money while ensuring animal welfare.

Domain 4-Communication:

1. Be introduced to the basics of clinical communication with the Calgary Cambridge Guide.
2. Identify appropriate non-verbal communication skills.
3. Discuss the key components of initiating a client interaction and negotiating the agenda.
4. Define feedback and review guidelines for giving and receiving it effectively.
5. Complete an effective client interview focusing on: a. Initiating the session and negotiating the agenda b. Recognizing and reacting to verbal and non-verbal cues from the client
6. Practice giving feedback to their peers.
7. Practice receiving feedback from their faculty coaches, peers and simulated clients.
8. Engage in self-assessment techniques by reflecting on the interviews and determining what improvements can be made.

Domain 5-Business and Financial Literacy:

1. Understand basic financial terminology and theory applicable to owning and/or working in a veterinary practice.
2. Perform a self-assessment of the personal budget and discuss areas for improvement.

Domain 6-Evidence-Based Veterinary Medicine:

1. Review resources, tools and methods available in searching for veterinary medical information.

2. Review ways to obtain articles in full text.
3. Identify the significance and key components of a literature review.
4. Identify the importance and function of style guides.
5. Recognize the importance of professional writing in research.
6. Produce clear, concise, unbiased, academic/scientific writing.
7. Identify different types of scientific writing.
8. Identify key points for organizing poster and oral presentation.
9. Recognize elements of an abstract.
10. Review and evaluate abstracts.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	Program Level Outcome
Discuss the fundamentals of the six domains of professional development	<p>B. Core Professional Attributes</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 16 Demonstrate and model adaptability and resilience.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p>

XII. Course Schedule

See Appendix: LAMS 542 Lecture and Assignment Schedule

XIII. Grading and assessment policy, and grading rubrics

The course will be graded Pass/Fail.

100%-69.5% = Pass

<69.5% = Fail

Evaluation	Weight	Grade
QPR Training	5%	P/F (1/0)
EBVM Assignment	10%	P/F (1/0)
BFL Forums (2)	10%	P/F (1/0)
BFL Assignment (1)	5%	P/F (1/0)
CV/Letter of Intent Assignment	10%	56 points
Communication Lab Participation and Self-Assessment	10%	P/F (1/0)
PD Mentor Meeting Participation	10%	P/F (1/0)
Professionalism evaluation at midterm	20%	16 points
Professionalism evaluation end of term	20%	16 points

A. A grade of passing will be determined by:

- i. Successful completion of assignments (see below)
- ii. Mandatory attendance-Faculty mentor meeting
- iii. Mandatory attendance/engagement in the course content which includes:
 1. Attendance of all synchronous Zoom sessions
 2. Review of all asynchronous recorded seminars
 3. Completion of asynchronous forums and activities.
 4. Completion of weekly requirements checklists.

Unexcused absences are not allowed. Any absences or technical difficulties must be immediately addressed by emailing the course director (Dr. Adria Rodriguez at airodriguez@sgu.edu). Failure to attend mandatory meetings, lectures, and/or engage in course content without following the appropriate reporting/excused absence protocols may result in course failure AND the student may be placed on non-academic probation by the CAPPS committee.

B. Course Assignments: Listed below are descriptions of the assignments to be encountered in the course. COMPLETE assignment and rubric (if applicable) information will be found in Sakai when the assignment opens. Open and due dates are listed on the lecture and assignment schedule.

1. Domain 1 Personal Development: CV and Letter of Intent Workshop
Due: Sept 26 11:55pm AST
2. Domain 2 Wellness: QPR Certificate (Week 1,2)
Due: Nov 7 11:55pm AST
3. Domain 3 Ethics and Welfare: Professional Development Mentor Group Meeting: Ethics and Welfare Scenario Review and Discussion (See Mentor Meeting Schedule)
4. Domain 4 Communication: Communication Skills

Communication Labs with Simulated Clients (1 lab per student)

Refer to Sakai Resources and Weekly Requirement Tabs for Groups and Dates and Lab Information

Communication Lab Session Self-Assessment: **Due the Sunday after your Communication Lab Session 11:55pm AST**
5. Domain 5 Business and Financial Literacy: Forums x 2 and 1 assignment
Due: Aug 29 11:55pm AST
6. Domain 6 Evidence Based Veterinary Medicine: Assignment
Due: Sept 19 11:55pm AST

XIV. Recommended study strategies

Course content will be released week by week. Students must visit the weekly requirements tab in Sakai to ensure they complete all the necessary requirements and use the checklist to aid in staying on track. Once all live lectures are attended and the different activities and assignments are completed, the student will have successfully attained the intended knowledge and will have achieved the course learning outcome.

XV. Instructor's expectations of the student

- a. The student is expected to adhere to the guidelines provided throughout this syllabus including attendance, engagement, and assignment and forum submission.
- b. The student is expected to communicate with the Course director professionally and in a timely manner in the event of technical difficulties, inability to attend lectures or hand in assignments on time for any reason.

XVI. Professionalism statement

Always exhibit professional and respectful behavior towards colleagues, faculty and staff. Please be on time and engaged in course content as directed. Off-island students may be required to turn on their cameras during live sessions. Please be mindful of this regarding attire and surroundings. If you are asked to turn on your camera and you are not able to, please email your lecturer in advance prior to the live session.

XVII. Attendance/Participation Policy

All students (on and off island) are expected to be available during the standard 8:30am–5:30pm AST school day, to attend, engage with (online) content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation *is* graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Zoom Synchronous Seminar Attendance policy (off-island students):

Attendance is **mandatory**. If a student has received an excused absence or there are external circumstances which are communicated to the course director in a timely manner, students will be required to view the video of the lecture by Sunday 11:55pm AST of the week of the missed lecture.

Asynchronous Activities Engagement Policy: Every requirement in the Weekly Requirements and checkbox of the week's checklist for the week **MUST** be completed by Sunday 11:55pm AST of that week.

XVIII. Policy regarding failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or ExamSoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during assignment submission MUST inform the Course Director (Dr. Adria Rodriguez airodriguez@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible for a remediation. Scheduling of remediations is at the discretion of the Course Director and the School.

Failure to adhere to attendance and engagement guidelines may result in course failure AND the student may be placed on non-academic probation by the CAPPs committee.

XIX. ExamSoft policy

N/A

XX. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George’s University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

LAMS 542 Lecture and Activities Schedule– Fall 2021

Modality/Activity/ Duration/Date/Time	Lecture Topic	Faculty	Open Date/ Due Date
Week 1 (August 16-22)			
Lecture (1hr) Mon Aug 16 10:30-11:20	Welcome/Course Introduction/Logistics	Dr. Adria Rodriguez	
Lecture (1hr) Mon Aug 16 11:30-12:20	Escape Debt-Make Room for Success	Dr. Heather Douglas	
Week 2 (August 23-29)			
Lecture (1hr) Mon Aug 23 10:30-11:20	Practice Culture-An Introspective Approach	Dr. Heather Douglas	Open Aug 16 Due Aug 29
Lecture Mon Aug 23 11:30-12:20	Wellness Effects of Budgeting, Debt Management and Practice Culture	Dr. Heather Douglas	
Lecture (1hr) Tues Aug 24 11:30-12:20	Introduction to Communication Labs	Dr. Guttin and Byers	
Panopto Lecture (1hr) Fri Aug 27 10:30-11:20	Communication Basics Giving Feedback	Dr. Guttin and Byers	
Panopto Lecture (1hr) Fri Aug 27 11:30-12:20	Calgary Cambridge Guidelines	Dr. Guttin and Byers	
Sakai Assignment and Forums x2	Budgeting-Decreasing Expenses	Dr. Heather Douglas	Open Aug 16 Due Aug 29
Week 3 (August 30-Sept 5)			
Lecture (1hr) Mon Aug 30 11:30-12:20	Informatics for Veterinary Medicine	Ms. Suzanne Paparo	
Lecture (1hr) Wed Sept 1 11:30-12:20	Literature Review and Reference Management	Ms. Jill Paterson	
Lecture (1hr) Thurs Sept 2 11:30-12:20	Scientific Writing	Ms. Jill Paterson	
Week 4 (September 6-12)			
Lecture (1hr) Wed Sept 8 11:30-12:20	Presenting Research	Ms. Jill Paterson	
Lecture (2hr) Thurs Sept 9 10:30-12:20	CV and Letter of Intent Workshop	Dr. Kerri Nigito	

Week 5 (September 13-19)			
Sakai/Assignment (2hr)	Self-study: EBVM Assignment	Dr. Heidi Janicke	Open Aug 30 Due Sept 19
Week 6 (September 20-26)			
Sakai/Assignment (1-2hr)	CV/Letter of Intent Writing	Dr. Kerri Nigito/ Faculty Mentors	Open Sept 9 Due Sept 26
Week 7 (September 27-Oct 1) – Communication Labs and Mentor Meetings Start through Week 15			
Week 8 (October 4-10) MIDTERMS			
Week 9 (October 11-17)			
Lecture (2hr) Wed Oct 13 10:30-12:20	Ethics in Scientific Research and Writing/ Ethics in EBVM and Learning in Practice	Dr. Austin Kirwan	
Week 10 (October 18-24)			
Lecture (2hr) Wed Oct 20 10:30-12:20	Developing an Ethical Professional Approach to Life-long Learning	Dr. Austin Kirwan	
	The ethics of money		
Week 11 (October 25-31)			
Week 12 (November 1-7)			
Sakai/Assignment (1-2hr)	QPR Training	Dr. Adria Rodriguez	Open Oct 11 Due Nov 7
Week 13 (November 8-14)			
Week 14 (November 15-21)			
Lecture (2hr) Mon Nov 15 10:30-12:20	Mindfulness and Self-Compassion in Veterinary Medicine	Dr. Adria Rodriguez	
Week 15 (November 22-28)			
Lecture (2hr) Thurs Nov 25 10:30-12:20	Navigating towards Internship and Residency/Non-Traditional Career Paths	Dr. Kerri Nigito	
Sakai Assignment	Communication Lab Self-Assessment	Dr. Guttin and Byers	Open Sept 27 Due the Sunday after Comm lab by 11:55 pm AST

Domain 3 Ethics: Professional Development Group Meeting

<p>Weeks 7, 9-15 (Either a Monday or Thursday)</p> <p>Sept 27 Oct 11 Oct 21 Oct 28 Nov 4 Nov 11 Nov 15 Nov 22</p> <p>1:30-3:30pm AST (2 hrs)</p>	<p>Ethics and Welfare: Case Scenario Discussion</p> <p>ONE session per student Reserve all dates until you get confirmation of your date</p>	<p>Dr. Austin Kirwan Faculty Mentors</p>
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Domain 4 Communication: Live Simulation Labs

<p>Weeks 7, 9-15 (Either a Monday or Thursday)</p> <p>Sept 27 Oct 11 Oct 21 Oct 28 Nov 4 Nov 11 Nov 15 Nov 22</p> <p>1:30-4:30pm AST (3hrs)</p>	<p>Communication Live Simulation Labs:</p> <p>ONE session per student Reserve all dates until you get confirmation of your date</p> <p>Self-Assessment Assignment Due Nov 28th 11:55pm AST</p>	<p>Dr. Talia Guttin and Dr. Stacey Byers Communication Coaches</p>
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LAMS 542

Cover Letter/Letter of Intent Assignment Grading Rubric

ROWS (Dimensions)	Meets expectations consistently (4)	Meets expectations most of the time (3)	Occasionally meets expectations (2)	Does not meet expectations (1)
Student includes an introduction paragraph	Student clearly and concisely describes who they are, their role, future career goals, the position they are applying for and the reasons they are interested in the specific opportunity.	Student generally clearly and concisely describes who they are, their role, future career goals, the position they are applying for and the reasons they are interested in the specific opportunity and may be missing one of these introduction criteria.	Student occasionally clearly and concisely describes who they are, their role, future career goals, the position they are applying for and the reasons they are interested in the specific opportunity and may be missing one of these introduction criteria.	The student did not clearly and concisely describe who they are, their role, future career goals, the position they are applying for and the reasons they are interested in the specific opportunity in the introduction.
Student discusses the goals for the opportunity experience	Consistently and clearly explained the specific goals to be accomplished during the opportunity.	Generally explained the specific goals to be accomplished during the opportunity with an occasional lack of clarity.	Inconsistently and/or unclearly explained the specific goals to be accomplished during the opportunity.	The student did not explain the specific goals to be accomplished during the opportunity.
Student discusses the relevance of opportunity to personal professional development	Consistently and clearly explained the relevance of the proposed opportunity experience to personal professional development.	Generally explained the relevance of proposed opportunity experience to personal professional development with an occasional lack of clarity.	Inconsistently explained the relevance of the proposed opportunity experience to personal professional development.	The student failed to explain the relevance of the proposed opportunity experience to personal professional development.
Student discusses the skills, qualifications, and/or experiences that make them a candidate for the experience in the body of the letter	Consistently and clearly explained the skills, qualifications, and/or experiences that make them a candidate for the experience	Generally explained the skills, qualifications, and/or experiences that make them a candidate for the experience	Inconsistently explained the skills, qualifications, and/or experiences that make them a candidate for the experience	The student failed to explain the skills, qualifications, and/or experiences that make them a candidate for the experience
Student includes a conclusion paragraph	Student clearly and concisely emphasizes interest in the position and summarizes the skills that make them a candidate	Student generally clearly and concisely emphasizes interest in the position and summarizes the skills that make them a candidate	Student occasionally clearly and concisely emphasizes interest in the position and summarizes the skills that make them a candidate	The student did not clearly and concisely emphasize interest in the position and/or summarizes the skills that make them a candidate

Letter formatting, organization, and structure	Formatting is professional in appearance, tone & style well organized and easy to follow with a natural flow.	Formatting is generally organized and professional in appearance, tone and/or style with minor areas of improvement needed and/or there were times when it was difficult to follow the thought process or content.	Formatting is occasionally unprofessional in appearance, tone and/or style with major areas of improvement needed and/or the assignment was generally disorganized making it difficult to follow the thought process and content	Formatting is unprofessional in appearance, tone and/or, style and/or there was no discernible organization or flow of the assignment and it was difficult to follow the writing and content.
Demonstrates appropriate writing and grammar skills	Wrote an appropriate assignment using correct grammar and spelling with no mistakes.	The assignment had 2 or fewer minor grammatical and/or spelling errors.	The assignment had 3-4 major grammatical and/or spelling errors	The assignment had more than 4 grammatical and/or spelling errors.
Appropriately adheres to word count/length guidelines	Student submitted an assignment within the 500-word count and 1-page maximum requirements	Student submitted an assignment that was less than 550 words within the 1-page limit	Student submitted an assignment that was less than 600 words but within the 1-page limit	Student submitted an assignment that was greater than 600 words and greater than the 1-page limit
Appropriately adheres to deadlines	Assignment was submitted by the deadline and/or student communicated with course director PRIOR to deadline with any technical/medical/personal issues	Assignment was submitted after the deadline and/or not submitted and student communicated with course director the same day of assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student communicated with course director more than 24 hours after assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student never communicated with course director

LAMS 542 Curriculum Vitae Assignment Grading Rubric				
ROWS (Dimensions)	Meets expectations consistently (4)	Meets expectations most of the time (3)	Occasionally meets expectations (2)	Does not meet expectations (1)
Structure and Organization	Student includes all major sections in recommended order with supporting experience listed in appropriate chronological order from most to least recent dates	Student includes all major sections but may not be in recommended order or supporting information is not listed in appropriate chronological order from most to least recent dates	Student includes all major sections but may not be in recommended order and supporting information is not listed in appropriate chronological order from most to least recent dates	The student did not include all major sections and/or may not be in recommended order and/or supporting information is not listed in appropriate chronological order from most to least recent dates
Content	Student clearly and concisely provides supporting and detailed information for each major section in the document	Student generally clearly and concisely provides supporting information which may lack some details for each major section in the document with minor areas of improvement needed.	Student occasionally clearly and concisely provides supporting information which may lack details for each major section in the document with major areas of improvement needed.	The student did not clearly and concisely provide supporting information for each major section in the document
CV formatting and style	Formatting is professional in appearance and style containing a header, section separations, bullet points and other necessary formatting components	Formatting is generally professional in appearance and/or style containing a header, section separations, bullet points and other necessary formatting components with minor areas of improvement needed	Formatting is occasionally unprofessional in appearance and/or style and may be missing part of or 1 of the following: header, section separations, bullet points with major areas of improvement needed	Formatting is unprofessional in appearance and/or style and is missing part or more than 1 of the following: header, section separations, bullet points and other necessary formatting components
Demonstrates appropriate writing and grammar skills	Wrote an appropriate assignment using correct grammar and spelling with no mistakes.	The assignment had 2 or fewer minor grammatical and/or spelling errors.	The assignment had 3-4 major grammatical and/or spelling errors	The assignment had more than 4 grammatical and/or spelling errors.
Appropriately adheres to deadlines	Assignment was submitted by the deadline and/or student communicated with course director PRIOR to deadline with any technical/medical/personal issues	Assignment was submitted after the deadline and/or not submitted and student communicated with course director the same day of assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student communicated with course director more than 24 hours after assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student never communicated with course director



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

LARGE ANIMAL MEDICINE AND SURGERY DEPARTMENT

PROFESSIONAL DEVELOPMENT III SYLLABUS (2 credits)

LAMS 543 TERM 3

Fall 2021

I. Course Faculty and Staff Information

Co-Course Directors:

Adria Rodriguez, DVM, MSc, CVA, CVCH, MS TCVM

Associate Professor, Small Animal Medicine and Surgery, Professional Development

Wellbeing, Diversity and Inclusion Officer, SVM

Certified Holistic Life, Career, and Executive Coach

Email: AIRodriguez@sgu.edu

Office: Cassia Building Ground Floor (SGU Campus map #17)

Office Hours: By appointment (Office or Zoom)

Austin Kirwan, M.A., M.B.A., B.V.SC., M.R.C.V.S.

Veterinary Surgeon and Medical Ethicist and Assistant Dean for UK Clinical Affairs

Email: AKirwan@sgu.edu

Office Hours: By Appointment on Zoom

Course Faculty:

Domain 1: Personal Development - Dr. Kerri Nigito (nigker1@sgu.edu)

Domain 2: Wellness - Dr. Adria Rodriguez (airodriguez@sgu.edu)

Domain 3: Ethics and Welfare - Dr. Austin Kirwan (akirwan@sgu.edu)

Domain 4: Communication - Dr. Talia Guttin (tguttin@sgu.edu) and Dr. Stacey Byers (sbyers1@sgu.edu)

Domain 5: Business and Financial Literacy - Dr. Heather Douglas (hdouglas@sgu.edu)

Domain 6: Evidence-Based Veterinary Medicine - Dr. Heidi Janicke (hjanicke@sgu.edu)

Course Assistant: Ms. Keshia John (kjohn5@sgu.edu)

Faculty Mentors

II. Course location: All lectures are mandatory in Ray and Jan Sis Hall II and live online on Zoom for authorized students who are not on island.

III. Prerequisite and/or co-requisite courses:

Current Term 3 Student

LAMS 541: Professional Development I

LAMS 542: Professional Development II

IV. Required resources:

Equipment: Desktop or laptop computer, and/or tablet or other smart mobile device; functional camera, speakers and microphone

Software requirements: Sakai, Zoom, Panopto, Turning Point Mobile, Google Drive, Google Slides

V. Recommended resources: N/A

VI. Accommodations

A. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

B. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Reliable internet connection

VIII. Course rationale

This course is the third of six courses within the curriculum focused on professional development. Through experiential learning methods, students will be exposed to topics and skills related to personal development, self-care, ethics and animal welfare, communication skills, business and financial literacy.

IX. Course-Learning Outcomes

Upon successful completion of this course, the student will be able to discuss and model the fundamentals and skills covered in the six professional development domains: personal development, wellness, ethics and welfare, communication, business and financial literacy.

X. Lecture-Learning Outcomes

Domain 1-Personal Development:

1. Define and understand emotional intelligence and its four components: self-awareness, self-management, social awareness and relationship management.
2. Describe and model the effective practice of emotional intelligence and how it relates to enhancing the individual's overall wellbeing in their personal and professional lives
3. Practice enhancing one's emotional intelligence through veterinary scenarios and role play
4. Review the MBTI personality types
5. Determine one's own MBTI profile and the strengths and opportunities for each profile type
6. Discuss how being tolerant of other personality profiles is essential for successful teamwork

Domain 2-Wellness:

1. Describe the perfectionism complex
2. Understand the benefits and challenges of perfectionism
3. Understand the link between perfectionism, anxiety and other mental disorders
4. Reflect on personal experiences and identify traits of perfectionism in themselves
5. Create a plan to cope and control any identified traits of perfectionism
6. Describe imposter syndrome
7. Describe the 5 types of imposter syndrome and the challenges imposter syndrome presents, such as links to anxiety and other mental disorders
8. Reflect on personal experiences and identify symptoms in themselves
9. Create a plan to cope and control any identified traits of imposter syndrome
10. Know the history and elements of eCPR
11. Understand the benefits of practicing eCPR
12. Practice and apply the basics of eCPR
13. Understand the certification process

Domain 3-Ethics and Welfare:

1. Recognize when welfare has been compromised and in medical practice judge and apply proportionate and disproportionate treatment.
2. Design treatment protocols which are in the best interest of welfare.
3. Compare and contrast euthanasia, disthanasia and benemortasia and how they relate to welfare, legal and professional responsibilities and judge when such pathways should and should not be used.

4. List the 5 freedoms, carry out a welfare assessment and create action plans to restore welfare.
5. Apply a welfare decision tree to practical situations and reflect on its efficacy.
6. Summarize an understanding of professional conduct and regulatory practice and apply this to professional practice.
7. Summarize the rights and responsibilities of employment law and comparisons made between the USA and UK making a judgement on what is ethical.
8. Recognize the need and finding support networks for professional practice and generating a professional survival strategy.

Domain 4-Communication:

1. Determine a strategy for handling a medical error
2. Identify the communication skills necessary to discuss medical errors
3. Discuss commonly encountered "difficult" communication scenarios and practice how to address them
4. Discuss how veterinarians protect themselves from commonly encountered medical and communication errors

Domain 5-Business and Financial Literacy:

1. Perform a self-assessment of the personal budget and detect areas for improvement
2. Communicate and negotiate to best advocate for needs within a practice while showing utmost respect towards the existing ownership/ownership team.
3. Discuss the attributes of an effective team member within a veterinary practice/setting.
4. Discuss what shapes the "culture" of a practice and what role the new veterinarian plays in that culture

Domain 6-Evidence-Based Veterinary Medicine:

Discuss how personal and professional wellbeing is enhanced by practicing evidence-based veterinary medicine.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	Program Level Outcome
<p>Discuss the fundamentals of the six domains of professional development</p>	<p>B. Core Professional Attributes</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 16 Demonstrate and model adaptability and resilience.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p>

XII. Course Schedule

See Appendix: LAMS 543 Lecture and Activity Schedule

XIII. Grading and assessment policy, and grading rubrics Grading scale: Pass or Fail

The course will be graded Pass/Fail.

100%-69.5% = Pass

<69.5% = Fail

Evaluation	Weight	Grade
Wellness Domain Reflection	10%	25 points
Ethics Domain Reflection	5%	P/F (0/1)
Ethics Self-Study Forum	5%	P/F (0/1)
BFL Forums (1)	5%	P/F (0/1)
BFL Assignment	5%	P/F (0/1)
PD Reflection	5%	35 points
EBMV Forum	5%	P/F (0/1)
Communication Assignment	10%	P/F (0/1)
PD Mentor Meeting	10%	P/F (0/1)
Professionalism evaluation at midterm	20%	20 points
Professionalism evaluation end of term	20%	20 points

A. A grade of passing will be determined by:

- i. Successful completion of assignments (see below)
- ii. Mandatory attendance-Faculty mentor meeting
- iii. Mandatory attendance/engagement in the course content which includes:
 1. Attendance of all synchronous Zoom sessions
 2. Review of all asynchronous recorded seminars
 3. Completion of asynchronous forums and activities.
 4. Completion of weekly requirements checklists.

Unexcused absences are not allowed. Any absences or technical difficulties must be immediately addressed by emailing the course directors (Dr. Adria Rodriguez at airodriguez@sgu.edu and Dr. Austin Kirwan at akirwan@sgu.edu). Failure to attend mandatory meetings, lectures, and/or engage in course content without following the appropriate reporting/excused absence protocols may result in course failure AND the student may be placed on non-academic probation by the CAPPS committee.

B. Course Assignments: Listed below are descriptions of the assignments to be encountered in the course. COMPLETE assignment and rubric (if applicable) information will be found in Sakai when the assignment opens. Open and due dates are listed on the lecture and assignment schedule.

1. Domain 1 Personal Development: Personality Evaluation and Reflection Assignment

Due: Sept 26th 11:55pm AST

2. Domain 2 Wellness: Reflective Journaling- Emotional Intelligence, eCPR, Perfectionism, Impostor Syndrome and YOU

Due: Oct 3rd 11:55pm AST

3. Domain 3 Ethics and Welfare:
Self-Study and Lecture Discussion Preparation

Due: Oct 12th 11:55pm AST

Reflective Journaling-My current thoughts on Ethics and Welfare

Due: Oct 31st 11:55pm AST

4. Domain 4 Communication: Communication - Medical Errors

Due: Nov 14th 11:55pm AST

5. Domain 5 Business and Financial Literacy:
Forum: Purpose is Key

Due: Aug 29th 11:55pm AST

Assignment: Budgeting-Decreasing Expenses

Due: Aug 29th 11:55pm AST

6. Domain 6 Evidence Based Veterinary Medicine: Fostering Wellbeing by Practicing EBVM Forum

Due: Oct 31st 11:55pm AST

C. Faculty Mentor/Group Meeting:

Domain 2 Wellness Professional Development Meeting:

Students in their faculty/mentor groups will reflect and discuss the basics of emotional CPR, impostor syndrome and perfectionism, and emotional intelligence and growth mindset and the impact in their own personal and professional lives. See mentor meeting schedule.

XIV. Recommended study strategies

Course content will be released week by week. Students must visit the weekly requirements tab in Sakai to ensure they complete all the necessary requirements and use the checklist to aid in staying on track. Once all live lectures are attended and the different activities and assignments are completed, the student will have successfully attained the intended knowledge and will have achieved the course learning outcome.

XV. Instructor's expectations of the student

- a. The student is expected to adhere to the guidelines provided throughout this syllabus including attendance, engagement, and assignment and forum submission.
- b. The student is expected to communicate with the Course director professionally and in a timely manner in the event of technical difficulties, inability to attend lectures or hand in assignments on time for any reason.

XVI. Professionalism statement

Always exhibit professional and respectful behavior towards colleagues, faculty and staff. Please be on time and engaged in course content as directed. Off-island students may be required to turn on their cameras during live sessions. Please be mindful of this regarding attire and surroundings. If you are asked to turn on your camera and you are not able to, please email your lecturer in advance prior to the live session.

XVII. Attendance/Participation Policy

All students (on and off island) are expected to be available during the standard 8:30am–5:30pm AST school day, to attend, engage with (online) content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation *is* graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Zoom Synchronous Seminar Attendance policy (off-island students):

Attendance is **mandatory**. If a student has received an excused absence or there are external circumstances which are communicated to the course director in a timely manner, students will be required to view the video of the lecture by Sunday 11:55pm AST of the week of the missed lecture.

Asynchronous Activities Engagement Policy: Every requirement in the Weekly Requirements and checkbox of the week's checklist for the week **MUST** be completed by Sunday 11:55pm AST of that week.

XVIII. Policy regarding failure of submission of assignments or missing mandatory course requirements

Students who fail to attend an examination (Sakai quiz/test or ExamSoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during assignment submission **MUST** inform the Course Director (Dr. Adria Rodriguez airodriguez@sgu.edu and Dr. Austin Kirwan akirwan@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but **NOT** being eligible for a remediation. Scheduling of remediations is at the discretion of the Course Director and the School.

Failure to adhere to attendance and engagement guidelines may result in course failure AND the student may be placed on non-academic probation by the CAPPS committee.

XIX. ExamSoft policy

N/A

XX. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

LAMS 543 Lecture and Activity Schedule– Fall 2021

Modality/Activity/ Duration/Date/Time	Lecture Topic	Faculty	Open Date/ Due Date
Week 1 (August 16-22)			
Lecture (1hr) Wed Aug 18 2:30-3:20	Welcome/Course Logistics/Wellness Check-In	Dr. Adria Rodriguez	
Lecture (1hr) Thurs Aug 19 2:30-3:30	Budgeting for the Savvy Vet Student: Saving, Spending, and Living Large	Dr. Heather Douglas	
Week 2 (August 23-29)			
Lecture (1hr) Wed Aug 25 1:30-2:20	Your Best Self as a Part of the Best Team	Dr. Heather Douglas	
Lecture (1hr) Thurs Aug 26 1:30-2:20	Workplace Culture: Avoiding the Shock	Dr. Heather Douglas	
Sakai Forum (1-2hr)	Purpose is Key	Dr. Heather Douglas	Open Aug 16 Due Aug 29
Sakai Assignment (1-2hr)	Budgeting-Decreasing Expenses	Dr. Heather Douglas	Open Aug 16 Due Aug 29
Week 3 (August 30-Sept 5)			
Lecture (2hr) Wed Sept 1 1:30-3:20	Emotional Intelligence in Veterinary Medicine: Self-Awareness and Self- Regulation	Dr. Adria Rodriguez	
Week 4 (September 6-12)			
Lecture (2hr) Wed Sept 8 1:30-3:20	Emotional Intelligence in Veterinary Medicine: Social Awareness and Relationship Management	Dr. Adria Rodriguez	
Week 5 (September 13-19)			
Lecture (2hr) Wed Sept 15 1:30-3:20	Emotional CPR (eCPR): Connecting, emPowering and Revitalizing others in time of crisis	Dr. Adria Rodriguez	
Week 6 (September 20-26)			
Lecture (1hr) Wed Sept 22 1:30-2:20	Imposter Syndrome in Vet Med	Dr. Adria Rodriguez	
Sakai Assignment (1-2hr)	Personality Evaluation and Reflection	Dr. Kerri Nigito Dr. Adria Rodriguez	Open Sept 1 Due Sept 26

Week 7 (September 27-Oct 3)			
Lecture (2hr) Wed Sept 29 1:30-3:20	Perfectionism and Veterinary Medicine	Dr. Adria Rodriguez	
Sakai Assignment (2hr)	Reflective Journaling- Emotional Intelligence, eCPR, Perfectionism, Impostor Syndrome and YOU	Dr. Adria Rodriguez	Open Sept 15 Due Oct 3
Week 8 (October 4-10) MIDTERMS			
Week 9 (October 11-17)			
Sakai Forums (1-2hr)	Self-Study in Preparation for Ethics Lectures	Dr. Austin Kirwan	Open Sept 15 Due Oct 12
Lecture (2hr) Wed Oct 13 1:30-3:20	Clinical Decision Making I	Dr. Austin Kirwan	
Week 10 (October 18-24) – Mentor Meetings Start			
Lecture (1hr) Wed Oct 20 2:30-3:20	Clinical Decision Making II	Dr. Austin Kirwan	
Lecture (1hr) Fri Oct 22 2:30-3:20	Professional Conduct, Negligence, and Employment Law, and Support networks	Dr. Austin Kirwan	
Week 11 (October 25-31)			
Sakai Assignment (1-2hr)	Reflective Journaling: My current thoughts on Ethics and Welfare	Dr. Austin Kirwan	Open Oct 13 Due Oct 31
Sakai Forum (1hr)	Fostering Wellbeing by Practicing EBVM	Dr. Heidi Janicke/ Dr. Adria Rodriguez	Open Aug 18 Due Oct 31
Week 12 (November 1-7)			
Lecture (2hr) Thurs Nov 4 2:30-4:20	Difficult Conversations: Communicating about Medical errors	Dr. Stacey Byers Dr. Talia Guttin	
Week 13 (November 8-14)			
PANOPTO Lecture (1 hr) Wed Nov 10 1:30-2:20	AVMA PLIT Medical Errors	Dr. Jennifer Frey AVMA PLIT	Any questions should be referred to Dr. Guttin/Byers
Sakai Assignment (1-2hr)	Medical Error Reflection	Dr. Talia Guttin/Dr. Stacey Byers	Open Nov 4 Due Nov 14

Professional Development Group Meeting: Domain 2 Wellness

<p>Weeks 10,11,13, 14</p> <p>Wed Oct 20 8:30-10:30</p> <p>Wed Oct 27 10:30-12:30</p> <p>Thurs Oct 28 10:30-12:30</p> <p>Thurs Nov 11 10:30-12:30</p> <p>Mon Nov 15 8:30-10:30</p> <p>Mon Nov 15 10:30-12:30</p> <p>Tues Nov 16 8:30-10:30</p> <p>Tues Nov 16 10:30-12:30</p> <p style="text-align: center;">(2 hours)</p>	<p>Emotional Intelligence, eCPR, Perfectionism, Impostor Syndrome and YOU</p> <p><u>Only one date applies to each group-Reserve all dates until you receive confirmation of your group's date</u></p>	<p>Dr. Adria Rodriguez/ Mentors</p>
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LAMS 543 Personality Evaluation and Reflection Assignment				
ROWS (Dimensions)	Meets expectations consistently (4)	Meets expectations most of the time (3)	Occasionally meets expectations (2)	Does not meet expectations (1)
Student describes the strengths and opportunities associated with their personality trait profile	Student clearly and concisely described 2 strengths and 2 opportunities associated with their personality trait profile	Student generally clearly and concisely described 2 strengths and 2 opportunities associated with their personality trait profile with minor improvements needed	Student occasionally clearly and concisely described less than 2 strengths and/or opportunities associated with their personality trait profile with major improvements needed	The student did not clearly and concisely describe at least 1 strength and 1 opportunity associated with their personality trait profile
Student clearly describes how their own personality traits may impact relationships with colleagues and clients	Consistently and clearly explained how their own personality traits may impact relationships with colleagues and clients	Generally explained how their own personality traits may impact relationships with colleagues and clients with an occasional lack of clarity.	Inconsistently explained how their own personality traits may impact relationships with colleagues and clients	The student did not explain how their own personality traits may impact relationships with colleagues and clients
Student discusses how being inclusive and understanding of other personality profiles is essential for successful teamwork	Consistently and clearly explained how being inclusive and understanding of other personality profiles is essential for successful teamwork	Generally explained how being inclusive and understanding of other personality profiles is essential for successful teamwork with an occasional lack of clarity at times.	Inconsistently explained how being inclusive and understanding of other personality profiles is essential for successful teamwork	The student failed to explain how being inclusive and understanding of other personality profiles is essential for successful teamwork
Demonstrates appropriate writing and grammar skills	Wrote an appropriate assignment using correct grammar and spelling with no mistakes.	The assignment had 2 or fewer minor grammatical and/or spelling errors.	The assignment had 3-4 major grammatical and/or spelling errors	The assignment had more than 4 grammatical and/or spelling errors.
Organization and Structure	The assignment was very well organized and easy to follow with a natural flow.	The assignment generally was organized, however there were times when it was difficult to follow the thought process or content.	The assignment was generally disorganized making it difficult to follow the thought process and content	There was no discernible organization or flow of the assignment, and it was difficult to follow the writing and content.
Appropriately adheres to word count guidelines	Student submitted an assignment within the 600 word count maximum requirements	Student submitted an assignment that was less than 650 words	Student submitted an assignment that was less than 700 words	Student submitted an assignment that was greater than 700 words
Appropriately adheres to deadlines	Assignment was submitted by the deadline and/or student communicated with course director PRIOR to deadline with any technical/medical/personal issues	Assignment was submitted after the deadline and/or not submitted and student communicated with course director the same day of assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student communicated with course director more than 24 hours after assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student never communicated with course director

LAMS 543 Wellness Reflection Assignment Mentor Evaluation				
ROWS (Dimensions)	Meets expectations consistently (4) 100-90% (A)	Meets expectations most of the time (3) 89.5-80% (B)	Occasionally meets expectations (2) 79.5- 70% (C)	Does not meet expectations (1) < 69.5% (Fail)
Student demonstrates a clear understanding of their Wellness and the topics addressed	Student clearly and concisely reflected on the topics covered.	Student generally clearly and concisely reflected on the topics covered.	Student occasionally clearly and concisely reflected on the topics covered.	The student did not clearly and concisely reflect on the topics covered.
Student discusses the relevance of each event to address each wellness concern	Consistently and clearly explained the relevance of each topic and how they will address the wellness concerns.	Generally explained, sometimes unclearly the relevance of each topic and how they will address the wellness concerns.	Inconsistently explained the relevance of each topic and how they will address the wellness concerns.	The student failed to explain the relevance of each topic and how they will address the wellness concerns.
Student demonstrates appropriate writing and grammar skills	Wrote an appropriate assignment using correct grammar and spelling with no mistakes.	The assignment had 2 or fewer minor grammatical and/or spelling errors.	The assignment had 3-4 major grammatical and/or spelling errors	The assignment had more than 4 grammatical and/or spelling errors.
Organization and Structure	The assignment was very well organized and easy to follow with a natural flow.	The assignment generally was organized, however there were times when it was difficult to follow	The assignment was generally disorganized making it difficult to follow the thought process and content.	There was no discernible organization or flow of the assignment, and it was difficult to follow the writing and content.
Appropriately adheres to deadlines	Assignment was submitted by the deadline and/or student communicated with course director PRIOR to deadline with any technical/medical/personal issues	Assignment was submitted after the deadline and/or not submitted and student communicated with course director the same day of assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student communicated with course director more than 24 hours after assignment submission with any technical/medical/personal issues	Assignment was not submitted, and student never communicated with course director

Professionalism rubric (20 Points)

Criteria	Meets expectations consistently (4)	Meets expectations most of the time (3)	Occasionally meets expectations (2)	Does not meet expectations (1)
Punctuality	Student is on time for all sessions and/or communicates with the course director within 2 hours of the session if more than 10 minutes late	Student is more than 10 minutes late and communicates with course director on the same day as the session	Student is more than 10 minutes late and communicate with course director but not on the same day as the session	Student is not on time for sessions and does not communicate at any time with the course director
Attendance	Student attends or views all mandatory sessions for the entire duration of the session and/or communicates with the course director within 2 hours of the session	Student misses/does not view 1 or more mandatory sessions and/or does not attend for the entire duration of the session (90%) and communicates with course director on the same day as the session	Student misses/does not view 1 or more mandatory sessions and/or does not attend for the entire duration of the session (90%) and communicate with course director but not on the same day as the session	Student misses/does not view 1 or more mandatory zoom sessions and/or does not attend for the entire duration of the session (90%) and does not communicate at any time with the course director
Engagement - Assignments	Student completes assignments on time and/or communicates with the course director PRIOR to deadline with any technical/medical/personal issues.	Student submitted assignment after the deadline and/or not submitted and student communicated with course director the same day of assignment deadline with any technical/medical/personal issues	Assignment reflection question was not submitted, and student communicated with course director more than 24 hours after assignment deadline with any technical/medical/personal issues	Student does not turn in assignments on time and did not communicate with the course director at any time.
Engagement – Reflection/in-class activity	Student completes reflection questions/in-class activities on time and/or communicates with the course director PRIOR to deadline with any technical/medical/personal issues.	Student submitted reflection questions/in-class activity after the deadline and/or not submitted and student communicated with course director the same day of assignment deadline with any technical/medical/personal issues	Reflection question/in-class activity was not submitted, and student communicated with course director more than 24 hours after assignment deadline with any technical/medical/personal issues	Student does not complete reflection questions/in-class activity on time and did not communicate with the course director at any time.
Communication	Student always communicates in a professional tone and timely manner.	Communication is mostly professional and timely with some minor areas of improvement needed.	Communication is generally professional in tone, but often untimely and major improvement is needed.	Student does not communicate in a professional tone and/or timely manner.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

LARGE ANIMAL MEDICINE AND SURGERY DEPARTMENT

LIVESTOCK MEDICINE I SYLLABUS (2 credits)

LAMS 544 TERM 5

FALL 2021

I. Course Faculty and Staff Information

Course director

Dr. Stacey Byers, DVM, MS, DACVIM(LA), *Associate Professor*
sbyers1@sgu.edu or WhatsApp: 473-421-1050
Office Location: Online and Cassia First Floor
Office Hours: Zoom (see schedule or on request) and Forums

Other faculty

Dr. Arno Werners, DVM, PhD, DECVPT, *Professor*,
awerners@sgu.edu

Staff members

Mrs. Frances Emmanuel, Executive Secretary, LAMS/SAMS
Department, femmanuel@sgu.edu
Mrs. Ruth Thornhill, Secretary, LAMS/SAMS Department,
rthornhill@sgu.edu

II. Course location

Sis Lecture Hall and Sakai My Courses

III. Prerequisite and/or co-requisite courses

Current 5th term SVM student.

IV. Required resources

- Working computer with camera, microphone, and internet access for exams.
- Notes, lecture slides, Panopto recordings (see Sakai).

- Material covered in LAMS 516 (Large Animal Surgery I) and previous courses are considered appropriate material for examinations.

V. Recommended resources

- Supplemental reading will be posted on Sakai.
- Useful livestock-oriented texts:
 - Large Animal Internal Medicine, 6th Edition, Smith BP, Van Metre DC, Pusterla N.
 - Diseases of Swine, Zimmerman JJ, Karriker LA, Ramirez A, Schwartz KJ, Stevenson GW.
 - Goat Medicine, Smith MC and Sherman DM.
 - Llama and Alpaca Care, Cebra C, Anderson D, Tibary A, Van Saun R, Johnson L.
 - Sheep and Goat Medicine, Pugh DG and Baird AN.
 - Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs, and Goats, Radostits OM, Gay CC, Hinchcliff KW, Constable PD.

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Not applicable

VIII. Course rationale

The principles of diagnosis, treatment, and prevention of diseases in livestock (ruminants, camelids, and swine), are taught utilizing a lecture format with integrated case discussions. Individual and herd medicine and the role of the veterinarian in promotion of a healthy food supply are addressed. Mastery of material presented in this course will prepare the student for clinical rotations of the senior year and for the NAVLE board exam. This course will continue to build on the livestock topics presented in earlier courses.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

- A. Explain the etiology and pathophysiology for livestock animal diseases.
- B. Create appropriate differential diagnoses based on presenting complaints, history, physical exam findings, and clinical signs.
- C. Determine the appropriate diagnostic tests and interpret the results.
- D. Recognize emergency presentations and determine appropriate management strategies.
- E. Formulate appropriate treatment and prevention/control strategies for diseases in individuals and herds. Integrate knowledge of legislation regarding appropriate use of therapeutic agents in food producing animals.
- F. Identify disease processes and clinical presentations that have a public health significance, including zoonoses and/or those diseases that are reportable to a designated authority.

X. Lesson Learning Outcomes

See Appendix 1

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See Appendix 2

XII. Course Schedule

See Appendix 3

XIII. Grading and assessment policy, and grading rubrics

Grades for this course will be based on 2 assignments, a midterm exam and a final exam. The assignments are in the Weekly Lessons they are untimed but must be completed by the due date in the Weekly Lessons. The due dates will also be posted on the calendar.

Optional (ungraded) study materials in Weekly Lessons:

- A NAVLE-type question each week
- Short answer study questions
- Formative assessments

Assessment	Points
Neonatal assignment	5
GI assignment	5
Midterm exam	40
Final exam	40
Total	90

The grading scale for this course is:

>89.5%	A
84.50-89.49	B+
79.50-84.49	B
74.50-79.49	C+
69.50-74.49	C
64.50-69.49	D+
59.50-64.49	D
<59.49	F

XIV. Recommended study strategies

It is highly recommended to look at the plan at the start of each week in the Sakai Weekly Lessons. Links to all the materials for the week/topic will be provided there. Panopto videos will be linked by the end of the day. Reminders and due dates will be listed in the Weekly Lessons and in the calendar.

Additional individual or group office hours can be made if needed. If a student feels they are falling behind or their grades are inadequate, they should arrange a meeting with their academic advisor as well as someone from the DES office.

For the grading of examinations, the slides and notes, lecture handouts, and the statements made during lecture will be considered correct. Your correction of the notes and information provided is encouraged. However, information found which contradicts these sources must be brought to the attention of the instructor prior to an examination. The source will be evaluated and if indicated, corrections made (to the entire class). Do not expect to receive credit for information that contradicts these sources unless this procedure is followed.

Assessments using ExamSoft and ExamMonitor: A grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XV. Instructor's expectations of the student

You are expected to keep up with the weekly tasks and attend class. If you are having difficulty with the subject matter, are unsure of terminology, etc. please post in the Sakai Forum, email me, ask a classmate, or check reputable sources on the internet.

Assignment extensions must be requested BEFORE the due date. Valid reasons as posted in the student manual.

XVI. Professionalism statement

Students are expected to conduct themselves in an appropriate professional manner in their interactions with lecturers and fellow students via the in class and online formats. Please be respectful, courteous and open to other people's opinions. Cell phones should be switched off or silenced during lectures. Please arrive on time for lectures.

XVII. Attendance/participation policy

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

You must notify the instructor BEFORE the due date to request an extension for an assignment. Approval requires a valid reason as posted in the student manual. Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "O" points for the quiz, examination, or assignment.

Students who have technical issues during the examination MUST inform the Course Director (Dr. Stacey Byers, sbyers1@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students

must ensure that their laptops meet the current minimum system requirements prior to exam day:

2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for Exam Monitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is 2.3.8)
 - b. [The Examsoft student perspective video 30 mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendix 1: Topics and Lecture Learning Objectives

Introduction and PE Review

1. Explain the differences for a herd vs individual history and the importance of each.
2. Explain the importance of the signalment and what it includes.
3. Compare and contrast PE findings of healthy vs sick livestock species.

Therapeutics

1. Select the appropriate therapeutic agent or vaccine for livestock diseases and disorders.
2. Determine the appropriate quantity, dosing interval, administration route and location, and withdrawal times.
3. Apply the principles of AMDUCA, FARAD, ELDU, and the prohibited and voluntarily restricted drugs to therapeutic treatment scenarios.

Ophthalmology

1. Explain normal and abnormal ocular findings.
2. Develop an appropriate differential diagnosis list.
3. Select appropriate diagnostic tests for a variety of husbandry situations and explain test results.
4. Develop a treatment and control/prevention plan appropriate for the animal husbandry/management situation.

Cardiology

1. Describe the clinical signs of CV disease.
2. Develop an appropriate differential diagnosis list.
3. Explain the diagnostic tests and results.
4. Develop a treatment and control/prevention plan appropriate for the animal husbandry/management situation.

Neonatology

1. Explain clinical signs and physical examination findings in normal and high-risk neonates.
2. Describe how to diagnose, treat, and prevent failure of passive transfer of maternal antibodies.
3. Explain the diagnostic and treatment options for neonatal diarrhea and sepsis.
4. Develop treatment and control/prevention plans for neonatal diseases.

Urinary Tract

1. Explain the clinical relevance of the urogenital anatomy of livestock animals.
2. Describe the risk factors, clinical signs, and pathophysiology of urolithiasis.
3. Describe the diagnostic tests, medical management, and prevention of urolithiasis.
4. Describe the etiology, pathophysiology, diagnosis, treatment, and prevention of ulcerative proctitis.
5. Describe the etiology, pathophysiology, diagnosis, treatment, and prevention of upper urinary tract diseases.

Gastrointestinal Tract - Oral Cavity and Esophagus

1. Describe the clinical manifestations of GI diseases.
2. Explain the supportive care strategies in animals with GI disease.
3. Describe the clinical signs, diagnostics, and treatments of oropharyngeal and esophageal disorders and diseases.
4. Explain the etiology, management, and notification process for oral vesicular diseases.
5. Describe the clinical signs and management of oral and esophageal emergencies.

Gastrointestinal Tract - Rumen, Reticulum, Omasum

1. Describe the physiology of the rumen and neonatal development.
2. Describe the clinical signs, treatment, and prevention of rumen developmental disorders in neonates.
3. Compare and contrast the etiology, pathophysiology, treatment, and prevention of rumen acidosis and alkalosis disorders.
4. Compare and contrast rumen bloat disorders and the treatment and prevention of bloat.
5. Describe the clinical presentation of traumatic reticuloperitonitis, potential sequelae, diagnostic, and treatment options.

Gastrointestinal Tract - Abomasum and Vagal Syndromes

1. Explain the etiology, pathophysiology, clinical signs, diagnosis, and treatment of abomasal disease and disorders.
2. Describe the types of vagal indigestion, the underlying causes, and how to distinguish between them diagnostically and clinically.

Gastrointestinal Tract - Intestines and Diarrhea

1. Explain the etiology, clinical signs, and treatment of intestinal disorders.
2. Compare and contrast the clinical signs and pathophysiology of DA's, RVA, cecal dilation, and cecal torsions.
3. Explain the etiology, diagnosis, and treatment of diarrhea in adult ruminants.

Musculoskeletal System

1. Describe the etiology, pathophysiology, treatment, and prevention of foot disorders.
2. Describe the pathophysiology, management, and prognosis for recumbent animals.
3. Describe the etiology, pathophysiology, clinical signs, treatment, and prevention of muscular and neuromuscular disorders.

Dermatology

1. Describe the etiology and pathophysiology of dermatological diseases.
2. Develop an appropriate differential diagnosis list based on clinical signs, signalment, and history.
3. Select appropriate diagnostic tests and explain test results.
4. Develop a treatment and control/prevention plan appropriate for the animal husbandry/management situation.
5. Explain the risk for iatrogenic disease transmission and management of an outbreak.

Appendix 2: PLO to CLO mapping

Upon successful completion of this course, students will be able to:

Course Learning Outcomes	Program Learning Outcomes (PLO)
A. Explain the etiology and pathophysiology for livestock animal diseases.	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p>
B. Create appropriate differential diagnoses based on presenting complaints, history, physical exam findings, and clinical signs.	<p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create a differential list.</p>
C. Determine the appropriate diagnostic tests and interpret the results to rule in or rule out differential	<p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem</p>

diagnoses to make a diagnosis.	solving skills to arrive at a diagnosis. Create a differential list.
D. Recognize emergency presentations and determine appropriate management strategies.	<p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 25 Analyze, design and execute appropriate plans for emergency and critical care case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.</p>
E. Formulate appropriate treatment and	PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of

<p>prevention regimens for individual and herd level issues. Integrate knowledge of legislation regarding appropriate use of therapeutic agents in food producing animals.</p>	<p>therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>PLO 21 Create comprehensive treatment plans. Includes prognosis</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 24 Analyze, design and execute appropriate plans for medical case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.</p>
<p>F. Identify disease processes and clinical presentations that have a public health significance, including zoonoses and/or those diseases that are reportable to a designated authority.</p>	<p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>

	<p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create a differential list.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.</p>
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Appendix 3 – Schedule

The schedule includes both the Livestock Medicine I and Large Animal Surgery I lecture dates/times to help keep track of the “who” and “when”.

Week	Date	Time	Lecture and Course	Details
1 – 16 Aug	Mon		1. LAS I	
	Mon	3:30	2. Livestock Med I – History and PE review	
	Wed		3. LAS I	
	Wed	3:30	4. Livestock Med I – History and PE review	
2 – 23 Aug	Tue	2:30	5. Livestock Med I - Therapeutics	Dr. Werners
	Tue	3:30	6. Livestock Med I - Therapeutics	Dr. Werners
	Thur		7. LAS I	
	Thur	3:30	8. Livestock Med I – Therapeutic Cases	Drs. Werners & Byers
3 – 30 Aug	Mon		9. LAS I	
	Tue	4:30	10. Livestock Med I – Urinary Tract	
	Wed		11. LAS I	
	Thur		12. LAS I	
	Thur	3:30	13. Livestock Med I – Urinary Tract	
	Fri	1:30	14. LAS I	
4 – 6 Sep	Mon	2:30	15. LAIM/LAS – Urinary Tract Case	Drs. Byers & Janicke
	Mon	3:30	16. Livestock Med I – Neonates	
	Wed	3:30	17. Livestock Med I – Neonates	
	Wed		18. LAS I	
	Fri	3:30	19. Livestock Med I – Neonates	
5 – 13 Sep	Tue	3:30	20. Livestock Med I – Neonates	
	Tue		21. LAS I	
	Thur	1:30	22. Livestock Med I – Neonates Case	
	Thur		23. LAS I	
6 – 20 Sep	Mon		24. LAS I	Assignment due Sunday 11:55 pm AST
	Wed	1:30	25. Livestock Med I – Cardiology	
	Fri	2:30	26. Livestock Med I – Cardiology + Case	
	Fri		27. LAS I	
7 – 27 Sep	Tues	4:30	28. Livestock Med I – Dermatology	
	Wed	1:30	29. Livestock Med I – Dermatology	
	Wed		30. LAS I	
	Thur	3:30	31. Livestock Med I – Dermatology Cases	
8 – 4 Oct	Tue	12:30	MIDTERM	
9 – 11 Oct	Tues	4:30	32. Livestock Med I – GIT (Oral Cavity, Esophagus)	
	Wed	2:30	33. Livestock Med I – GIT (Oral Cavity, Esophagus)	
	Thur	1:30	34. Livestock Med I – GIT (Reticulum - Omasum)	
	Thur		35. LAS I	

Week	Date	Time	Lecture and Course	Details
	Fri	3:30	36. Livestock Med I – GIT (Reticulum - Omasum)	
	Fri	4:30	37. Livestock Med I – GIT (Abomasum)	
10 – 18 Oct	Wed	3:30	38. Livestock Med I – GIT (Abo and Vagal Syndrome)	
	Wed	4:30	39. Livestock Med I – GIT (Intestines, Cecum)	
	Thur		40. LAS I	
11 – 25 Oct	Tue		41. LAS I	
	Wed		42. LAS I	
	Wed	3:30	43. Livestock Med I – GIT (Adult Diarrhea)	
	Thur	1:30	44. LAIM/LAS – GIT Case	
12 – 1 Nov	Mon	2:30	45. Livestock Med I – MSK (Feet)	Assignment due Sunday 11:55 pm AST
	Tue		46. LAS I	
	Tue	2:30	47. Livestock Med I – MSK (Feet)	
	Wed	4:30	48. Livestock Med I – MSK (Proximal to Feet)	
	Thur		49. LAS I	
13 – 8 Nov	Mon	3:30	50. Livestock Med I – MSK (Recumbency)	
	Tue		51. LAS I	
	Wed	3:30	52. Livestock Med I – Ophthalmology	
	Wed		53. LAS I	
	Thur		54. LAS I	
	Fri		55. LAS I	
	Fri	2:30	56. Livestock Med I – Ophthalmology	
14 – 15 Nov	Tue		57. LAS I	
	Wed		58. LAS I	
15 – 22 Nov			NO LAIM/LAS lectures	
16 – 29 Nov	Tue	1:30	59. LAIM/LAS - Ophtho case	Drs. Byers & Janicke
	Tue	2:30	60. LAIM/LAS Ophtho case	
17 – 6 Dec	Thur	12:30	FINAL EXAM	



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies



ST GEORGE'S UNIVERSITY

SCHOOL OF VETERINARY MEDICINE

DEPARTMENT OF LARGE ANIMAL MEDICINE AND SURGERY

LARGE ANIMAL SURGERY II (2 Credits)

LAMS 545 TERM 6

FALL 2021

I. Course Faculty and Staff Information

Dr Heidi Janicke, VetMed, PhD, MRCVS, Dipl. ECVS, SFHEA
Associate Professor in Large Animal Surgery
Office: Cassia Building (SGU campus map: # 17)
Tel: 444 - 4175 ext 3306
Email: hjanicke@sgu.edu
Office Hours: by appointment

II. Course location

Ray & Jan Sis Lecture Theater I

MyCourses: 2021-08-LAMS545-V-0-Large Animal Surgery II

All Panopto recordings, additional Resources, Tests & Quizzes, Assignments, etc. will be available through the Lessons tab on the LAMS 545 MyCourses site.

III. Prerequisite and/or co-requisite courses

Current 6th term SVM student

- ANPH 506/503 Veterinary Anatomy I/II
- ANPH 512/513 Veterinary Physiology I/II
- SAMS 501/502 Radiology I/II
- LAMS 502 Veterinary Clinical Orientation
- LAMS 501 Veterinary Physical Diagnosis II
- SAMS 513 Diagnostic Imaging
- LAMS 516 Large Animal Surgery I

IV. Required resources

Unfortunately, there is no one single text that encompasses all of the material covered in this course. The published long notes, lecture handouts and additional reading provided on MyCourses as well as information delivered in lectures and in your previous courses (see above) will provide basic information.

V. Recommended resources

Reference texts that provide additional information, images and discussion include:

- Auer & Stick: Equine Surgery
- Adams' Lameness in Horses
- Dyson & Ross: Diagnosis and Management of Lameness in the Horse

Online dictionaries of equine terms that you might find helpful are:

- <https://www.thehorse.com/tools/glossary>
- <https://aaep.org/sites/default/files/Documents/EDCCGlossaryofTerms.pdf>

A large amount of information is available at this site: <http://www.vin.com>. You need to register, but there is no cost to veterinary students.

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at <https://mycampus.sgu.edu/group/saas>

VII. Other requirements

TurningPoint app on device, internet access

VIII. Course rationale

This is part 2 of the 2 part Large Animal Surgery course series. It aims to introduce students to surgical conditions, including trauma, encountered in the equine species in terms of pathogenesis, diagnosis, treatment, prognosis and management. Emphasis will be placed on the clinical approach to evaluate, diagnose and treat the patient, as well as up-to-date therapeutic opportunities and prognosis where available. Clinical reasoning will be honed using case-based scenarios, which in addition will encourage better in-depth learning of the material. Mastery of material presented in this course will prepare the student for 4th year clinical rotations, the NAVLE board exam, and veterinary practice after graduation.

IX. Course-learning outcomes

Upon successful completion of this course, the student will be able to:

1. Recognize challenges specific to equine surgery.
2. Identify the aetiology and pathogenesis of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species.
3. Recognize the clinical signs of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species.
4. Determine appropriate techniques for diagnosis of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species.
5. Determine treatment and management plans for surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species.
6. Provide a prognosis for individual cases of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species.

X. Lesson-learning outcomes

Equine gastrointestinal system conditions

1. Review the dental anatomy of the horse and routine dentistry in the horse
2. Identify surgical conditions of teeth in the horse
3. Determine the appropriate treatment surgical conditions of teeth in the horses and recognise their advantages and limitations
4. Review the clinical anatomy of the gastrointestinal tract in the horse
5. Discuss the aetiology, pathogenesis, prognosis and survival rate of different GI conditions
6. Identify the clinical signs of colic and determine appropriate examination and diagnostic techniques and treatment options
7. Discuss complications of colic surgery
8. Recognise pathological conditions of oral and gastrointestinal tract of horse and determine whether they are medical or surgical
9. Describe how to diagnose and treat simple reconstructive surgeries of the oral cavity and oesophageal obstruction and recognise possible complications
10. Provide information as to the treatment, prognosis and survival rate of the different GI conditions

Equine musculoskeletal system conditions

1. Explain how to take a comprehensive lameness history
2. Discuss how to perform a detailed lameness examination in the horse
3. Select and interpret appropriate diagnostic techniques to identify causes of lameness in the horse
4. Classify fractures

5. Describe the principles of fracture repair
6. Recognise causes of failure of repair
7. Identify musculoskeletal emergencies of the horse in field situations
8. Determine the appropriate first aid for these conditions
9. Review the physiology and pathology of endochondral ossification leading to developmental orthopaedic disease in the horse
10. Discuss the aetiology and pathogenesis of osteochondrosis and osteoarthritis
11. Identify the clinical signs of osteochondrosis and osteoarthritis and determine appropriate diagnostic techniques to confirm the conditions
12. Determine the appropriate treatment and prevention plan and provide a prognosis for individual cases of osteochondrosis and osteoarthritis
13. Review function, structure and biomechanics of tendons and ligaments
14. Discuss the aetiology and pathogenesis of injury and repair in tendons and ligaments
15. Identify the clinical signs of tendon and ligament injury and determine appropriate techniques for diagnosis
16. Discuss the aetiology and pathogenesis of angular and flexural limb deformities in the horse
17. Identify the clinical signs of angular and flexural limb deformities in the horse (and cria) and determine appropriate techniques for diagnosis
18. Determine the appropriate diagnostic plan, treatment and management for tendon and ligament injury and angular and flexural limb deformities and provide a prognosis for individual cases
19. Describe the aetiology and pathogenesis of pathological conditions of the foot and limb in the horse
20. Identify the clinical signs of pathological conditions of the foot and limb in the horse and determine appropriate techniques for diagnosis
21. Determine and implement the appropriate treatment and management plan for pathological conditions of the foot and limb in the horse and provide a prognosis for individual cases

Equine respiratory tract surgery

1. Review the clinical anatomy and physical examination technique of the respiratory tract in the horse
2. Identify surgical conditions of the respiratory tract in the horse
3. Determine the appropriate surgical treatment for surgical conditions of the respiratory tract in the horse and recognise their advantages and limitations

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SGUSVM program level outcome
CLO A Recognize challenges specific to equine surgery	A. Core Medical Knowledge PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic

	<p>agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>B. Core Professional Attributes</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>C. Core Clinical Competencies (Skills)</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 23 Analyze, design and execute appropriate plans for basic surgery and surgical case management.</p>
<p>CLO B Identify the aetiology and pathogenesis of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p>
<p>CLO C Recognize the clinical signs of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p>
<p>CLO D Determine appropriate techniques for diagnosis of surgical conditions of the respiratory, musculoskeletal and gastrointestinal</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>B. Core Professional Attributes</p>

<p>organ systems in the equine species</p>	<p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice. C. Core Clinical Competencies (Skills) PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>CLO E Determine treatment and management plans for surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species</p>	<p>A. Core Medical Knowledge PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine. PLO 11 Understand and apply basic principles of research, and recognize the contribution of research to all aspects of veterinary medicine. B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy. PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team. PLO 15 Model lifelong continuing education and professional development. PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences. C. Core Clinical Competencies (Skills) PLO 21 Create comprehensive treatment plans. PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare. PLO 23 Analyze, design and execute appropriate plans for basic surgery and surgical case management. PLO 25 Analyze, design and execute appropriate plans for emergency and critical care case management. PLO 26 Design and execute plans for health promotion, disease prevention, and food safety, biosafety and biosecurity.</p>

	<p>PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.</p>
<p>CLO F Provide a prognosis for individual cases of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species</p>	<p>A. Core Medical Knowledge PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations. PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine. PLO 11 Understand and apply basic principles of research, and recognize the contribution of research to all aspects of veterinary medicine.</p> <p>B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy. PLO 15 Model lifelong continuing education and professional development.</p> <p>C. Core Clinical Competencies (Skills) PLO 26 Design and execute plans for health promotion, disease prevention, and food safety, biosafety and biosecurity. PLO 27 Demonstrate and model effective client communication and ethical conduct. PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.</p>

XII. Course Schedule

See Appendix

XIII. Grading and assessment policy, and grading rubrics

a. *Grading scale*

>89.5%	A
84.5-89.49	B+
79.5-84.49	B

74.5-79.49	C+
69.5-74.49	C
64.5-69.49	D+
59.5-64.49	D
<59.49	F

b. Assessment policy

There will be a Midterm with 30 and a cumulative Final with 60 questions (90 points) each given in ExamSoft with ExamMonitor and ExamID. Please ensure you read the instructions in **XIX. ExamSoft policy** to ensure you are set up for the exam ahead of time.

The exam material will come from in class discussions and materials available on MyCourses/Lessons. Questions will be multiple-choice with one single best answer or short answer questions.

A grade reduction of 5% will be applied to the exam if the student does not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

All other exam policies are followed according to the SGU Assessment Guidelines and the Student Handbook.

In addition, there will be formative (no points) quizzes and clinical reasoning cases for self-assessment of understanding of the material and concepts. Feedback will be available immediately upon submission.

XIV. Recommended study strategies

A sessions will be case based discussions. You will have access to an abridged version of the lecture notes in advance. It is **strongly advised** to work through the appropriate material **BEFORE** the sessions using the lecture and long notes to be able to participate in the discussions and clarify any questions at the time of the session. This will reduce the amount of time you will need to revise the material at a later date.

It may be useful to bring your reading materials available to add information during the discussions. In addition, please have the TurningPoint app downloaded on your device to be able to actively participate in the sessions.

The *further reading/recommended resources* (see IV/V) literature will be helpful in consolidating the subject matter, as will the resources in the 'Additional resources' link in Lessons.

Regular review of the course material is encouraged. This reduces panic the night prior to an examination, poor performance on the exams, and poor retention of information.

If a student feels they are falling behind or their grades are inadequate, they should arrange a meeting with the Course Director, their academic advisor as well as someone from the DES office.

For the grading of examinations the long notes, lecture handouts and the statements made during lecture will be considered correct.

A correction of the notes and information provided in lecture is encouraged. However, information found which contradicts these sources must be brought to the attention of the instructor prior to an examination. The source will be evaluated and if indicated, corrections made (to the entire class). *Do not expect to receive credit for information that contradicts these sources, unless this procedure is followed.*

In addition to information provided in the long notes, handouts and in lecture, students are expected to have command of the information provided in previous courses and from recommended reading resources.

XV. Instructor's expectations of the student

The student is expected to attend the case study sessions prepared by having read and worked through the required material before class.

You will benefit the most from these sessions by actively participating. The virtual classroom is a safe environment and questions are not only welcome, but encouraged. If you are unsure of something you can guarantee you will not be the only one, so please use the chat to present your questions.

XVI. Professionalism statement

The classroom is designated a safe environment. Please respect the fact that not all students have the same experience and may ask questions that seem obvious to you. Do not make fun of students either in or after class.

Participation in the discussions will benefit your learning experience, please make use of this opportunity.

XVII. Attendance/Participation Policy

Students are expected to be available during the standard 8:30am – 5:30pm AST school day, to attend, engage with in-person and online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and

participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (hjanicke@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call 866-429-8889) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day.
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.

4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to contact the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner if located in Grenada or organize an alternative device.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#)
 - b. [The examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. [Examsoft information page](#)
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices:

Course Schedule

Week	Lecture No.	Date	Time	Topics	Comments
1	1	Aug		Intro to LAS II (20) – keep short	Bring floats and syringes, equine skull
	2	19 th 20 th	9:30 11:30	Dentistry (76)	
2	3	24 th	11:30	The acute abdomen (58)	Bring NG tube and pump
	4	25 th	10:30	GIT conditions I (83)	
	5	27 th	8:30	GIT conditions II	
3	6**	31 st	11:30	GIT cases	
	7**	Sep	11:30	GIT cases (<i>add in more upper GIT cases</i>)	
		1 st	11:30		
	8	3 rd		Lameness exam (51)	
4	9**	8 th	11:30	<i>Equine limb clinical anatomy recap (new)</i>	Bring limb bones
	10	10 th	10:30	Diagnostic analgesia & imaging (48)	

5	11 12**	15 th 17 th	10:30 10:30	Principles of fracture repair & fracture first aid (43) <i>Fracture cases (new)</i>	Bring Kimzey splint, maybe splint box from SIM
6	13 14	22 nd 24 th	10:30 10:30	Osteoarthritis (42) Osteochondrosis (29)	
7	15 16	29 th Oct 1 st	9:30 9:30	Foot conditions (59) Foot conditions	<i>Do we have a foot specimen?</i>
8/9	EXAM WEEK	Oct 11 th	Mon 12pm	MIDTERM lectures 1-14	
9	17** 18 19**	13 th 14 th 15 th	11:30 11:30 10:30	Foot cases (<i>revise to more work-up cases</i>) Digit and distal limb conditions (43) Digit cases	<i>Revise all cases to fewer full work-ups Digit specimen?</i>
10	20** 21	20 th 22 nd	10:30 10:30	Distal limb cases Tendon and ligament injury (46)	<i>Will Tom lend me the butterfly probe?</i>
11	22 23** 24	26 th 27 th 29 th	10:30 11:30 9:30	Angular and flexural limb deformities (43) Tendon and DOD cases Upper limb conditions (64)	<i>Revise all cases to fewer full work-ups</i>
12	25** 26**	Nov 3 rd 5 th	10:30 10:30	FL cases HL cases	<i>Revise all cases to fewer full work-ups</i>
13	27 28	10 th 12 th	8:30 9:30	Respiratory conditions I (48) Respiratory conditions II (48)	
14	29** 30	17 th 19 th	10:30 9:30	Respiratory cases <i>Catch up/revision</i>	
15	EXAM WEEK				
16	EXAM WEEK				
17	EXAM WEEK	Dec 6 th	Mon 12pm	FINAL lectures 1-30	

Syllabus Fall 2021



ST GEORGE'S UNIVERSITY

SCHOOL OF VETERINARY MEDICINE

Large Animal Medicine and Surgery

Veterinary Practice Ownership, Leadership and Management (2 credits)

LAMS 546 TERM 6

Fall 2021

I. **Course Director**

Heather Douglas DVM, MBA, CVA

Email: hdouglas@sgu.edu

II. **Course location:** Zoom, Sakai Lessons/Assignments

III. **Prerequisite and/or co-requisite courses:** Current sixth term SVM student

IV. Additional recommended resources will be provided electronically on Sakai or in class.

V. **Recommended resources:** Text: The Art of Veterinary Practice Management, by Mark Opperman, CVPM, et al. ISBN-13: 978-0935078749 ISBN-10: 0935078746

VI. **Accommodation**

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

- VII. **Other requirements:** None
- VIII. **Course rationale:** The purpose of this course is to provide information and skill sets focused on starting or acquiring a veterinary practice.
- IX. **Course-level objectives:** Upon successful completion of this course, students will be able to:
1. Evaluate business management processes needed to run a professional small business or clinic.
 2. Identify challenges in starting, running, managing, servicing, or closing a small business or clinic.
 3. Develop innovative solutions to maximize employee, organizational, customer/client, and societal performance gains.
 4. Explain personnel policies, practices, and programs within the context of an organizational culture that motivates optimal workforce performance.
 5. Review the practices, policies and programs that enable the development of customer/client focused veterinary practice.
 6. Develop marketing, advertising, and social media strategies, campaigns, and measurements to grow an existing business or practice.
 7. Assess the physical, material, human, and societal environments of a small business or clinic.
 8. Determine how to better deliver a sustainable, service-oriented experience.

X. **Lesson Level Outcomes:**

At the conclusion of the sections listed below, the student will be able to:

1. Describe the business management processes needed to efficiently and effectively run a professional small business or clinic.
2. Identify the greatest challenges in starting, running, managing, servicing, or closing a small business or clinic, brainstorming innovative solutions to maximize employee, organizational, customer/client, and societal performance gains.
3. Identify personnel policies, practices, and programs within the context of an organizational culture that motivates optimal workforce performance.
4. Case Study: Recognize the practices, policies and programs that enable the development of customer/client focused veterinary practice.
5. Develop marketing, advertising, and social media strategies, campaigns, and measurements to grow an existing business or practice.

6. Assess the physical, material, human, and societal environments of a small business or clinic, and determine how to better deliver a sustainable, service-oriented experience.

XI. **Alignment of Course Learning Objectives with Program Learning Objectives/Competencies:** See Appendix XXI

XII. **Course Schedule**

Changes in this schedule may occur at the course director's discretion, students will be notified at the earliest convenience. See schedule in Sakai under resources and as a table at the end of this document.

XIV. **Assignments, grading and assessment policy**

The course will consist of a mix of lectures, interactive zoom sessions and one communication lab.

This course is graded pass/fail based on **attendance and assignments described below**. 69.5% is considered a passing grade.

Assignments/Lab: Students must submit the following assignments on time in order to pass the course and attend one communication session.

1. **Case Analysis:** (20 points) Here, course participants will individually prepare analysis of the assigned case, answering the Study Questions provided for the respective case. The purpose of case analysis is to learn how to think, to flex and apply material, concepts and tools to "real life" scenarios, and to practice using information, facts, and analysis to support decisions and recommendations. **The case must be turned in electronically BEFORE THE CLASS SESSION so that you are fully prepared for the class discussion.** Cases are available through the SGU library or at www.hbr.org
2. **Class Participation:**(15 points) Class participants are expected to be prepared for the discussion held in each class. Class participation points will be provided by the Instructor after each class. Comments must be substantive and factual, showing evidence that you have read the material and are applying it during the discussion. Points will not be rewarded for unsubstantiated comments or opinion, or that otherwise suggest that the participant has not read and prepared the required material. 0 points will be rewarded if the class is missed.
3. **Final Project:** (65 points) Participants will be asked to incorporate the course learning objectives and propose a detailed business plan to discover and share best practices and critical challenges. Determine best management style, analyze the business management processes needed to efficiently and effectively run a professional small, identify the greatest challenges in starting, running, managing, servicing, or closing a small business or clinic,

brainstorming innovative solutions to maximize employee, organizational, customer/client, and societal performance gains, Develop marketing, advertising, and social media strategies, campaigns, and measurements to grow an existing business or practice and assess the physical, material, human, and societal environments of a small business or clinic, and determine how to better deliver a sustainable, service-oriented experience clinic and determine how you would address two critical challenges that you might be faced with in a practice setting. Refer to the learning objectives of this course and conduct your analysis in terms of two areas of the business processes listed on page 2-3 of the syllabus (see numbers three through nine).

You will be expected to develop and present a formal project proposal, PowerPoint presentation and written assessment. All written assignments are to follow APA 7 format. The PowerPoint presentation is limited to twenty minutes per to allow for ten minutes of class discussion and analysis. This project will be submitted for grading in segments according to the chart on page six.

- a. Propose final project. Include and address the course objectives are guiding your project when developing the proposal. (10 points)
- b. Case Analysis (20 points)
- c. PowerPoint Presentation to Class (20 points) due at the end of the course
- d. Final Project -Write-up, Source and Research (40 points) due at the end of the course

- XIII. **Instructor's expectations of the student:** The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and assignment policies
- XIV. **Recommended study strategies:** Not applicable
- XV. **Professionalism statement:**
Please exhibit professional behavior at all times. Respond to emails from faculty within 24 hours.
- XVI. **Attendance policy:** If you cannot attend class, notify Dr. Douglas immediately.
- XVII. **Policy regarding missing exams or failure to submit assignments:** Failure to submit the assignments will result in course failure.
- XVIII. **Copyright policy** The materials (slides, handouts, pictures and videos) provided to students who are taking courses at St. George's University (SGU)

are the intellectual property of the Faculty and Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

XIX. APPENDIX: PLO, CLO, LLO Mapping:

Mapping CLOs to PLOs and Competencies

1. Evaluate business management processes needed to run a professional small business or clinic
2. Identify challenges in starting, running, managing, servicing, or closing a small business or clinic
3. Develop innovative solutions to maximize employee, organizational, customer/client, and societal performance gains.
4. Explain personnel policies, practices, and programs within the context of an organizational culture that motivates optimal workforce performance.
5. Review the practices, policies and programs that enable the development of customer/client focused veterinary practice.
6. Develop marketing, advertising, and social media strategies, campaigns, and measurements to grow an existing business or practice.
7. Assess the physical, material, human, and societal environments of a small business or clinic.
8. Determine how to better deliver a sustainable, service-oriented experience.

Lecture/lab Learning Outcomes:	CLOs
1. Demonstrate advanced knowledge of the business management processes needed to efficiently and effectively run a professional small business or clinic.	1,2,8
2. Define and prepare for the greatest challenges in starting, running, managing, servicing, or closing a small business or clinic, brainstorming innovative solutions to maximize employee, organizational, customer/client, and societal performance gains.	2
3. Understand personnel policies, practices, and programs within the context of an organizational culture that motivates optimal workforce performance.	3,4

4. Participate in case study to recognize the practices, policies and programs that enable the development of customer/client focused veterinary practice.	5
5. Strengthen skill set in: marketing, advertising, and social media strategies, campaigns, and recognize measurements to grow an existing business or practice.	6
6. Assess the physical, material, human, and societal environments of a small business or clinic, and determine how to better deliver a sustainable, service-oriented experience.	7,8

**Course Level Learning Outcomes
RCVS Outcomes**

SGU SVM Program Outcomes

1. Evaluate business management processes needed to run a professional small business or clinic.	B7	2, 3, 7
2. Identify challenges in starting, running, managing, servicing, or closing a small business or clinic.	B2	3, 4
3. Develop innovative solutions to maximize employee, organizational, customer/client, and societal performance gains.	B7	9, 14
4. Explain personnel policies, practices, and programs within the context of an organizational culture that motivates optimal workforce performance.	B5, C8	3, 4, 7, 13
5. Review the practices, policies and programs that enable the development of customer/client focused veterinary practice.	B2, 8	5
6. Develop marketing, advertising, and social media strategies, campaigns, and measurements to grow an existing business or practice.	B2, 7	5, 7
7. Assess the physical, material, human, and societal environments of a small business or clinic.	B7	12

8. Determine how to better deliver a sustainable, service-oriented experience.	B2, 3, 5, 6	7,9
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SCHEDULE:

LAMS 546 Fall 2021 Weekly Schedule

Week	Date/Hour	Lecture Topic	Format/Assignments
1	August 16 th	Eat or Be Eaten Draft Day	1:30-3:20PM AST KB Taylor Hall Blue (West)
2	August 23 rd	Hook, Line & Sinker The Powers that Be	1:30-3:20PM AST KB Taylor Hall Blue (West) Case Study Assignment due 9/5 Business Plan Proposal due 9/12
3	August 30 th	No Content	
4	September 6 th	No Content	
5	September 13 th	Maximizing Your Yield: Value-Based Veterinary Pricing	Live Zoom Webinar 2:30-3:20PM AST Risk Tolerance Worksheet Due 9/19 https://pfp.missouri.edu/research/investment-risk-tolerance-assessment/
6	September 20 th	Understanding and Managing Risk - Guest Speaker Rebecca Stinson, DVM	Live Zoom Webinar 2:30-4:20PM AST
7	September 27 th	The Big Climb: Overcoming Barriers, Tracking Progress and Achieving Financial Comfort	Live Zoom Webinar 2:30-3:20PM AST
8	October 4 th	No Content	
9	October 11 th	No Content	
10	October 18 th	Animal Wellness Plans & Financial Management	Live Zoom Webinar 2:30-3:20PM AST

11	October 25 th	Marketing	Live Zoom Webinar 2:30-3:20PM AST Business Plan and PowerPoint due 11/7
12	November 1 st	No Content	
13	November 8 th	Wrap-up and Student On-Line Business Plan and Evaluation Presentations	Live Zoom Webinar 2:30-5:20PM AST Student Business Plan Presentations
14	November 15 th	No Content	
15	November 22 nd	No Content	
16	November 29 th	No Content	

LAMS 547 PROFESSIONAL DEVELOPMENT IV LESSON LEARNING OUTCOMES

Lessons	Outcomes
Domain 1: Professionalism	<ol style="list-style-type: none"> 1. Define servant leadership 2. Recognize opportunities for servant leadership in one's career and personal life 3. Discuss historic and current societal expectations of the veterinarian 4. Understand how to cope with these expectations while maintaining a healthy work life balance 5. Discuss the role of future veterinarians In maintaining or changing these expectations 6. Understand the Important Issues facing the veterinary profession 7. Reflect on what the average veterinarian can do to address these Issues 8. Define conflict and the mechanisms by which It can be handled 9. Determine their conflict management style and develop skills for dealing with all styles during times of conflict
Domain 2: Wellness	<ol style="list-style-type: none"> 1. Define diversity and inclusion 2. Apply the principles of diversity and inclusion to their personal lives 3. Describe implicit bias and how it affects daily interactions 4. Describe privilege and how it affects daily interactions 5. Reflect on areas of improvement related to diversity and inclusion as an individual and as a profession
Domain 3: Ethics and Welfare	<ol style="list-style-type: none"> 1. Summarize the concept of social bias, conscious or subconscious: recognize it an integrate it into professional practice 2. Identify and predict conflict and create methods for its resolution 3. Compare and contrast professional misconduct and clinical negligence 4. Identify issues of fitness to practice by the student and registered professional, reflect on one's findings and generate an action plan to address issues found. 5. list the components of clinical governance and measure these using a variety of methods
Domain 4: Communication	<ol style="list-style-type: none"> 1. Review the basics of clinical communication with the Calgary Cambridge Guide. 2. Identify appropriate non-verbal communication skills, open ended questions and active listening skills. 3. Discuss the key components of initiating a client interaction and negotiating the agenda.

	<ol style="list-style-type: none"> 4. Develop relationship building statements for use during client interactions 5. Define feedback and review guidelines for giving and receiving it effectively. 6. Practice initiating a session, negotiating an agenda and asking open ended questions 7. Practice giving feedback to their peers. 8. Discuss the important role that cultural sensitivity plays in client communication 9. Develop a strategy to ensure cultural sensitivity is a part of one's daily practice
<p>Domain 5: Business & Financial Literacy</p>	<ol style="list-style-type: none"> 1. Perform a self-assessment of the personal budget and detect areas for improvement
<p>Domain 6: Evidence-Based Veterinary Medicine</p>	<ol style="list-style-type: none"> 1. Explain the concept of EBVM 2. Describe the relevance and importance of EBVM to veterinary practice 3. Construct a generalised example of the EBVM cycle. 4. Describe why a well-formed question is fundamental to the EBVM process, and avoid the common pitfalls in asking questions 5. Identify clinical questions in practice 6. Construct a clinical question correctly. 7. Identify which information sources can help to find the best evidence for veterinary medicine 8. Establish how to get access to these resources for your own clinical practice 9. Translate a clinical question into a database search strategy and understand the fundamentals of efficient searching 10. Manage your references and report your search strategies. 11. Describe the most important factors that should be appraised when you read a paper 12. Explain how to appraise literature (and other information) 13. Use tools that support the appraisal process. 14. Use a structured framework to determine whether the evidence is applicable to you, your patients and your environment 15. Describe ways of communicating new evidence to colleagues and clients 16. Construct a strategy to maximise the chances of successfully implementing evidence-based changes in your practice/clinic.

	<ol style="list-style-type: none">17. Explain why it is important to assess/audit the implementation of EBVM in practice18. Describe how to assess/audit EBVM in practice19. Use practice examples to demonstrate the use of clinical audit and the assessment of EBVM in practice.
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St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Large Animal Medicine and Surgery Department

Introduction to Livestock *Nutrition* (1 credit)

LAMS 548 Term 4

Fall 2021

I. Course Faculty and Staff Information

Course directors:

Dr. Catherine Werners-Butler Professor DVM, PhD, MRCVS, Dipl. ECEIM

Chair of Large Animal Medicine and Surgery Department

Email: cwerners@sgu.edu

Contact: via email and/or zoom office hours

Office hour: November 9th 2:30-3:30pm AST

Dr. Nyoni Winchester Instructor DVM, MVS

Email: nwinches@sgu.edu

Contact: via email and/or zoom office hours

Visiting Professor:

Dr. Threshni Chetty BVMCh

Director: EquineInc3 Consultancy, Gauteng, South Africa

Please contact via Course Director: cwerners@sgu.edu

Office hours: August 31st 1:30-2:30pm AST and September 14th 1:30-2:30pm AST

Staff members:

Ms. Ruth Thornhill SVM Secretary

Email: RThornhill@sgu.edu

Ext: 3474

Ms. Frances Emmanuel SVM Administrative Assistant

Email: FEmmanuel@sgu.edu

Ext: 3109

II. **Course location**

Sakai resources: Lessons / quizzes / assignments / forum

Zoom sessions (asynchronous)

III. **Prerequisite and/or co-requisite courses**

Current registered Term 4 SVM student

IV. **Required resources:** The required reading / material for each section will collectively come from:

1) Lecture video's and slides (on Sakai).

2) Material covered in previous courses related to livestock nutrition (example: G-I anatomy, G-I physiology, LAMS 501 & 502) is considered appropriate material for examinations)

V. **Recommended resources:** Links to recommended sources for background information on live-stock nutrition will be provided in Sakai

VI. **Accommodation guidelines**

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. **Other requirements**

Internet access & zoom account

VIII. **Course rationale**

This course is structured to provide coverage of the fundamental aspects of animal production systems, basic composition of feeds

and the constituents of feed that supply nutrients and energy to livestock. The practical component of this course will help students to provide hands on skills and apply nutritional information into feeding of live-stock (including horses). This course is designed to give students a broad understanding of how nutrition is related to animal health, production and performance of different live-stock species at various stages of production cycles based on energy requirements. Each of the basic nutrition concepts will be discussed in relation to its importance to overall health. Animal Nutrition is included in the veterinary curriculum to aid students in understanding the relationship between nutrients in feeds and the health of domestic animals. It gives you a basic perspective of how we manipulated nutrition for production/performance characteristics and gives you an understanding of abnormalities that may arise during that process.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

A: Introduction to livestock nutrition

1. Appreciate the contribution of animal protein to human nutrition and future trends in the consumption of animal products
2. Review the general basic concepts for animal nutrition

Overlapping concepts related to nutrition for the different livestock species

1. Determine the sources, functions, analysis, signs of deficiency and signs of toxicity for each of the basic nutrient classes and their components in the different livestock species
2. Briefly discuss feedstuff sampling and submission for nutrient analysis
3. Discuss proximate analysis and the Van Soest procedure for fiber analysis.
4. Recognize the different measurements of energy values of a feed.
5. Identify the animal, feedstuff and nutrient parameters used in formulating rations in livestock.
6. Identify the feed classifications of different feed stuffs (roughage, concentrates, supplements, additives etc).
7. Classify, describe the use and compare the different feedstuffs used to feed livestock and understand how processing effects their nutritional value.

B+C+D: Dairy, Beef and Sheep nutrition

1. Determine the nutrition and feeding requirements for the different life stages and production stages of ruminant livestock
2. Identify and explain feed related medical problems in ruminant livestock.

E: Equine nutrition

1. Determine the feeding requirements for the different stages in performance and/or life cycle in the horse.
2. identify and explain feed related medical problems in the horse.

F: Swine nutrition

1. Determine the nutrition and feeding requirements for the different life stages and production stages of swine
2. Identify and explain feed related medical problems in swine

X. **Lesson Learning Outcomes (will be provided in an appendix)**

XI. **Alignment of Course Learning Outcomes with Program Learning Outcomes**

Updates provided by the Visiting Professor will be posted as soon as possible. Updated learning lecture outcomes will be presented by the (Visiting) Professor at the beginning of each lecture and posted on Sakai.

Course Learning Outcome	SGUSVM Program Learning Outcome
Appreciate the contribution of animal protein to human nutrition and future trends in the consumption of animal products	PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.
Review the general basic concepts for animal nutrition	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry

	conditions.
Determine the sources, functions, analysis, signs of deficiency and signs of toxicity for each of the basic nutrient classes and their components in the different livestock species	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.
Briefly discuss feedstuff sampling and submission for nutrient analysis	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.
Discuss proximate analysis and the Van Soest procedure for fiber analysis.	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.
Recognize the different measurements of energy values of a feed.	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.
Identify the animal, feedstuff and nutrient parameters used in formulating rations in livestock.	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.
Identify the feed classifications of different feed stuffs (roughage, concentrates, supplements, additives etc).	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.

Classify, describe the use and compare the different feedstuffs used to feed livestock and understand how processing effects their nutritional value	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.
Determine the nutrition and feeding requirements for the different life stages and production stages of large and small ruminant livestock, swine and equine	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.
Identify and explain feed related medical problems in large and small ruminant livestock, swine and equine	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.

XII. Course Schedule

The Final exams will be a proctored exam which have to be taken on the scheduled day. An **approved excuse** needs to be provided before the exam will take place when there is a known conflict for that specific day (refer to point XVIII).

Week	Activity/Topic	Format	Time on Task (hrs)
Week 1: August 20 th 8:30-9:30am AST	General introduction to livestock nutrition	recorded	1
Week 2: August 27 th 8:30-9:30am AST	General introduction to livestock nutrition	recorded	1
Week 3: September 2 nd 8:30-9:30am AST	Dairy nutrition 1	Recorded	1
Week 3: September 3 rd 8:30-9:30am AST	Dairy nutrition 2	recorded	1

Week 4: September 10 th 8:30-9:30am AST	Beef nutrition 1	recorded	1
Week 5: September 17 th 8:30-9:30am AST	Beef nutrition 2	recorded	1
Week 6: September 24 th 8:30-9:30am AST	Sheep nutrition	recorded	1
Week 7: October 1 st 8:30-9:30am AST	Goat nutrition	recorded	1
Week 8	MIDTERM WEEK		
Week 9: October 15 th 8:30-9:30am AST	Equine nutrition 1	Sis Hall + zoom	1
Week 10: October 22 nd 8:30-9:30am AST	Equine nutrition 2	Sis Hall + zoom	1
Week 11: October 29 th 8:30-9:30am AST	Equine nutrition 3	Sis Hall + zoom	1
Week 12: November 5 th 8:30-9:30am AST	Time spent on formative quizzes		
Week 13: November 12 th 8:30-9:30am AST	Swine nutrition 1	Sis Hall + zoom	1
Week 14: November 19 th 8:30-9:30 AST	Swine nutrition 2	Sis Hall + zoom	1
Week 15: November 22 nd 11:30-12:30 AST	Preparation Q&A for the final exam: come with your questions!	Sis Hall + Zoom (attendance required)	1
Week 15: November 26 th	FINAL EXAM		

XIII. **Grading and assessment policy, and grading rubrics**

The exam material will come from E-modules / lecture slides and online “in-class” discussions. There will be approximately 2-3 questions from each lecture in the final exam. The final exam date is

listed below. Any deviation from the schedule will be announced on Sakai.

Grading Policy: The final grade for this course reflects a final exam score, points for 5 small quizzes and points for participation. The final exam will be a proctored exam soft exam worth 70% of the grade.

Participation: 5% (forum input posing at least 1 question and clear participation in ongoing forum discussions)

Quizzes (25%): Dairy 5% / Beef 5% /

Sheep + Goat 5% / Equine 5% / Swine 5%

Final exam: 70%

Final Comprehensive Exam (70% of grade) November 26th

A grade reduction of 5% will be applied to the exam score if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

Excuses from examinations will be accepted only with the use of the online "Medical Excuse" policy. Please consult the SVM Dean of Students office for additional information regarding acceptable excuses. Make-up examinations may be essay or short answer using ExamSoft.

Below is the grading scale for this course:

>89.5%	A
84.5-89.4	B+
79.5-	B

84.4	
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

XIV. **Recommended study strategies**

Prepare for the lectures by looking at the reading resources and participation in the E-modules. If after the lecture/s, you are still having difficulties with material or resources, please contact the course director immediately

XV. **Instructor's expectations of the student**

The student is expected to participate in the E-modules and zoom sessions. Students are encouraged to reach out for assistance timeously, if they find the course material challenging. The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and examination policies

XVI. **Professionalism statement**

Please exhibit professional behavior at all times. Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior.

The Code of Conduct includes student comportment and the honor code, as well as those actions that warrant disciplinary action. The

University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University.

Abuses of this Code, outlined in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct.

XVII. **Attendance/Participation Policy** (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8:30-5pm AST school day, to attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. **Policy regarding missing examinations and/or failure of submission of assignments**

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director

(s) cwners@sgu.edu or nwinches@sgu.edu and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately

will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. **ExamSoft policy**

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for Exam Monitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.

- a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
- b. [The Examsoft student perspective video 30mins](#)
- c. [The Examsoft/ExamID FAQ](#)
- d. Examsoft information page
- e. [The general Reminders/Guidelines](#)

XX. **Copyright policy** (if applicable):

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

LARGE ANIMAL MEDICINE AND SURGERY DEPARTMENT

PROFESSIONAL DEVELOPMENT V SYLLABUS (1 credit)

LAMS 549 TERM 5

FALL 2021

I. **Course Faculty and Staff Information**

Course director

Dr. Stacey Byers (Co-Domain 4)
DVM, MS, DACVIM(LA), *Associate Professor*
sbyers1@sgu.edu
Office Location: Cassia First Floor
Office Hours: On request

Other Course Faculty

Dr. Talia Guttin (Co-Domain 4), email: tguttin@sgu.edu
Dr. Adria Rodriguez (Domain 2), email: airodriguez@sgu.edu
Dr. Austin Kirwan (Domain 3), email: barnlodge@aol.com
Dr Heidi Janicke (Domain 6), email: hjanicke@sgu.edu

Course assistant

Ms. Keshia John, email: [kjoh5@sgu.edu](mailto:kjohn5@sgu.edu)

II. **Course location**

See schedule and Sakai My Courses

III. **Prerequisite and/or co-requisite courses**

Current 5th term SVM student and Professional Development I-IV courses.

IV. **Required resources**

- Working computer with camera, microphone, and internet access.
- Notes, lecture slides, Panopto recordings (see Sakai).

V. **Recommended resources**

None

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Not applicable

VIII. Course rationale

This course is the 5th of 6 courses within the curriculum focused on professional development. Through experiential learning methods, students will be exposed to topics and skills related to personal development, self-care, ethics and animal welfare, communication skills, business and financial literacy, and evidence-based veterinary medicine.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to discuss and model the fundamentals and skills covered in the 6 professional development domains: personal development, wellness, ethics and welfare, communication, business and financial literacy, and evidence-based medicine.

X. Lesson Learning Outcomes

Domain 1- Personal Development:

1. Compose a professional letter of intent that may be used to communicate with potential externship clinics, mentors and/or employers in your desired field.
2. Construct professional curriculum vitae that may be used for future applications and will be maintained and updated throughout your career.
3. Discuss non-traditional careers in veterinary medicine including specialization.

Domain 2-Wellness:

1. Define the meaning of the practice of mindfulness.
2. Describe the benefits of practicing mindfulness.
3. Apply mindfulness principles to personal and professional life.
4. Define self-compassion.
5. Describe the benefits of applying self-compassion.
6. Apply self-compassion to personal life and in a professional setting.
7. Define QPR

8. Apply QPR/Kognito Principles by: Recognizing the warning signs of suicide - Knowing how to offer hope -Knowing how to get help and save a life.
9. Apply prevention, intervention, and postvention in a crisis.

Domain 3-Ethics and Welfare:

1. Differentiate between clinical care and research.
2. Discuss the role of clinical research and trials and compare human and veterinary research limitations.
3. Evaluate the function of journal clubs in practice and how to peer review a paper with an open mind.
4. Describe the components of EBVM and the interface between clinical skills/availability, research and owner preferences.
5. Evaluate the value of each component and make judgements informing sound clinical care to ensure animal welfare.
6. Introduce the concept of lifelong learning and how this is a professional responsibility.
7. Determine opportunities for learning, how they will be highlighted, identified, and recorded.
8. Appraise the learning required by regulatory bodies in the jurisdiction they are going to practice and record and report them as required.
9. Identify who you communicate with nonverbally.
10. Develop the links of between stake holders in nonverbal communication, e.g., professional bodies, insurers, clients, patients, etc.
11. Understand the consequences of incorrect or lack of communication, i.e., RCVS v. Mulvey (2018).
12. Diagnose the pathology of a communication breakdown and introduce how to remediate poor communication.
13. Manage and develop clinical governance systems in the light of best and poor practice of nonverbal communication.
14. Determine how money is accounted for in a business.
15. Analyze practice accounts to determine how one can ethically manage money while ensuring animal welfare.

Domain 4-Communication:

1. Be introduced to the basics of clinical communication with the Calgary Cambridge Guide.
2. Identify appropriate non-verbal communication skills.
3. Discuss the key components of initiating a client interaction and negotiating the agenda.
4. Define feedback and review guidelines for giving and receiving it effectively.
5. Complete an effective client interview.
6. Practice giving feedback to their peers.

7. Practice receiving feedback from their faculty coaches, peers and simulated clients.
8. Engage in self-assessment techniques by reflecting on the interviews and determining what improvements can be made.

Domain 5-Business and Financial Literacy:

1. Understand basic financial terminology and theory applicable to owning and/or working in a veterinary practice.
2. Perform a self-assessment of the personal budget and discuss areas for improvement.

Domain 6-Evidence-Based Veterinary Medicine:

1. Ask a focused and answerable question that translates uncertainty to an answerable question (PICO).
2. Search for the best available evidence.
3. Critically appraise the evidence for validity and clinical relevance.
4. I Understand how to communicate the results into clinical practice.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	Program Level Outcome
<p>Discuss the fundamentals of the six domains of professional development.</p>	<p>B. Core Professional Attributes PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy. PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team. PLO 16 Demonstrate and model adaptability and resilience. PLO 17 Demonstrate and model self-awareness including understanding personal</p>

	<p>limitations and willingness to seek advice.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p>
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XII. Course Schedule

Modality/Activity/ Duration/Date/Time	Lecture Topic	Faculty	Open Date/ Due Date
Week 1 (August 16-22)			
Required Lecture (1 hr) Tues 17 Aug, 1:30-2:20	Welcome and Introduction to Communications	Drs. Byers and Guttin	
Week 2 (August 23-29)			
Panopto Video Recording (1 hr)	CCG Skills Review	Drs. Byers and Guttin	Review before your lab session
Week 3 (August 30-Sept 5)			
No Activities			
Week 4 (September 6-12)			
Required Lecture (2 hr) Thur 9 Sept 1:30-3:20	PICO Model of EBVM	Dr. Janicke	
Sakai Assignment	PICO Assignment Opens	Dr. Janicke	Open Sept 9 Due Sun Oct 3 11:55pm AST
Week 4 (September 8) Communication Labs Start: See Schedule			
Answer communication skills question on Lessons Page to access the communication case details.			
Sakai Assignment Due Sun 11:55 pm AST After Your Communication Lab: Self-Assessment			
Week 5 (September 13-19)			
Required Lecture (2 hr) Fri 17 Sept, 1:30-3:20	Helping Clients with Grief; Compassion Fatigue; Wellness Check-in	Dr. Rodriguez	
Sakai Assignment	Wellness Assignment Opens	Dr. Rodriguez	Open Sept 17 Due Sun Sep 26 11:55pm AST
Week 6 (September 20-26)			
Sakai Assignment Due Sun Sep 26 11:55 pm AST: Wellness Paper			
Week 7 (September 27-Oct 1)			
Sakai Assignment Due Sun Oct 3 11:55 pm AST: PICO Paper			
Week 8 (October 4-10) MIDTERMS			
Week 9 (October 11-17)			
Required Lecture (1 hr) Tues 12 Oct 1:30-2:20	Ethics of Corporate Social Responsibility	Dr. Kirwan	

Week 10 (October 18-24)			
Required Lectures (2 hr) Mon 18 Oct 1:30-2:20 Tues 19 Oct 1:30-2:20	Proportionate and Disproportionate Treatment, Double Effect, and End of Life Care	Dr. Kirwan	
Sakai Assignment	Corporate Social Responsibility Policy	Dr. Kirwan	Open October 12 Due Sun Oct 31 11:55 pm AST
Week 11 (October 25-31)			
Sakai Assignment Due Sun Oct 31 11:55 pm AST: Corporate Social Responsibility Policy			
Week 12 (November 1-7)			
Lecture (1 hr) Fri 5 Nov 3:30-4:20	Euthanasia – Communication and Preparations for SA and LA patients	Drs. Byers and Guttin	
Week 13 (November 8-14)			
No Activities			
Week 14 (November 15-21)			
No Activities			
Week 15 (November 22-26)			
No Activities			

Domain 4 Communication: Live Simulation Labs

Weeks 4-12 Wednesdays Sept 8 Sept 15 Sept 22 Sept 29 Oct 13 Oct 20 Oct 27 Nov 3 9:30am-12:20pm AST (3hrs)	Communication Simulation Labs: <ul style="list-style-type: none"> • ONE session per student • Reserve all dates until you get confirmation of your date. • 30-minute Self-Assessment due Sunday after your session at 11:55pm AST. 	Dr. Talia Guttin and Dr. Stacey Byers Communication Coaches
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XIII. Grading and assessment policy, and grading rubrics

The course will be graded Pass/Fail.

100%-69.5% = Pass

<69.5% = Fail

Evaluation	Weight	Grade
Communications <ul style="list-style-type: none">• Introduction to Communications• CCG video• Euthanasia comm session• Participate in SC Lab• Self reflection paper	25%	P/F (0/1) P/F (0/1) P/F (0/1) P/F (0/1) P/F (0/1) P/F (0/1)
EBVM <ul style="list-style-type: none">• Lecture• Assignment	10%	P/F (0/1) Assignment 50 points
Wellness <ul style="list-style-type: none">• Lecture• Assignment	10%	P/F (0/1) Assignment P/F (0/1)
Ethics <ul style="list-style-type: none">• Attend lecture 1• Attend lecture 2• Assignment	15%	P/F (0/1) P/F (0/1) Assignment P/F (0/1)
Professionalism <ul style="list-style-type: none">• Midterm• Final	40%	20 points 20 points

A grade of passing will be determined by:

- i. Successful completion of all assignments (see below)
- ii. Mandatory engagement in the course content which includes:
 - a. Attendance of all live lecture
 - b. Attend and participate in Communications Simulated Client lab
 - b. Review of all recorded seminars
 - c. Completion of assignments and activities.

No unexcused absences are allowed. Any absences or technical difficulties must be immediately addressed by emailing the course director (Dr. Stacey Byers, sbyers1@sgu.edu). Failure to attend mandatory meetings, lectures, and/or engage in course content will result in course failure AND the student may be placed on non-academic probation by the CAPPS committee.

Course Assignments:

Listed below are descriptions of the assignments to be encountered in the course. Complete assignment details and rubric (if applicable) information will be found in Sakai when the assignment opens.

1. Domain 2 (Wellness)
 - a. Wellness assignment – **Due Sun 26 Sept 11:55pm AST**
2. Domain 3 (Ethics and Welfare):
 - a. Corporate social responsibility policy assignment – **Due Sun 31 Oct 11:55pm AST**
3. Domain 4 (Communications):
 - a. Mandatory communications lab with simulated clients (1 lab per student). Refer to the Sakai Weekly Lessons tab for groups, dates, and lab information.
 - b. Communication self-reflection assignment – **Due Sun 11:55pm AST after your communication lab session.**
4. Domain 6 (Evidence Based Veterinary Medicine):
 - a. PICO assignment – **Due Sun 3 Oct 11:55pm AST**

XIV. Recommended study strategies

Remain engaged throughout the course to benefit from the various active learning activities. Use the Weekly Lessons to keep stay on track.

XV. Instructor's expectations of the student

The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and assignment submission.

The student is expected to communicate with the Course Director professionally and in a timely manner in the event of technical difficulties, inability to attend lectures or hand in assignments on time for any reason.

XVI. Professionalism statement

Always exhibit professional and respectful behavior towards colleagues, faculty and staff. Please be on time and engaged in course content as directed. Students may be required to turn on their cameras during live sessions. Please be mindful of this regarding attire and surroundings. If you are asked to turn on your

camera and you are not able to, please email your lecturer in advance prior to the live session.

XVII. Attendance/participation policy

Students (on and off island) are expected to be available during the standard 8:30-5:30 pm AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Zoom Synchronous Seminar Attendance policy: **Attendance in class or via Zoom is mandatory for on and off-island students.** If a student has received an excused absence or there are external circumstances which are communicated to the Course Director in a timely manner, students will be required to view the video of the lecture within a week of the session.

Panopto Asynchronous Activities Engagement Policy: Every requirement in the Weekly Requirements for the week **MUST** be completed by Sunday 11:55pm AST. Attendance/viewing will be checked.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the quiz, examination, or assignment.

Students who have technical issues during the examination **MUST** inform the Course Director (Dr. Stacey Byers, sbyers1@sgu.edu) and IT (tellexaminationsservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during

the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

Failure to submit any assignment or submit an assignment late will result in course failure AND the student may be placed on nonacademic probation by the CAPPs committee.

XIX. ExamSoft policy

N/A.

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

PATHOBIOLOGY DEPARTMENT

BACTERIOLOGY & MYCOLOGY (4 credits)

PTHB 503 (Term 2)

Fall, 2021

I. Course Faculty and Staff Information

- **Course Directors:**

Andy Alhassan, DVM, MSc, PhD, Associate Professor PTHB

Email: aalhass1@sgu.edu

Office Location: Veterinary Basic Medical Sciences building, Pathobiology
Department offices

Office Hours: Email for appointment

Victor A. Amadi, BSc, MSc, PhD, Assistant Professor PTHB

Email: vamadi@sgu.edu

Office Location: Veterinary Basic Medical Sciences building, Pathobiology
Department offices

Office Hours: Email for appointment

- **Additional Faculty:**

Sharianne Mina Suepaul DVM, PhD, PGCertUTL, Associate Professor PTHB

Email: ssuepaul@sgu.edu

Office Location: Veterinary Basic Medical Sciences building, Pathobiology
Department offices

Office Hours: Email for appointment

Josephine Azikuru Afema, BVM, MPVM, PhD, Associate Professor PTHB

Email: jazikuru@sgu.edu

Office Location: Veterinary Basic Medical Sciences building, Pathobiology
Department offices

Office Hours: Email for appointment

- **Staff:**

- Erica Brathwaite, Laboratory Technician – ebrathwaite@sgu.edu

- Roxanne Nicholas-Thomas, Laboratory Technician – rnichola@sgu.edu

- Cindy Edwards, Executive Secretary – cedwards@sgu.edu

II. Course location

Course content will be delivered In-person at the David Brown Lecture Hall (formerly called Alumni Lecture Hall)

Online location for Fall 2021 (Sakai): 2021-08-PTHB503-V-0-

Bacteriology/Mycology-(11900) via Sakai: My Courses, Syllabus, Lessons, Recourses, Panopto, Zoom, Forums, Tests and Quizzes.

III. Prerequisite and/or co-requisite courses

Current Term 2 student

IV. Required resources

Required resource are:

Course notes/PowerPoint (provided by instructors)

Electronic devices such as laptop with functional microphone, camera, etc.

Functional internet access

V. Recommended resources

The recommended resource are:

→Concise Review of Veterinary Microbiology, 2nd Edition, 2016, P. J. Quinn *et al.*
Wiley Blackwell

→Veterinary Microbiology and Microbial Disease, 2nd Edition, 2011, P. J. Quinn *et al.*
Blackwell Science

→Clinical Veterinary Microbiology, 2nd Edition, 2013 B.K. Markey *et al.*
Mosby/Elsevier Publishers

VI. Accommodation

a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Laboratory Safety Rules and Aseptic Techniques

1. Do not eat or drink in the laboratory at any time; and do not bring food/drinks into the laboratory, particularly to your bench. This will be strictly enforced, and **you will lose 1-2 points** if you do not comply.

2. Wear a laboratory coat at all times to protect clothes from contamination. If your lab coat becomes contaminated, notify an instructor at once. Your coat will be sterilized for your protection. If you do not bring a lab coat, you will be asked to leave the lab until you get a lab coat, and **you will lose 1-2 points** if you do not comply.

3. Covered shoes are required for your protection. If you have the wrong shoes, you will be asked to leave the lab until you are wearing proper shoes, and **you will lose 1-2 points** if you do not comply.
4. All cultures are potential pathogens. Use aseptic technique with all bacteria and DO NOT contaminate yourself, your notebooks, lab bench or microscope. Keep **long hair tied back** and loose clothing away from the Bunsen burner. If you are not properly attired or have loose hair, you will be asked to leave the lab until you are compliant, and **you will lose 1-2 points** if you do not comply.
5. Do not throw away cultures down the sink or leave in the waste basket. Dispose of all cultures, glass slides, pipettes etc. in the designated containers in the lab. These items will be autoclaved before disposal.
6. **DO NOT** put anything (pens, pencils, fingers) in or near your mouth or eyes while working in the laboratory. If contaminated material gets into your eyes or mouth, rinse immediately with running water and notify the instructors.
7. **DO NOT** pipette by mouth!
8. Keep only the materials needed for that day's laboratory on your bench. Keep coats, books and other items away from work bench.
9. **Wash your hands** when you leave the laboratory, even if you are leaving for a short time. Hand washing should become automatic.
10. Disinfect your bench top after working. Clean up your area before you leave. **DO NOT** leave cultures or test tubes on the bench unless directed to do so by the instructors. Under no circumstances are cultures to be removed from the laboratory.
11. If a culture is dropped or spilled, notify your lab partners and the instructor immediately. Make sure no one steps in the contaminated area. Cover the spill with paper towels soaked in disinfectant.
12. Light your Bunsen burner and work in the vicinity of the flame to take advantage of the upward draft of air around the burner. **DO NOT** work in a draft. Avoid coughing or sneezing when handling your cultures.
13. Hold open containers at an angle to avoid the chance of airborne contamination. You do not need to flame the lip of sterile test tubes but **DO NOT** leave open for any longer than necessary to perform the inoculation or test.
14. When inoculating Petri dishes, open them only as long as you need to perform the inoculation or test. When opening an agar plate culture of bacteria, open the plate slowly to avoid creating an aerosol. **DO NOT** put your nose directly into a culture to smell it.
15. Heat inoculating needles and loops to glowing red in the flame before and after contact with microorganisms, including making smears for Gram stain. To avoid creating aerosols, always cool your loop before touching it to agar or broth cultures.

VIII. Course rationale

The course provides foundation needed for an understanding of clinical veterinary practice with reference to bacterial and fungal disease conditions in animals. This course is required by veterinary students to recognize and understand the major bacterial and fungal pathogens of veterinary significance, with respect to the habitats, virulence factors, pathogenesis, and the effects on different animal species. Specimen collection and isolation, and control by antimicrobial drugs and biological agents will also receive emphasis.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Utilize scientific nomenclature associated with veterinary bacteriology and mycology such as pathogen, pathogenicity, virulence, infection.
2. Describe various measures of virulence associated with various bacteria and fungi
3. Explain names of bacteria and fungi associated with various disease conditions
4. Explain the differences between apparent and inapparent infection, acute and chronic infection
5. Describe the important features of specified Veterinary-related bacterial and fungal pathogens, including their habitats, survival, host range and transmission.
6. List and illustrate the principles of specimen collection and submission for bacterial and fungal specimen including the rationale for specimen collection.
7. Describe pathogenesis, drug susceptibility and immunity of bacteria and fungi.
8. Describe appropriate diagnostic tests and control measures for important bacterial and fungal disease of animals.
9. Explain inherent and acquired drug resistance, and spectrum of activity of commonly used antimicrobial drugs.
10. Describe procedures for determining bacterial susceptibility to antimicrobial agents.

X. Lesson Learning Outcomes

The following are summarized breakdown of the lesson-level outcomes of the individual bacterial and fungal species covered in each lecture: For all the bacterial and fungal diseases covered in this course you need to describe the:

1. Etiologic/ agent that causes the bacterial and fungal disease
2. General characteristics of the bacterial and fungal species
3. Classification or family that the organism belongs to
4. Major clinical signs associated with the organism
5. General pathogenesis of the organism
6. Diagnosis of the disease associated with the organism
7. Treatment and the control measures of the organism
8. Other specific feature relevant in differentiating the specific disease associated with the bacterial or fungal species.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

SGU Program Level Outcome (PLO)	Course Learning Outcomes #
A. Core Medical Knowledge	
3. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases.	1,2,3,4,6
4. Explain the relationship between disease processes and clinical signs.	3,4
5. Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.	7,8,9,10
7. Evaluate and analyze normal versus abnormal animal behavior.	2,4,5
11 Understand and apply basic principles of research, and recognize the contribution of research to all aspects of veterinary medicine	6,9,10
B. Core Professional Attributes	
12. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.	8
14. Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.	8
15. Model lifelong continuing education and professional development.	1,8
17. Demonstrate and model self awareness including understanding personal limitations and willingness to seek advice.	6,8,9
C. Core Clinical Competencies (Skills)	
20. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.	8
26. Design and execute plans for health promotion, disease prevention, and food safety.	8,9,10
28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine	9,10

XII. Course Schedule

Be aware that this syllabus is a guide. Lectures may take more or less time depending upon class interest and participation.

Week	Lecture	Day	Date	Time	Lecturer	Lecture Topic
1	1	Tue	17 Aug	10:30	Amadi	• Intro to Bacteriology/ Bacterial morphology
	2	Wed	18 Aug	10:30	"	• Cultivation/ Preservation
	3	Thu	19 Aug	10:30	Afema	• Bacterial pathogenesis / Virulence factors
	4	Fri	20 Aug	10:30	"	• Antimicrobial agents/ Review
2	5	Wed	25 Aug	10:30	Alhassan	• Intro to Mycology / Dermatophytes
	6	Thu	26 Aug	10:30	"	• <i>Aspergillus/ Candida/ Malassezia</i>
	7	Fri	27 Aug	8:30	"	• Dimorphic fungi, & Mycotoxins
3	8	Wed	1 Sep	10:30	Alhassan	• Lab diagnosis of bacterial diseases
	9	Thu	2 Sep	10:30	"	• Biosecurity, sterilization, disinfection
	10	Fri	3 Sep	10:30	Alh/Ama	• Review for Quiz
4	11	Mon	6 Sep	11:30		Quiz (Sakai: Mon, September 6, 2021)
	12	Tue	7 Sep	10:30	Amadi	• <i>Enterobacteriaceae</i> -I
	13	Wed	8 Sep	10:30	"	• <i>Enterobacteriaceae</i> -II
	14	Fri	10 Sep	10:30	Alhassan	• <i>Corynebacterium</i> group, <i>Rhodococcus</i>
5	15	Mon	13 Sep	10:30	Alhassan	• <i>Trueperella pyogenes/ Actinomyces</i>
	16	Wed	15 Sep	10:30	"	• <i>Nocardia/ Dermatophilus</i>
	17	Thu	16 Sep	10:30	"	• <i>Erysipelothrix/ Listeria</i>
6	18	Mon	20 Sep	10:30	"	• <i>Ehrlichia</i> spp
	19	Tue	21 Sep	10:30	"	• <i>Rickettsia</i> spp
	20	Wed	22 Sep	11:30	"	• <i>Neorickettsia</i> spp
7	21	Tue	28 Sep	10:30	Alhassan	• <i>Coxiella/ Wolbachia</i>
	22	Wed	29 Sep	10:30	"	• <i>Anaplasma</i> spp/ Heart water
	23	Thu	30 Sep	8:30	Suepaul	• Spirochetes
	24	Thu	30 Sep	9:30	Al/Am/Su	• Review for Midterm
<p>Thursday, 7th October 2021, 12:00 PM, AST: MIDTERM EXAMINATION (ExamSoft)</p>						

***AST – Grenada time**

Dr. Alhassan: Al, Dr. Suepaul: Su, Dr. Afema: Af, Dr. Amadi: Am.

Course Schedule: Lectures (Continued)

Week	Lecture	Day	Date	Time	Lecturer	Lecture Topic
9	25	Tue	12 Oct	10:30	Amadi	• <i>Pseudomonas/ Burkholderia</i>
	26	Thu	14 Oct	11:30	"	• <i>Taylorella/ Campylobacter/ Helicobacter</i>
	27	Fri	15 Oct	9:30	"	• <i>Actinobacillus</i> spp/ Review
10	28	Tue	19 Oct	10:30	Suepaul	• <i>Staphylococcus</i> spp
	29	Thu	21 Oct	10:30	"	• <i>Streptococcus</i> spp
	30	Fri	22 Oct	10:30	"	• Anaerobes: Neurotoxicogenic <i>Clostridium</i>
11	31	Wed	27 Oct	10:30	Suepaul	• Anaerobes: Enterotoxigenic <i>Clostridium</i>
	32	Thu	28 Oct	10:30	"	• Histotoxic <i>Clostridium</i>
12	33	Mon	1 Nov	10:30	Suepaul	• <i>Bacillus</i> spp/ Review
	34	Tue	2 Nov	10:30	Alhassan	• Non spore forming Anaerobes
	35	Wed	3 Nov	10:30	"	• <i>Brucella/ Lawsonia</i>
	36	Fri	5 Nov	10:30	"	• <i>Mycoplasma</i> -1 & 2
13	37	Mon	9 Nov	9:30	Alhassan	• <i>Bordetella/ Moraxella</i>
	38	Mon	9 Nov	10:30	"	• <i>Chlamydia</i> group
	39	Wed	10 Nov	10:30	"	• <i>Mycobacterium</i> spp
14	40	Tue	16 Nov	10:30	Alhassan	• <i>Bartonella</i> spp/ Review
	41	Wed	17 Nov	10:30	Suepaul	• <i>Francisella</i> spp
	42	Thu	18 Nov	10:30	"	• <i>Pasteurella</i> spp
15	43	Mon	22 Nov	10:30	Suepaul	• <i>Mannheimia/ Haemophilus</i>
	44	Tue	23 Nov	9:30	"	• <i>Histophilus/Avibacterium</i>
	45	Wed	24 Nov	9:30	Al/Am/Su	• Review for Final
	46	Wed	24 Nov	10:30	Al/Am/Su	• Review for Final
Friday, 3rd December 2021, 12:00 PM, AST: FINAL EXAMINATION (ExamSoft)						

***AST – Grenada time**

Dr. Alhassan: Al, Dr. Suepaul: Su, Dr. Afema: Af, Dr. Amadi: Am.

Course Schedule: Laboratories

For Fall 2021 Term, we will have In-person hands-on laboratory sessions. For students taking the course online, the hands-on lab session will be converted to online format.

- Read corresponding lab-materials. See lab manual page numbers under Assessment Schedule
- Demonstration plates, tests, and/or video links will be provided on PowerPoint slides

Week	Lab # (labs covered in lab manual)	Date	Topic	Assessment Schedule
3	#1 (Lab 1 & 2)	1 Sep	Introduction, Gram staining, Streak plate technique on clinical sample or mixed cultures	Lab. Manual Page 7-14
		3 Sep	"	
4	#2 (Lab 3 & 4)	8 Sep	Antibiotic susceptibility testing, Quantitative culture of urine for diagnosing urinary tract infections (UTI) in dogs	Lab. Manual Page 15-22
		10 Sep	"	
5	#3 (Lab 3 & 4 Cont'd)	15 Sep	Antibiotic susceptibility testing, Quantitative culture of urine for diagnosing UTI in dogs (Cont'd). Interpretation of sensitivity & UTI results +	
		17 Sep	"	
Assignment 1		Due date/time for assignment submission (Sep-17, 11:30pm AST*)		
6	#4 (Lab 5 & 6)	22 Sep	Mycology Demonstrations, and Gram staining of yeasts. Wet mount exam for ringworm. Culture of clinical samples	Lab. Manual Page 23-27
		24 Sep	"	
9	#5 (Lab 5 & 6 Cont'd) + (Lab 7 & 8)	13 Oct	Interpretation of Mycology lab culture results, + Introduction on bacterial identification tests, GRAM-NEGATIVE bacteria. Clinical cases and diagnosis	Lab. Manual Page 23-27 + 28-35
		15 Oct	"	
Assignment 2		Due date/time for assignment submission (Oct-15, 11:30pm AST*)		
10	#6 (Lab 9 & 10)	20 Oct	Introduction on bacterial identification tests, GRAM-POSITIVES and acid-fast bacteria, clostridia. Clinical cases and diagnosis	Lab. Manual Page 36-46
		22 Oct	"	
11	#7 (Lab 9 & 10 Cont'd)	27 Oct	Gram-positives and acid-fast bacteria, clostridia. Clinical cases and diagnosis (Cont'd).	
		29 Oct	"	
Assignment 3		Due date/time for assignment submission (Oct-29, 11:30pm AST*)		
12	#10 (Lab 11)	3 Nov 5 Nov	Polymerase chain reaction (PCR) - in bacterial diagnosis	Lab. Manual Page 47-52
13	#11 (Assignment 4)		Due date/time for assignment submission (Nov-12, 11:30pm AST*)	
14	#12 (Assignment 5)		Due date/time for assignment submission (Nov-19, 11:30pm AST*)	

Laboratory: WEDNESDAY Group, 1:30 – 4:20 PM, & FRIDAY Group: 1:30 – 4:20 PM (AST)

***AST – Grenada time**

XIII. Grading and assessment policy, and grading rubrics

There will be **three** examinations (Quiz, Midterm, and Final), based on **Lectures**. The examinations will consist of **multiple-choice questions** (MCQ). The Quiz will be on Sakai-Tests and Quizzes. The Midterm and Final examinations will be sequestered and will be on ExamSoft.

There will be **five** laboratory Assignments (Assignment 1 to 5): the **first assignment** will be on basic lab techniques, the **second to fourth** on a diagnosis based on case history and smears and /or cultures, and the **fifth assignment** will be on basic PCR lab techniques. The assignments will be on Sakai-Tests and Quizzes (**See Table on page 8 for due date/time of the assignments**).

For ExamSoft exams, a grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

POINTS ASSIGNED

➤ Lecture Quiz	30 Points
➤ Lecture Exam I: Midterm	40 points
➤ Lecture Exam II: Final	40 Points
➤ Lab. Assignments	25 points (5 Assignments, 5 points each)
Total	135 Points

Grading Scale: Final grading will be based on cumulative performance of all examinations including laboratory assignment scores, given for the course. Grading will be as follows (%):

All other exam policies are followed according to the SGU Examination Policy and the Student handbook.

89.5-100:	A
84.5-89.4:	B+
79.5-84.4:	B
74.5-79.4:	C+
69.5-74.4:	C
64.5-69.4:	D+
59.5-64.4:	D
<59.5:	F

XIV. Recommended study strategies

Dr. Alhassan, Dr. Suepaul, Dr. Afema, and Dr. Amadi are willing to assist with questions on the material and study strategies for the course. Should the student have major difficulties with the course material, time management and/or testing, it is strongly recommended to contact the Department of Educational Services (DES). Appointment can be made by emailing Dr. Alhassan (aalhass1@sgu.edu), Dr. Suepaul (shariannesuepaul@yahoo.co.uk), Dr. Afema (jazikuru@sgu.edu), or Dr. Amadi (vamadi@sgu.edu). Review sessions for lecture and laboratory material will be held for the class and will be during normal lecture.

XV. Instructor's expectations of the student

As students in a school of veterinary medicine, you are expected to conduct yourselves as professional and mature students. As such, we expect you to attend required lectures and lab sessions, and to act in a professional and courteous manner to us and your classmates as warrants your future prestigious career.

XVI. Professionalism statement

Professional behavior in class is expected and required, including silencing of cell phones and other noisemaking devices and acting in a respectful manner toward the lecturer and your fellow classmates.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation may be graded randomly. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Lecture attendance policy: Attendance during lectures is required.

Laboratory session attendance policy: Attendance in labs will be checked through an attendance sheet, and **One point will be deducted from the total points for each missed lab without a valid reason.** Only documented excuses, via the University Health Clinic, or via the SGU web page (under General/Medical Excuse Submissions), will be accepted. If an extended absence is required, a leave of absence

form from the Dean of Students office must be submitted. Refer to the handbook for rules/regulations on attendance and absences.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (Dr. Alhassan (aalhass1@sgu.edu) and Dr. Amadi (vamadi@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.

6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. [Examsoft information page](#)
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

**ST. GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT OF PATHOBIOLOGY
VETERINARY PARASITOLOGY SYLLABUS (4 CREDITS)
PTHB 505 (TERM 3)
FALL 2021**

I. Course Faculty Information

Course Director: Dr. Ray Kaplan, DVM, PhD, DipACVM, DipEVPC (Professor of Veterinary Parasitology)

Email: rkaplan@sgu.edu

Office Phone: 473-444-4175 x3671

Mobile Phone: 473-459-4126

Office Location: In the SVM trailer next to Bocca Lupo restaurant (for now)

Office Hours: Can be made by appointment

Mrs. Camille-marie Coomansingh-Springer, MSc, PhD candidate (Instructor)

Email: ccoomansingh@sgu.edu

Office Phone: 444-4175 ext. 3707

Office Location: Clinical Parasitology Lab (in the back of the Research Building)

Office Hours: Can be made by appointment

Mr. Dan Fitzpatrick, MSc (Instructor)

Email: dfitzpat@sgu.edu

Phone: 444-4175 ext. 3860

Office Location: In the Research Building

Office Hours: Can be made by appointment

- II. Course Location:** Lectures in Ray and Jan Sis Hall #2. Sakai resources being used (ie. Panopto, Lessons, Assignments, etc.). Labs in Marion Hall Microbiology Lab. All lecture power points, review DES documents/power points and study guides are in their respective folders in "Resources" on Sakai (select "Course Tools" and click on "Resources").
- III. Pre-requisites:** Current term 3 veterinary students; none required however an understanding of the life cycles, terminology, clinical signs and pathology associated with parasites will be expected.
- IV. Required resources:** Lecture power points, lab manual and other required resources such as documents, videos and links will be posted on Sakai in "Resources" folders.
- V. Recommended Resources:** Course notes and other supplemental resources will be available on Sakai (select "Course Tools" and click on "Resources". All resources will be in labeled folders.

Optional resources:

- “Georgi’s Parasitology for Veterinarians”, 11th Edition (2019), Dwight Bowman (editor), also available as an e-book. Excellent life cycle diagrams and color photographs. (older editions are available at reduced cost)
- “Veterinary Parasitology: Reference Manual”, 5th Edition William Foreyt (editor), also available as an e-book. Excellent reference for clinical practice (\$US 50); also available as an e-book.
- “Principles of Veterinary Parasitology”, 1st Edition (2015), Dennis Jacobs, Mark Fox, Lynda Gibbons, Carlos Hermosilla (editors), also available as an e-book (www.wiley.com/vet)
- “Veterinary Clinical Parasitology”, 9th Edition, Anne M. Zajac, Gary A. Conboy, Susan E. Little, Mason V. Reichard (editors), ISBN: 978-1-119-30077-9 Ames, IA: Wiley-Blackwell. (older editions are available at reduced cost)
- Other useful books for reference are available in the library.
- Selected reference books will be available for use in every laboratory session.

Helpful websites:

<http://www.cdc.gov> (Centers for Disease Control & Prevention)

<http://www.capcvet.org/> (Companion Animal Parasite Council)

<http://www.animalplanet/monstersinsideme/com>

<http://www.ncvetp.org> (Nat’l Center for Veterinary Parasitology; Oklahoma State)

<https://www.heartwormsociety.org/> (American Heartworm Society)

<http://www.wormx.info> (American Consortium for Small Ruminant Control)

<http://www.merckvetmanual.com/mvm/index.html> (Merck Veterinary Manual)

<http://www.parasitesplainandsimple.com> (Google “video” & the website)

<http://www.veterinaryparasitology.com> (Monster Hunter’s Guide to Vet Para)

VI. Special accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements: Computer or other electronic devices to review lectures, etc. Reliable internet service.

VIII. Course Rationale: Provide a basic understanding of the biology of protozoan and metazoan parasites, understanding relevant host-parasite relationships which are needed to pursue clinical studies and future professional development, and strategies for the diagnosis, treatment and control of several of the most important parasites.

IX. Course-Level Outcomes (CLOs): Upon successful completion of this course, the student will be able to:

1. Explain the clinical manifestation and epidemiology of parasitic disease in terms of the biology and life cycle of the parasite.
2. Comprehend the interactions between host immunity and parasite evasion of host defenses.
3. Discuss the public health implications of the major zoonotic parasites.
4. Identify parasites of veterinary importance by their appearance at post mortem examination and

- in fecal or other appropriate samples.
5. Explain the mode of action and relevant pharmacokinetic properties of the major groups of chemicals used for parasite treatment.
 6. Discuss treatment and control strategies for the major parasites of veterinary and zoonotic importance.

Clinical case presentations will be incorporated in the lectures. Core material is mostly presented as illustrated lectures and correlating laboratory sessions.

Detailed course content: Can be found within the lecture power points, course notes, and laboratory manual. Student Lecture Learning Outcomes (LLOs) are outlined at the end of each parasite section in the course notes, laboratory manual and power points (all available on Sakai). The course notes are a detailed reference to help your understanding, but testable material will come from the power points.

- X. Lesson-level outcomes (LLOs):** Are available at the end of each parasite section (i.e., protozoans, cestodes, flukes, nematodes, arthropods and arachnids). They are also located at the end of each laboratory session in the laboratory manual. The LLOs are listed in the appendix section of the course notes.
- XI. Alignment of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs):** The CLOs are listed in IX and in the appendix of the course notes.

XII. Course Schedule:

Date	Time	Lecture	Topic/Parasites covered	Instructor
MO 16 AUG	2:30	1	Introduction to Veterinary Parasitology	Kaplan
TU 17 AUG	4:30	2	Introduction to Protozoa & Trichomonads	Springer
WE 18 AUG	4:30	3	Trichomonads (cont'd), Amoeba	Springer
MO 23 AUG	3:30	4	Histomonas & Giardia	Springer
TU 24 AUG	4:30	5	Hemoflagellates	Springer
WE 25 AUG	3:30	6	Intro to Apicomplexa & Eimeria	Springer
TH 26 AUG	4:30	7	Apicomplexa II	
FRI 27 AUG	8:30 & 10:30		Lab # 1 (Protozoa I) Lec 1- 5	
MO 30 AUG	3:30	8	Apicomplexa III	Springer
TU 31 AUG	4:30	9	Apicomplexa IV	Springer
WE 1 SEP	3:30	10	Apicomplexa V	Springer
TH 2 SEP	3:30	11	Case discussion - Protozoa	Kaplan/Springer
FRI 3 SEP	8:30 & 10:30		Lab # 2 (Protozoa II) Lec 6-10	
MO 6 SEP	4:30	12	Ectoparasitocides	Kaplan
TU 7 SEP	3:30	13	Intro to insects & non-biting flies	Fitzpatrick
WE 8 SEP	3:30	14	Biting flies (& mosquitoes)	Fitzpatrick

TH 9 SEP	1:30	15	QUIZ 1 (Material through Lecture 11)	
FRI 10 SEP	8:30 & 10:30		Lab # 3 (Flies and mosquitoes) Lec 12-14	
MO 13 SEP	4:30	16	Myiasis	Fitzpatrick
TU 14 SEP	3:30	17	Fleas, Reduvids & Pentastomes	Fitzpatrick
WE 15 SEP	3:30	18	Flea control	Kaplan
TH 16 SEP	3:30	19	Lice	Fitzpatrick
FRI 17 SEP	8:30 & 10:30		Lab # 4 (Myiasis & Fleas) Lec 16-18	
MO 20 SEP	4:30	20	Intro to Arachnids & Mites I	Fitzpatrick
TUE 21 SEP	3:30	21	Mites II	Fitzpatrick
WE 22 SEP	3:30	22	Ticks I	Fitzpatrick
TH 23 SEP	3:30	23	Ticks II	Fitzpatrick
FRI 24 SEP	8:30 & 10:30		Lab # 5 (Lice & Mites) Lec 19-21	
MO 27 SEP	3:30	24	Case Discussion - Ectoparasites	Kaplan/Fitzpatrick
TU 28 SEP	3:30	25	Intro to Helminths	Kaplan
WE 29 SEP	3:30	26	Endoparasitocides	Kaplan
TH 30 SEP	2:30	27	Cestodes I	Kaplan
FRI 1 OCT	8:30 & 10:30		Lab # 6 (Ticks) Lec 22-24	
FRI 8 OCT	12:00 -1:30		PARASITOLOGY MID-TERM EXAMINATION – 40 questions (Material through lecture 24)	
WE 13 OCT	3:30	28	Cestodes II	Kaplan
TH 14 OCT	2:30	29	Trematodes I	Kaplan
FRI 15 OCT	8:30 & 10:30		Lab # 7 (Cestodes) – Lec 27 - 28 (SWITCH LAB TIMES!)	
MO 18 OCT	1:30	30	Trematodes II	Kaplan
TU 19 OCT	2:30	31	Nematodes I: Small animal Ascarids	Kaplan
WE 20 OCT	3:30	32	Nematodes II: Large animal Ascarids & Oxyurids	Kaplan
TH 21 OCT	2:30	33	Nematodes III: Hookworms & MDR in A. caninum	Kaplan

FRI 22 OCT	8:30 & 10:30		Lab # 8 (Trematodes) Lec 29-30	
MO 25 OCT			Thanksgiving Holiday (NO CLASS!)	
TU 26 OCT	2:30	34	Case Discussion: Ascarids & Hookworms	Kaplan
TH 28 OCT	1:30	35	Nematodes IV: Rhabditids & Spirurids	Kaplan
FRI OCT 29	8:30 & 10:30		Lab # 9 (Ascarids & Hookworms) Lec 31-34	
MO 1 NOV	2:30	36	Nematodes V: Trichurids	Kaplan
TU 2 NOV	1:30	37	Nematodes VI: Metastrongyles, other lungworms, misc helminths	Kaplan
TH 4 NOV	1:30	38	Heartworms I: Biology, Epidemiology, Pathology	Kaplan
FRI 5 NOV	8:30 & 10:30		Lab # 10 (Rhabditids, Spirurids, Trichurids, Metastrongyles) Lec 35-37	
FRI 5 Nov	1:30	39	Heartworms II: Pathology cont'd, Diagnosis	Kaplan
MO 8 NOV	1:30	40	QUIZ # 2 (20 questions; lectures 25 - 37)	
TU 9 NOV	2:30	41	Heartworms III Prevention, treatment, control, LA Filarids	Kaplan
TH 11 NOV	2:30	42	Nematodes VII: Equine Strongyles	Kaplan
FRI 12 NOV	8:30 & 10:30		Lab # 11 (Heartworms & LA Filarids; Case discussion) Lec 38, 39, 41	
TU 16 NOV	3:30	43	Equine parasite control	Kaplan
WE 17 NOV	2:30	44	Nematodes VIII: Ruminant Trichostrongyles – abomasum	Kaplan
FRI 19 NOV	8:30 & 10:30		Lab # 12 (Equine Strongyles & Ruminant Trichostrongyles) Lec: 42,44,45	
MO 22 NOV	2:30	45	Nematodes IX: Ruminant Trichostrongyles/Strongyles-abomasum cont'd & intestine	Kaplan
TU 23 NOV	1:30	46	Ruminant parasite control	Kaplan
WE 24 NOV	2:30	47	Case discussion: Ruminant & Equine	Kaplan
FRI 10 DEC	12:00 -1:30		Final Examination (50 questions; lectures 25 - 47)	Kaplan

XIII. Grading and Assessment Policy:

There will be two 2-hour exams, and two 1-hour quizzes. The midterm examination will have 40 questions @ 1 point each, and the final examination will have 50 questions @ 1 point each. Each quiz will have 20 questions @ 1 point each. All exams and quizzes will be multiple choice questions (Exam Soft) in which some of the questions may require visualization of an image to answer. Total = 130 points

The midterm and final exams will be cumulative, but only for each half of the course. The breakdown of material on Quizzes and Exams are as follows:

- **Quiz 1: All material through Lecture 11 (all of Protozoa)**
- **Midterm: All material through Lecture 24 (end of Ectoparasites). 25% of questions will come from the Protozoa section and 75% from the Ectoparasite section.**
- **Quiz 2: Material from Lectures 25-37 (Helminths up to but not including heartworms)**
- **Final Exam: All material on Helminths with 25% of questions coming from Lec 25-37 and 75% from Lec 37-47.**

You are responsible for reading the laboratory manual prior to the lab and be prepared to answer all of the questions in the corresponding lab manual. All students will be required to observe the laboratory demonstrations and/or participate in the wet lab exercises. All material covered in lab is testable. A lab coat and closed toed shoes are to be worn in the laboratory.

Grading Scale

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

XIV. Recommended study strategies:

In preparing for the laboratory each week, keep in mind the following suggestions to help you in your studies:

1. **It is important that you attend and actively participate in all laboratory exercises. Attendance is mandatory and will be taken each laboratory session. Answer the questions and outcomes/objectives in your lab manual each week.** Parasitology is a “hands-on” discipline. The more you handle materials and **see the parasites of veterinary importance, the more comfortable and prepared you will feel in tackling clinical**

problems. If you happen to have or find parasites outside of the lab setting, bring them in to share with the class!

2. **Keep up with your work in class** and find time for review of past weeks materials. Do not leave studying to the last minute and expect to catch up by “cramming” right before exams. **Attending the DES help sessions will be helpful and is recommended.** There are many parasite names and important details associated with parasite diagnosis so give yourself plenty of time to assimilate and understand this information.

XV. Instructor’s expectations of the student: The lab manual, course notes, orientation schedule and power points will be posted in designated folders in “Resources” on Sakai. Reading the laboratory manual and answering all the questions will help with your comprehension of the material.

Identification, diagnosis, treatment and control of parasites in domestic animals represent a significant portion of most veterinary practices. Therefore, a solid grounding in the basics of veterinary parasitology will be an extremely valuable asset to carry with you both during your advanced training here at St. George’s University, School of Veterinary Medicine, and after you leave the program. For many of you, this course will be your only formal exposure to diagnostic veterinary parasitology. However, it is our hope that in the course of your studies, you will gain the necessary tools and basic information to be effective clinicians in dealing with parasitology problems.

XVI. Professionalism statement: All students are expected to conduct themselves in a respectful and professional manner. Cell phones should be muted during lecture and lab sessions. Treat your professors and colleagues with respect. **Examinations and quizzes are sequestered. Memorizing questions and maintaining them in “banks” to share is a violation of the SGU Honor Code. Such violations can result in a formal disciplinary hearing.**

XVII. Attendance Policy:

Although lecture attendance is not mandatory, it is highly recommended. All lectures can be viewed on Panopto (using the Parasitology media site on Sakai). **All laboratory sessions ARE mandatory.** It is important that you attend your scheduled laboratory session unless there is an extenuating circumstance (e.g., medical excuse or doctor’s appointment). **Excused absences to attend a wedding, meeting, etc. must be approved by the DOS office.**

XVIII. Policy regarding missing examinations and/or failure of submission of assignments.

Students who fail to appear for an examination without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) rkaplan@squ.edu; ccoomansingh@squ.edu; dfitzpatrick@squ.edu and IT (tellexaminationservices@squ.edu OR support@squ.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@squ.edu OR call 473-534-1982) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.

7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy: The materials (such as slides, hand outs and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property

of the Faculty and/or Administration of SGU. ***Students are free to duplicate these materials solely for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.***

Appendices: Program Learning Outcomes (PLOs)

PLO3: Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.

PLO 4: Explain the relationship between disease processes and clinical signs.

PLO 6: Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based scientific knowledge.

PLO 9: Apply the principles of veterinary public health for the promotion of human and animal health.

The lecture (lesson) learning outcomes are located at the end of each parasitology section (e.g., protozoans, cestodes, flukes, nematodes, insects, pentastomes and arachnids).



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

PATHOBIOLOGY DEPARTMENT

SYLLABUS - Pathology I (4 credits)

PTHB506 (Term 3)

Fall 2021

I. Course Faculty and Staff Information

a. Course Director:

- i. Dr. Brian Butler, DVM, MPH, PhD, Dipl. ACVP, *Professor*
- ii. Email: bbutler@sgu.edu
- iii. Office Location: SVM trailer
- iv. Office Hours: by appointment

b. Additional faculty:

- i. Dr. David Marancik, DVM, PhD, *Associate Professor*, dmaranci@sgu.edu
- ii. Dr. Melinda Wilkerson, DVM, PhD, Dipl. ACVP, *Professor*, mwilkers@sgu.edu

c. Staff members:

- i. Ms. Cindy Edwards, Executive secretary, cedwards@sgu.edu
- ii. Mr. Ferron Victor, Laboratory technician (A/V support)
- iii. Ms. Veronica Mapp-Alexander, Laboratory technician (Histology lab)

II. Course location

Online and In-person. Course content will be delivered via My Courses, Panopto, Zoom, and TopHat.

III. Prerequisite and/or co-requisite courses

Successful completion of DVM Term 2 courses: Anatomy II, Physiology II, Bacteriology/Mycology, and Immunology.

IV. Required resources

All course materials are provided in My Courses > Resources and Assignments. Links will be provided for all Panopto, Zoom, and TopHat content. A functional computer

with microphone and camera is required for proctored remote examinations.

V. Recommended resources

Textbook: Pathologic Basis of Veterinary Disease, 6th edition. Zachary and McGavin. 2016.

VI. Accommodations

- a. Students with disabilities who may require accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None

VIII. Course rationale

Pathology I is a 4-credit course composed of didactic lectures mixed with active learning exercises, formative assessment, and interactive clinical case investigations. In addition, there are two laboratory sessions that utilize small group exercises and hands-on learning opportunities with animal tissues and/or simulations. This course serves as an introduction to the discipline and clinical service of veterinary pathology. Term 3 DVM students are expected to integrate knowledge from multiple disciplines (anatomy, physiology, embryology, histology, microbiology, virology, parasitology, etc.) and develop their aptitude for conceptual learning and problem-based medicine. During the first half of the course, students will learn the fundamental mechanisms of tissue injury and disease (General Pathology). The second half of the course will take a systematic approach focused on individual organ systems and their respective diseases in domestic species (Systems Pathology). This latter portion of the course will utilize “flipped classroom” techniques and participants will cover course content through student-directed learning in the form of prescribed lessons, assignments, and review papers. In addition, students will spend in-class time with the instructor focused on content review and formative assessment in preparation for exams. The remaining sections of Systems Pathology are covered in the Term 4 course, Pathology II. In addition, students will also receive an introduction to the clinical service of diagnostic pathology and the relevance of this service to their clinical careers.

IX. Course Learning Outcomes

The emphasis of this course is placed on the training and development of clinical proficiency, and thus, the course material and the course goals are focused on learning the pathogenesis and pathophysiology of the most important veterinary diseases of domesticated animals. The overall goal of this course is to provide students with a solid understanding of veterinary disease as it relates to lesion development, clinical signs, diagnostic strategy, and clinical outcomes.

Upon successful completion of this course, the student will be able to...

1. Apply a working vocabulary for the language of pathology and know how to use pathological terminology correctly. Practice communication skills as they relate to the language of pathology in a clinical setting.
2. Examine the principle mechanisms of disease at the whole body, cellular, and molecular levels (general pathology). Integrate knowledge about the principle mechanisms of disease into clinical case-based scenarios.
3. Recognize, describe, and interpret gross lesions and limited histological lesions.
4. Given a lesion and patient history, formulate a morphologic diagnosis, comprise a list of differential diagnoses, and determine the most likely etiologic diagnosis.
5. Given a specific disease, determine the range of ancillary diagnostic tests that are required to reach a definitive diagnosis.
6. Examine the development of lesions (pathogenesis) by identifying the basic mechanisms of injury and tissue responses.
7. Correlate lesions with clinical signs (pathophysiology), patient history, and clinical laboratory data.
8. Compare and contrast the commonalities and discrepancies of lesions and disease mechanisms across species (comparative pathology).

X. Lesson Learning Outcomes

Please refer to the appended table for Lesson Level Outcomes (LLO) at the end of this document.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Please refer to the appended table for Lecture Level Outcomes (LLO) at the end of this document.

XII. Course Schedule: Weekly Lectures and Assignments with Student CHECKLISTS

Week	Date	<u>Daily Lectures/Lessons</u>	<u>Weekly Assignments</u>	<u>Office Hours</u>
1	Aug 16 Aug 17 Aug 18 Aug 19 Aug 20	Lec 1 - Intro to pathology – Butler Lec 2 - Cell injury and death - Butler No lecture Lec 3 - Cell injury and death – Butler Lec 4 - Vascular disorders – Wilkerson	No assignments	
2	Aug 23 Aug 24 Aug 25 Aug 26 Aug 27	Lec 5 – Hemostasis Congestion – Wilkerson Lec 6 - Inflammation 1 – Marancik No lecture Lec 7 - Inflammation 2 – Marancik Lec 8 - Inflammation 3 – Marancik	No assignments	Zoom Office Hours - Marancik TBA <i>Optional</i>
3	Aug 30 Aug 31 Sep 1 Sep 2 Sep 3	Lec 9 – Inflammation 4 - Marancik Lec 10 – Inflammation 5 - Marancik No lecture Lec 11 - Inflammation 6 – Marancik Lec 12 - Inflammation 7 – Marancik	Case Study Assignment; Inflammation Lecture 6 Sakai Assignment (1 pt) *Deadline Thursday Sep 2nd, 11:59 pm	Zoom Office Hours – Marancik TBA <i>Optional</i>
4	Sep 6 Sep 7 Sep 8 Sep 9 Sep 10	Lec 13 – Inflammation 8 - Marancik Lec 14 – Inflammation 9 - Marancik No lecture Lec 15 - Neoplasia 1 – Butler Lec 16 – Neoplasia 2 - Butler	Case Study Assignment; Inflammation Lecture 9 Sakai Assignment (1 pt) *Deadline Tuesday Sep 7th, 11:59 pm	
5	Sep 13 Sep 14 Sep 15 Sep 16	Lec 17 - Neoplasia 3 – Butler Lec 18 - Neoplasia 4 – Butler No lecture Lec 19 - Neoplasia 5 – Butler	Neoplasia Lab Assignment – Sakai Worksheet Tumor Nomenclature (2 pts)	Zoom Office Hours – Butler TBA <i>Optional</i>

	Sep 17	Lec 20 – Integumentary 1 – Butler	*Deadline Sunday Sep 19 th , 11:59 pm	
6	Sep 20 Sep 21 Sep 22 Sep 23 Sep 24	Lec 21 - Integumentary 2 - Butler Lec 22 - Integumentary 3 - Butler No lecture Lec 23 - Integumentary 4 - Butler Lec 24 - Integumentary 5 – Butler	Dermpath Lab Assignment - Sakai Patterns of Skin Lesions (2 pts) * Deadline Sunday Sep 26 th , 11:59 pm	
7	Sep 27 Sep 28 Sep 29 Sep 30 Oct 1	Lec 25 - Integumentary 6 - Butler Lec 26 - Integumentary 7 – Butler No lecture Lec 27 - Integumentary 8 - Butler Lec 28 - Integumentary 9 – Butler		Zoom Office Hours – Butler TBA <i>Optional</i>
8 MIDTERMS	Oct 4 Oct 5 Oct 6 Oct 7 Oct 8	Midterm Exam – Mon 1:30 pm (40 pts)		
9	Oct 11 Oct 12 Oct 13 Oct 14 Oct 15	Flipped Classroom Module 1 – Urinary Pathology (Week 1/2) TopHat Lesson 1 (2 pts) TopHat Lesson 2 (2 pts) No lesson TopHat Lesson 3 (2 pts) Review TopHat Lessons 1-3 <i>Expected time commitment = 4 hours</i>	***Must complete all TopHat Lessons by deadline Sunday Oct 17th, 11:59 pm. Late lessons will not receive points.	Zoom Office Hours – Butler TBA <i>Optional</i>
10	Oct 18 Oct 19 Oct 20 Oct 21	Flipped Classroom Module 1 – Urinary Pathology (Week 2/2) Time for assignments Time for assignments No class Time for assignments	<u>Reading Assignment</u> Review Paper 1 Review Paper 2 Review Paper 3 Urinary Lab Assignment – TopHat Virtual Necropsy (2 pts)	

	Oct 22	<p>Live Review Session with exam practice Friday at 1:30 pm (2 hours) Participation is mandatory.</p> <p><i>Expected time commitment = 2 hours</i></p>	<p>***Must complete all assignments by deadline Thursday Oct 21st, 11:59 pm. Late assignments will not receive points.</p> <p><i>Expected time commitment = 2 hours</i></p>	
11	<p>Oct 25 Thanksgiving holiday</p> <p>Oct 26 TopHat Lesson 1 (2 pts)</p> <p>Oct 27 TopHat Lesson 2 (2 pts)</p> <p>Oct 28 TopHat Lesson 3 (2 pts)</p> <p>Oct 29 TopHat Lesson 4 (2 pts)</p> <p><i>Expected time commitment = 4 hours</i></p>	<p>Flipped Classroom Module 2 – Hepatobiliary and Exocrine Pancreas (Week 1/2)</p>	<p>***Must complete all lessons by deadline Sunday Oct 31st, 11:59 pm. Late lessons will not receive points.</p>	<p>Zoom Office Hours – Butler</p> <p>TBA</p> <p>Optional</p>
12	<p>Nov 1 Time for assignments</p> <p>Nov 2 Time for assignments</p> <p>Nov 3 Time for assignments</p> <p>Nov 4 Time for assignments</p> <p>Nov 5 Live Review Session with exam practice Friday at 2:30 pm (2 hours) Participation is mandatory.</p> <p><i>Expected time commitment = 2 hours</i></p>	<p>Flipped Classroom Module 2 – Hepatobiliary and Exocrine Pancreas (Week 2/2)</p>	<p><u>Reading Assignment</u> Review Paper 1 Review Paper 2 Review Paper 3</p> <p><u>Liver Lab Assignment</u> TopHat Virtual Necropsy (2 pts)</p> <p>***Must complete all assignments by deadline Thursday Nov 4th, 11:59 pm. Late assignments will not receive points.</p> <p><i>Expected time commitment = 3 hours</i></p>	
13	Nov 8	<p>Flipped Classroom Module 3 – Alimentary Pathology (Week 1/2)</p> <p>TopHat Lesson 1 (2 pts)</p>		

	Nov 9	TopHat Lesson 2 (2 pts)	<p>***Must complete all lessons by deadline Sunday Nov 14th, 11:59 pm. Late lessons will not receive points.</p>	Zoom Office Hours – Butler
	Nov 10	TopHat Lesson 3 (2 pts)		TBA
	Nov 11	TopHat Lesson 4 (2 pts)		Optional
	Nov 12	Review Lessons 1-4 <i>Expected time commitment = 5 hours</i>		
14		Flipped Classroom Module 3 – Alimentary Pathology (Week 2/2)	<p><u>Reading Assignment</u> Review Paper 1 Review Paper 2</p> <p><u>Alimentary Lab Assignment</u> TopHat Virtual Necropsy – Diarrheal Disease (2 pts)</p> <p>***Must complete all assignments by deadline Thursday Nov 18th, 11:59 pm. Late assignments will not receive points.</p> <p><i>Expected time commitment = 2 hours</i></p>	
	Nov 15	Time for assignments		
	Nov 16	Time for assignments		
	Nov 17	No class		
	Nov 18	Time for assignments		
	Nov 19	Live Review Session with exam practice Friday at 2:30 pm (2 hours) Participation is mandatory.		
		<i>Expected time commitment = 2 hours</i>		
15 FINALS	Nov 22 Nov 23 Nov 24 Nov 25 Nov 26	Final Exam – Friday 1:30 pm (50 pts)		
16 FINALS	Nov 29 Nov 30 Dec 1 Dec 2 Dec 3			
17	May 10			
18 CAPPS	May 17			

XIII. Grading and assessment policy, and grading rubrics (*In compliance with SGU and SVM assessment guidelines.*)

All students are expected to be familiar with the examination guidelines issued by the office of the Dean of the School of Veterinary Medicine. Please refer to the Student Manual for details.

- Grading scale. *Please refer to the SVM Student Manual.*
- Types of assessment.
 - There will be **two** written examinations and **nine** assignments/lessons for this course. *Please see schedule above.*
 - Assignments and Lessons will NOT be accepted late. Late submissions will result in 0 points. **Deadlines are indicated in the above schedule.**
 - Please use the CHECKLISTS in the above schedule to keep up with weekly Assignments and Lessons.
 - The written examinations will consist of multiple-choice questions (MCQ's) administered through ExamSoft. The examinations will cover the material described in the lectures, study outlines, laboratory sessions, out-of-class lessons, and reading assignments.
- Assessment breakdown:

	Points
Case Study 1 – Inflammation	1
Case Study 2 – Inflammation	1
Lab Assignment – Neoplasia	2
Lab Assignment – Dermatopathology	2
Midterm Exam	40
Urinary Lessons (3)	6
Lab Assignment – Urinary dz	2
Hepatobiliary Lessons (4)	8
Lab Assignment – Liver dz	2
Alimentary Lessons (4)	8
Lab Assignment – Diarrheal dz	2
Final Exam	50
Total points	124

XIV. Recommended study strategies

- Know the syllabus.
- Know the learning outcomes for each lecture, lab, and assignment.
- Pre-read material before lectures and labs and be sure to know all new vocabulary before class.

- Be sure to complete all out-of-class lessons and assignments prior to in-class sessions with instructor (applies to flipped classroom – systems pathology).
- **Learning through repetition is key for long-term retention.**
 - Pre-read material, then attend lectures, then self-study, then group study, then final review
- Participate in class and ask questions when you do not understand something. Use the **Forums** application in My Courses (Sakai) to ask questions about course content.
- Attend **DES groups** and review sessions.
- Request **Office hours** for any further needed clarification about course concepts.

XV. Instructor’s expectations of the student

The student is expected to review learning outcomes and provided course content BEFORE the scheduled lectures and laboratory sessions/assignments. Every student is expected to participate in active learning assignments, exercises, and prescribed readings. All students are expected to complete all lessons and assignments prior to in-class sessions.

XVI. Professionalism statement

Please refer to SVM Student Manual.

XVII. Attendance/Participation Policy (In compliance with SGU and SVM assessment guidelines.)

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students’ lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Lecture attendance policy: Attendance is strongly recommended and expected.

Laboratory session attendance policy: Attendance is mandatory and required to receive credit for the laboratory sessions. Any absence from lab sessions requires

the necessary documentation from the Dean of Students Office. Please contact the Dean of Students Office directly of details and procedures. Any unexcused absence may lead to failure of the course at the discretion of the Course Director.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

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Appendices:

Detailed course content: Lecture Level Learning Outcomes

Lec.	Topic	Learning Outcomes	CLO
1	Introduction to pathology	<ol style="list-style-type: none"> 1. Demonstrate a general understanding for the discipline and specialty practice of pathology. 2. Review and define specified terms relating to pathology. 3. Review and explain the concept of pathogenesis. 4. List a chronologic sequence of events for a specific veterinary disease (stepwise list of pathogenic events). 5. Review and explain the concept of a pathognomonic lesion and provide examples in veterinary medicine. 6. Discuss the relationship of pathology to clinical medicine (pathophysiology) and review the different types of diagnoses. 7. Discuss the wide range of career opportunities offered in pathology. 	<p>1</p> <p>1</p> <p>1,6</p> <p>6</p> <p>1</p> <p>1,7</p> <p>1,4,5</p>
2	Cellular injury, adaptation, and death Part 1	<ol style="list-style-type: none"> 1. Differentiate the causes and consequences of cellular injury to cell membranes, mitochondria, and the nucleus. 2. Describe the process of oxidative injury to cellular components and evaluate the overall significance of oxidative stress in the pathogenesis of disease. 3. Explain the causes and consequences of DNA damage to the cell, and to the organism. 4. Explain the causes and consequences of DNA damage to the cell, and to the organism. 5. Explain the causes and consequences of the different types of physical injury to cells. 	<p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>
3	Cellular injury, adaptation, and death Part 2	<ol style="list-style-type: none"> 1. Compare the mechanisms and outcomes of reversible and irreversible cell injury. 2. Describe the causes and mechanisms of cell swelling (hydropic degeneration). 3. Describe the mechanisms, morphologic features, and sequelae of necrosis. 	<p>1,2</p> <p>1,2</p> <p>1,2</p> <p>1,2,3</p>

		<ol style="list-style-type: none"> Describe the mechanisms, morphologic features, and sequelae of apoptosis. Compare and contrast the different mechanisms and outcomes for cellular adaptation to chronic injury. 	1,2,6,7
4	Fluid balance and disturbances of blood flow	<ol style="list-style-type: none"> Review structural and functional characteristic of arteries, capillary types, venules, and lymphatics that maintain the circulatory system. Apply concepts of Starling's law of forces to explain how differences in pressure gradients (hydraulic and colloid oncotic pressure, COP) in the capillaries maintain fluid within the capillaries or cause edema. Describe differences in glomeruli and liver (permeability of proteins). Describe four alterations in capillary dynamics that cause edema and list the causes. Recognize and describe the gross and histopathologic appearance of edema. Explain how pulmonary edema, pleural and peritoneal effusions occur. List and describe the different types of cavitory effusions and recognize the pathophysiology of each type. 	<p>1,2</p> <p>2,3,6</p> <p>2,6</p> <p>2,3,6</p> <p>2,6</p>
5	Hemostasis and Thrombosis	<ol style="list-style-type: none"> Describe the role of primary and secondary hemostasis and the types of hemorrhage that occur when there are defects in each. Identify proteins important for primary hemostasis and identify vitamin K dependent coagulation factors. Describe causes of thrombus formation (Virchow's triad). Describe the different types of thrombi (arterial and venous), their removal process from vessels, and consequences of recanalization. 	<p>1,2,6</p> <p>2,7</p> <p>2,6</p> <p>2,6</p> <p>2</p> <p>2.7</p> <p>2,3,6,7</p>
6	Inflammation (1) Introduction to inflammation	<ol style="list-style-type: none"> List the causes of inflammation and compare and contrast how each varies in their pathologic presentation. Recognize that inflammatory lesions by applying the Cardinal Signs of Inflammation. 	<p>1,2,6</p> <p>1,2,6</p> <p>2,6</p>

		3. Describe how the vascular system responds after an inflammatory insult and apply this to the clinical presentation.	
7	Inflammation (2) Cellular mediators	1. Review the categories of inflammatory cells and how to differentiate them based on morphology. 2. Describe the unique features of inflammatory leukocytes and understand how they contribute to the inflammatory process. 3. Be able to interpret what the presence of each cell type tells you about the inflammatory response.	1,2 1,2,6 3
8	Inflammation (3) Chemical mediators	1. Categorize each major system and discuss the mediators that have been highlighted. 2. Distinguish how each system contributes to inflammation and/or resolution of inflammation. 3. Illustrate how these systems are intertwined and connected.	2 2,6 2,3
9	Inflammation (4) Exudates	1. List each type of exudate and describe it's chemical, cellular and fluid composition. 2. Recognize each exudate grossly and microscopically. 3. Compare and contrast what each exudate tells you about the inciting cause, how it's helpful and/or harmful to the body, and how it's resolved. 4. Correctly use the specific terminology involved in describing exudates.	1,2,6 2,3,6 6,7 4,6
10	Inflammation (5) Morphologic diagnosis	1. Accurately evaluate gross and microscopic changes in the tissue and develop a correct morphologic diagnosis.	1,2,3,4
11	Inflammation (6) Healing and repair	1. List the beneficial effects of inflammation and the harmful effects of inflammation. 2. Summarize and understand the four types of hypersensitivity diseases. 3. Explain the mechanisms necessary for tissue repair.	1,2,7 2.6 2,6
12	Inflammation (7) Healing and repair	1. Categorize how tissue repair differs depending on tissue type and injury. 2. Describe when and how fibrosis occurs. 3. Recognize potential complications that can hinder effective healing.	1,2,6,7 2,6 6,7
13	Inflammation (8) Case Study 1	1. Evaluate a clinical case scenario.	1,2,3,6,7 1,2,3,6,7

		2. Integrate your knowledge of inflammation to explain disease pathogenesis, pathophysiology, prognosis, and treatment.	
14	Inflammation (9) Case Study 2	1. Evaluate a clinical case scenario. 2. Integrate your knowledge of inflammation to explain disease pathogenesis, pathophysiology, prognosis, and treatment.	1,2,3,6,7 1,2,3,6,7
15	Inflammation (10) Review with active learning	1. Review important concepts of inflammation.	6,7
16	Neoplasia (1)	1. Identify/recognize the types of growth disturbances that may precede neoplasia and the possible mechanisms/causes of these growth disturbances. 2. Given morphologic descriptions (written/pictures) of these growth disturbances, identify likely clinical presentations associated with them. 3. Given descriptions of clinical presentations, identify from a list the most likely of these growth disturbances responsible for the clinical presentation.	1,2,6 1,2,3,6,7 1,2,7
17	Neoplasia (2)	1. Given the gross and microscopic description (written and in pictures) of a tumor be able to recognize the name/classification of the tumor and be able to differentiate between benign and malignant tumors. 2. Given the name of a tumor and other relevant tumor diagnostic data, be able to recognize its characteristics, including its expected clinical behavior and possible causes, risk factors and metastatic potential and metastatic pathways. 3. Recognize the stages of initiation, promotion and progression of neoplastic transformation.	1,2,3,6 1,2,6,7 1,2,6
18	Neoplasia (3)	1. Given a description of a possible mechanism of carcinogenesis, be able to distinguish between genetic and epigenetic involvement 2. Be able to identify the primary genetic targets involved in carcinogenesis. 3. Be able to distinguish between the tumor parenchyma and stroma and the importance of tumor stroma on the clinical presentation and behavior of a tumor.	1,2,6 2 2,6

19	Neoplasia (4)	<ol style="list-style-type: none"> 1. Given a clinical scenario (species, age, breed, sex, husbandry, symptoms, tumor type, etc.) be able to identify possible cancer risk factors and/or possible causes. 2. Be able to distinguish among the mechanisms of carcinogenesis causes by chemical, physical and microbial agents. 3. Given a clinical scenario and tumor type, be able to recognize possible direct and paraneoplastic effects of the tumor on the host. 	<p>1,2,7</p> <p>2</p> <p>2,7</p>
20	Neoplasia (5)	<ol style="list-style-type: none"> 1. Recognize evidence in support of both innate and acquire immune responses to transformed cells. 2. Understand the concept of tumor antigen and be able to Identify the major innate and acquired immune mechanisms that target transformed cells and those with current/potential use in immunotherapy. 3. Recognize the mechanisms tumors use to evade immune detection and immune responses. 	<p>2,6</p> <p>2</p> <p>2,6</p>
21	Infection (1)	<ol style="list-style-type: none"> 1. Review and classify the types of inflammation that are associated with different infectious organisms. 2. Evaluate and understand the basic concepts of infectious disease pathogenesis. 3. Evaluate and understand the mechanisms of virulence, host response, and lesion morphology, and clinical significance of viral, bacterial, fungal, protozoal, and prion diseases. 	<p>1,2,6</p> <p>1,2,6</p> <p>1,2,3,6,7</p>
22	Infection (2)	<ol style="list-style-type: none"> 1. Identify and analyze the pathogenesis and clinical significance of coinfections and infectious disease complexes. 2. Identify and analyze the pathogenesis and clinical significance of oncogenic infections. 3. Analyze the pathogenesis and importance of dysbiosis as it relates to inflammatory diseases. 4. Determine effective ways to stay current on emerging infectious diseases. 	<p>1,2,6,7</p> <p>1,2,6</p> <p>1,2,6</p> <p>1,2</p>
23	Gross Pathology	<ol style="list-style-type: none"> 1. Discuss the clinical importance of the postmortem examination. 	<p>1</p> <p>1,3</p>

		<ol style="list-style-type: none"> 2. Review the complete step-wise process of the postmortem examination (necropsy technique). 3. Identify and classify postmortem tissue changes. 4. Identify all of the required descriptive features for gross lesions. 5. Practice generating morphological diagnoses for described lesions. 6. Discuss the importance of ancillary testing and analyze how to use gross findings to guide ancillary tests. 	<p>3</p> <p>1,3</p> <p>1,3,4</p> <p>1,5</p>
24	Surgical Pathology	<ol style="list-style-type: none"> 1. Discuss the clinical importance of surgical pathology. 2. Review the process of biopsy sample collection and submission to the lab. 3. Determine which components of the biopsy report are critical to the clinician. 4. Examine and understand the techniques which are used to evaluate surgical margins. 5. Evaluate the importance and clinical relevance of histologic grading of tumors. 	<p>1,7</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
25	Urinary (1)	<ol style="list-style-type: none"> 1. Review renal physiology and examine which structures of the kidney are most vulnerable to various types of injury. 2. Discuss and evaluate the concepts of renal functional reserve and renal failure. 3. Identify and classify the clinical indicators of renal failure, and evaluate the limitations of these indicators. 4. Identify the causes of death associated with renal failure with an emphasis on pathogenesis. 5. Identify, compare, and evaluate the different mechanisms of azotemia. 6. Discuss and understand the pathogenesis and pathophysiology of uremic syndrome. 	<p>1,6</p> <p>1,7</p> <p>1,7</p> <p>1,6</p> <p>2</p> <p>1,3,6,7</p>
26	Urinary (2)	<ol style="list-style-type: none"> 1. Recognize, compare, and contrast the pathophysiology of acute renal failure and chronic kidney disease. 2. Identify and understand the types of injury and the defense mechanisms for each compartment of the kidney and each part of the nephron. 3. Evaluate and understand how the glomerulus, tubules, interstitium, and renal 	<p>1,3,7</p> <p>1,6</p> <p>1,6</p>

		<p>vasculature respond to injury (basic pathogenesis).</p> <p>4. Evaluate and understand the pathophysiology of glomerular disease.</p>	1,6,7
27	Urinary (3)	<p>1. Review the structure and function of the lower urinary tract with emphasis on vulnerabilities to injury and defense mechanisms.</p> <p>2. Recognize and evaluate the responses to injury and lesion development within the lower urinary tract (pathogenesis).</p> <p>3. Identify and evaluate the congenital diseases of the urinary system.</p> <p>4. Evaluate and understand the pathogenesis and pathophysiology of renal glomerular disease.</p> <p>5. Recognize which diseases are associated with the development of immune complex glomerulonephritis in different species.</p>	<p>1,6</p> <p>1,3,6</p> <p>1,6</p> <p>1,3,6,7</p> <p>6,8</p>
28	Urinary (4)	<p>1. Evaluate and understand the pathogenesis and pathophysiology of renal tubular diseases.</p> <p>2. Identify and evaluate the most common nephrotoxins for different species of domestic animals and describe the pathophysiology for each.</p> <p>3. Evaluate and understand the pathogenesis and pathophysiology of diseases of the renal pelvis.</p> <p>4. Evaluate and understand the pathogenesis and pathophysiology of diseases of the renal interstitium.</p> <p>5. Classify the different types of neoplastic tumors of the kidney and lower urinary tract.</p> <p>6. Classify and evaluate the pathophysiology of congenital developmental anomalies of the lower urinary tract.</p>	<p>1,3,6,7</p> <p>1,7</p> <p>1,3,6,7</p> <p>1,3,6,7</p> <p>1,6</p> <p>1,7</p>
11129	Urinary (5, 6)	<p>1. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in horses.</p> <p>2. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in ruminants.</p> <p>3. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in pigs.</p>	<p>6,7,8</p> <p>6,7,8</p> <p>6,7,8</p>

		4. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in cats .	6,7,8
		5. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in dogs .	6,7,8
30	Hepatobiliary (1)	1. Review liver physiology and examine which structures of the liver are most vulnerable to various types of injury.	1,6
		2. Examine the different zones of the hepatic lobule and evaluate which zones are more susceptible to certain injuries. Recognize the morphologic features of zonal hepatic necrosis.	6
		3. Discuss and evaluate the concepts of hepatic functional reserve and hepatic failure.	7 3,6
		4. Evaluate and understand how the liver responds to various types of injury (basic pathogenesis).	6,7
		5. Review and classify the different causes of hyperbilirubinemia.	6,7
		6. Identify the clinical indicators of hepatic failure.	6,7
		7. Evaluate and understand the pathogenesis and pathophysiology of congenital liver diseases.	6,7
		8. Compare and contrast the pathogenesis and pathophysiology of acute and chronic hepatitis and cholangitis.	6
		9. Compare and contrast the pathogenesis of extrahepatic and intrahepatic cholestasis.	
31	Hepatobiliary (2)	1. Evaluate and understand the pathogenesis and pathophysiology of the four types of circulatory disorders of the liver.	1,3,6,7
		2. Evaluate and understand the pathogenesis and pathophysiology of liver diseases resulting from hepatocellular accumulations (lipid, glycogen, amyloid, copper, bile pigment, lysosomal dysfunction).	1,3,6,7
32	Hepatobiliary (3)	1. Evaluate and understand the pathogenesis and pathophysiology of the most common infectious hepatopathies (viral, bacterial, fungal, protozoal, and parasitic)	1,3,6,7
		2. Evaluate and understand the basic pathogenesis of hepatotoxicity.	1,3,6

		3. Identify the most common causes of hepatotoxicity in various domestic animal species and understand the pathophysiology of acute and chronic liver toxicity.	1,6,7,8
33	Hepatobiliary (4)	<ol style="list-style-type: none"> 1. Classify and evaluate the most common types of primary and metastatic liver neoplasia. 2. Evaluate and understand the pathogenesis and pathophysiology of hepatic disease in horses. 3. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in ruminants. 4. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in pigs. 	<p>1,6</p> <p>6,7,8</p> <p>6,7,8</p> <p>6,7,8</p>
34	Hepatobiliary (5)	<ol style="list-style-type: none"> 1. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in cats. 2. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in dogs. 3. Evaluate and understand the pathogenesis and pathophysiology for diseases of the exocrine pancreas. 	<p>6,7,8</p> <p>6,7,8</p> <p>6,7</p>
35	Alimentary (1)	<ol style="list-style-type: none"> 1. Review the structure and function of the oral cavity. 2. Review the defense mechanisms of the oral cavity. 3. Evaluate and understand the pathogenesis and pathophysiology for diseases of the oral cavity including developmental anomalies, erosive and ulcerative disease, gingivitis and stomatitis, viral and bacterial diseases, and oral neoplasia. 	<p>1,6</p> <p>6</p> <p>1,3,6,7</p>
36	Exam Review	NA	NA
37	Alimentary (2)	<ol style="list-style-type: none"> 1. Review and understand normal tooth development and histogenesis. 2. Evaluate and understand the pathogenesis and pathophysiology for diseases of the teeth, tonsils, salivary gland, tongue, and esophagus. 	<p>1,6</p> <p>1,6,7</p>
38	Alimentary (3)	<ol style="list-style-type: none"> 1. Identify and understand the pathogenesis and pathophysiology for diseases of the rumen, reticulum, abomasum, and stomach. 	1,3,6,7

39	Alimentary (4)	<ol style="list-style-type: none"> 1. Review the structure and function of the intestinal tract. 2. Review and evaluate the defense mechanisms of the intestine. 3. Describe and classify intestinal obstructions, displacements, intussusception, and herniation. 4. Evaluate and understand the pathogenesis and pathophysiology of intestinal diseases: developmental anomalies, megacolon, ileus, lymphangiectasia. 	<p>1,6</p> <p>6</p> <p>1,3,6</p> <p>1,3,6,7</p>
40	Alimentary (5)	<ol style="list-style-type: none"> 1. Evaluate and understand the pathogenesis and pathophysiology of viral enteropathies. 2. Evaluate and understand the pathogenesis and pathophysiology of bacterial enteropathies. 3. Review and classify the most common intestinal neoplasia of domestic animals. 	<p>1,3,6,7</p> <p>1,3,6,7</p> <p>1,3,6,7</p>
41	Alimentary (6)	<ol style="list-style-type: none"> 1. Evaluate and understand the pathogenesis and pathophysiology for alimentary diseases of the horse. 2. Evaluate and understand the pathogenesis and pathophysiology for alimentary diseases of ruminants. 	<p>6,7,8</p> <p>6,7,8</p>
42	Alimentary (7)	<ol style="list-style-type: none"> 1. Evaluate and understand the pathogenesis and pathophysiology for alimentary diseases of the pig. 2. Evaluate and understand the pathogenesis and pathophysiology for alimentary diseases of dogs and cats. 3. Evaluate and understand the pathogenesis and pathophysiology for diseases of the peritoneum, omentum, and mesentery. 	<p>6,7,8</p> <p>6,7,8</p> <p>6,7</p>
43	Integumentary (1)	<ol style="list-style-type: none"> 1. Review and examine the structure and function of the skin. 2. Review and examine defense mechanisms of the skin. 3. Review and evaluate the steps of skin regeneration and repair. 4. Identify and evaluate the responses of the <u>epidermis</u> to injury. 	<p>1,6</p> <p>6</p> <p>1,6</p> <p>1,6</p>
44	Integumentary (2)	<ol style="list-style-type: none"> 1. Identify and evaluate the responses of the <u>epidermis</u> to injury (cont.). 2. Identify and evaluate the responses of the <u>dermis</u> to injury. 3. Identify and evaluate the responses of the <u>adnexa</u> to injury. 	<p>1,6</p> <p>1,6</p> <p>1,6</p>

45	Integumentary (3)	<ol style="list-style-type: none"> 1. Identify, examine, and evaluate congenital and hereditary skin diseases. 2. Identify, examine, and evaluate skin diseases caused by actinic injury, physical injury, and chemical injury. 	<p>1,6</p> <p>1,6</p>
46	Integumentary (4)	<ol style="list-style-type: none"> 1. Identify, compare, and classify the four types of endocrine-associated dermatopathy. 2. Identify, compare, and evaluate immune mediated skin diseases – hypersensitivity, autoimmune diseases. 	<p>1,6,7</p> <p>1,6,7</p>
47	Integumentary (5)	<ol style="list-style-type: none"> 1. Identify, compare, and evaluate immune mediated skin diseases – autoimmune diseases (cont.). 2. Identify, compare, and evaluate the most important viral skin diseases. 3. Recognize the associated skin lesions and analyze the pathogenesis of infection with poxviruses, herpesviruses, and papillomaviruses. 	<p>1,3,6</p> <p>1,6</p> <p>1,3,6</p>
48	Integumentary (6)	<ol style="list-style-type: none"> 1. Identify, compare, and evaluate the most important bacterial skin diseases. 2. Evaluate the mechanisms by which systemic infections can result in cutaneous lesions and list the most common examples. 3. Recognize the associated lesions and analyze the pathogenesis of bacterial skin infections. 	<p>1,6</p> <p>6,7</p> <p>3,6</p>
49	Integumentary(7)	<ol style="list-style-type: none"> 1. Identify, compare, and evaluate the most important fungal and parasitic skin diseases. 2. Recognize the associated lesions and analyze the pathogenesis of fungal and parasitic skin diseases. 	<p>1,6</p> <p>3,6</p>
50	Integumentary (8)	<ol style="list-style-type: none"> 1. Review the basic mechanisms of oncogenesis. 2. Review the significance of tumor cell morphology as it relates to accurate diagnosis of skin neoplasia. 3. Recognize and compare the morphologic features that distinguish benign neoplasia from malignant neoplasia. 	<p>1,6</p> <p>6</p> <p>3,6</p>
51	Integumentary (9)	<ol style="list-style-type: none"> 1. Identify, compare, and evaluate the most important neoplastic skin diseases in domestic animals. 	<p>1,6</p> <p>1,6,7</p>

		<ol style="list-style-type: none"> 2. Analyze and evaluate the importance of histologic grading using the example of canine mast cell tumors. 3. Apply the differentiating features of benignancy and malignancy as it relates to common skin tumors. 4. Recognize and examine paraneoplastic conditions. 	<p>1,6</p> <p>6,7</p>
52	Integumentary(10)	<ol style="list-style-type: none"> 1. Review, compare, and evaluate the morphology and pathogenesis of skin disease. 2. Review the tissue response to skin injury as it relates to lesion development. 3. Analyze and compare the different types of skin lesions. 4. Recognize the different patterns of lesions that distinguish specific skin diseases. 	<p>1,3,6</p> <p>1,6</p> <p>1,6</p> <p>1,6</p>
53	Exam Review	NA	NA
Lab.	Topic	Learning Outcomes	CLO
1	Inflammation – case-based active learning	<ol style="list-style-type: none"> 1. Evaluate gross tissues for inflammatory lesions. 2. Propose the pathogenesis of disease. 3. Determine the likely clinical outcome. 	<p>3,6</p> <p>6</p> <p>7</p>
2	Neoplasia – case-based active learning	<ol style="list-style-type: none"> 1. Be able to recognize and describe the main microscopic features that characterize hyperplasia and benign and malignant tumors. 2. Given the cell of origin and a description (gross and microscopic) of a tumor, be able to correctly name the tumor. 3. Given a signalment, history and written histopathology report involving a tumor, be able to distinguish between benign and malignant tumors. 4. Be able to distinguish between the tumor parenchyma and stroma. 	<p>6</p> <p>2,3,6</p> <p>2,3,6</p> <p>2</p>

Alignment of Course Level Outcomes (CLO) with Program Level Outcomes (PLO)

CLO	SVM Program Level Outcome (PLO)
1	Core clinical competency. PLO 2, 3, 4, 20.
2	Core clinical competency and medical knowledge. PLO 2, 3, 4.
3	Core clinical competency. PLO 2, 3, 4, 20.
4	Core clinical competency and medical knowledge. PLO 3, 4, 6, 20.
5	Core clinical competency. PLO 6, 20.
6	Core medical knowledge. PLO 3, 4, 6.
7	Core clinical competency. PLO 3, 4, 6, 20.
8	Core medical knowledge. PLO 3, 4, 6.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Pathobiology

Pathology 2 (4 credits)

PTHB507 - TERM 4

Fall 2021

I. Course Faculty and Staff Information

a. Course Directors:

- i. Dr. M. I. Bhaiyat, BVM, PhD; Professor (Veterinary Pathology)
 1. e-mail: mibhaiyat@sgu.edu
 2. Tel.: 444-4175, EXT. 3338
 3. Office Location: My office is located in the building behind Ray & Jan Sis Hall and Superdorm 5 (St. John's Hall). The building is labelled as "**Veterinary Research and Diagnostic Laboratories**"; in the corridor that leads to the Department of Pathobiology, you will see the Microbiology Lab on the left and the Virology Lab on the right; continue straight along this corridor which leads into our office spaces. My office is the last one in this office space.
- ii. Dr. C. Dores, DVM, MSc, PhD, Diplomate ACVP; Associate Professor (Veterinary Pathology)
 1. email: cdores@sgu.edu
 2. Tel: 444- 4175 EXT. 3618
 3. Office Location: SVM Trailer Offices
- iii. Office Hours:
 1. On Zoom by availability or on regular schedule

b. Staff members:

- i. Ms. Cindy Edwards; Executive Secretary
 1. e-mail: <cedwards@sgu.edu>
 2. Tel.: 444-4175, EXT. 3339
- ii. Mr. Ferron Victor; Laboratory Technician (Audio-Visual)
 1. e-mail: <fvictor@sgu.edu>
 2. Tel.: 444-4175, EXT. 3856

II. Course location

- a. This course will be taught using a hybrid format with in-person and asynchronous online lectures, and in person and online laboratory activities
- b. Online lectures and laboratories
 - i. Location: Sakai resources being used (i.e., Panopto, Lessons)
 - ii. Online synchronous laboratory Zoom sessions (Appendix 2)
- c. In person lectures and laboratories
 - i. Lectures: Ray & Jan Sis Hall East (RJSB-2), Lower True Blue Campus
 - ii. Laboratories: Charter Hall Lab

III. Prerequisite and/or co-requisite courses

- a. Veterinary Pathology I (PTHB 506)
- b. Good base on Anatomy, Physiology, Histology/Embryology, Parasitology, Virology, Bacteriology/Mycology, Clinical Pathology, and Pharmacology

IV. Required resources

- a. Pathologic Basis of Veterinary Disease, 6th Edition (2017). By James F. Zachary. St. Louis, Elsevier. ISBN: 978-0-323-35775-3
- b. Computer with functional microphone, camera, and speakers
- c. Internet connection with bandwidth supportive of streaming videos and online video calls.

V. Recommended resources

- a. Jubb, Kennedy, and Palmer's Pathology of Domestic Animals, Vol. 1-3, 6th edition (2016), Edited by M. Grant Maxie. St. Louis, Elsevier. ISBN: 978-0-7020-5317-7, 978-0-7020-5318-4, 978-0-7020-5319-1
- b. Veterinary Pathology. By T.C. Jones, R.D. Hunt and N.W. King, 6th Edition (1997). New York, Lippincott Williams and Wilkins. ISBN: 0683-04481-8

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

NA

VIII. Course rationale

- a. Pathology II is a four-credit course taught in the 4th term of the DVM program. This course consists of 55 lectures of one-hour duration and six (6) interactive laboratory sessions of two-hour duration. Pathology II is the continuation of the prerequisite course Pathology I. In Pathology II, students will have the opportunity and are

- expected to integrate the knowledge acquired in Pathology I, in addition to anatomy, physiology, embryology, histology, microbiology, virology and parasitology.
- b. Lectures and laboratories will provide students the tools to strengthen and learn concepts of veterinary diseases in the following body systems: Lymphoid, Special senses (Eye/Ear), Nervous, Skeletal, Muscular, Cardiovascular, Endocrine, Reproductive, and Respiratory systems.
 - c. Students will also learn basic concepts about tissue sampling, histopathology, and ancillary diagnostic methods that can be used to help achieve an etiologic and morphologic diagnosis of diseases. Topics taught in this course will provide a strong foundation for students to develop their clinical and diagnostic skills.

IX. Course Learning Outcomes

- a. On successful completion of the course, the student should be able to develop pathology skills in the following systems: Neurologic, Endocrine, Musculoskeletal, Reproductive, Special Senses, Cardiovascular, Lymphatic, Respiratory.
- b. The Course Learning Outcomes for each module and each system are:
 - i. Describe the reactions of each organ to injury.
 - ii. Define terms used in disease of each organ.
 - iii. Outline the pathogenesis of major disease groups of each organ including inflammatory, degenerative, hyperplastic and neoplastic processes, and place specific diseases in context of prevalence, morbidity, mortality and “one health”.
 - iv. Interpret gross postmortem and histopathology lesions associated with diseases of body systems and provide a differential list of possible etiologies followed by a plan with to use ancillary testing to provide a define diagnosis.
 - v. Effectively communicate and explain disease’s pathophysiology and associated lesions to professional colleagues, clients, lay public and responsible authorities

X. Lesson Learning Outcomes

- a. **Pathology of the lymphoid system**
 - i. Recall the formation of lymphoid cells and the role of their regulatory factors.
 - ii. Recall the function and architecture of the lymphoid system.
 - iii. List the primary and secondary lymphoid organs.
 - iv. Recall the function and the architecture of the thymus.
 - v. Describe the lesions of the thymus and the diseases causing them.
 - vi. Recall the function and the architecture of the spleen.
 - vii. Describe the lesions of the spleen and the diseases causing them.
 - viii. Recall the function and architecture of the lymph node.
 - ix. Describe the lesions that affect the lymph node and the diseases causing them.
- b. **Pathology of the endocrine system**
 - i. Describe the basic anatomical structure and hormone produced by the

- pituitary, adrenal, thyroid and parathyroid gland and endocrine pancreas.
- ii. Describe pathophysiological changes that alter the structure and/or function of the pituitary, adrenal, thyroid and parathyroid gland and pancreatic islets and how these changes can cause physiological alterations and disease
 - iii. List primary and secondary structural and function changes that occur with disease of endocrine organs
 - iv. List common endocrine neoplasms and their functional outcomes
 - v. Interpret a postmortem, or biopsy report from a submitted tissue from the endocrine system
 - vi. Discuss and explain the usefulness of clinical pathology tests and internal medicine in the diagnosis of endocrine diseases in large and small animals.
- c. **Pathology of the musculoskeletal system**
- i. List cells of the skeletal system and associate them with bone homeostasis and development of disease.
 - ii. Describe how bone reacts to injury.
 - iii. List types of bone fractures
 - iv. Outline cell types involved with bone healing process, and describe phases of bone healing
 - v. List factors which delay healing of a fracture.
 - vi. List the common examples of congenital skeletal abnormalities
 - vii. Describe the pathogenesis and consequences of inflammation of the bone.
 - viii. List, compare and contrast causes of osteomyelitis in small animals, horses and cattle.
 - ix. List and describe the pathogenesis of metabolic bone disease (deficiency of, and excess, mineralized bone).
 - x. Describe acute and chronic the reaction of the joint to injury.
 - xi. Describe the pathogenesis and consequences of degenerative joint disease.
 - xii. Give examples of degenerative joint diseases
 - xiii. Describe the pathogenesis and consequences of degeneration of intervertebral discs.
 - xiv. List, compare and contrast common forms of infectious and non-infectious arthritis in domestic animals
 - xv. List compare and contrast tumors of the skeletal system of domestic animals and associate them with disease progressions
 - xvi. List the acute and chronic responses of muscle to injury.
 - xvii. List the causes, and describe the consequences of muscle atrophy.
 - xviii. List the causes, and describe the consequences of muscle hypertrophy.
 - xix. List the common causes of myositis and where appropriate identify the species in which they occur most frequently.
 - xx. Classify the types of muscle disease and discuss the etiology, pathogenesis, lesions, and sequelae of the types of myopathies (degenerative, inflammatory,

- congenital/inherited, endocrine, electrolyte, neuropathic, neuromuscular junction, neoplasia [DICE2N3]).
- xxi. Outline the lesions associated with severe muscular traumatic injury.
 - xxii. List the common tumors of muscles.
 - xxiii. Laboratory (Scheduled Zoom session).
- d. **Pathology of the eye and ear (special senses)**
- i. Review the structure (anatomy, microanatomy) and function (physiology) of the eye globe
 - ii. List and describe disorders of ocular development
 - iii. Explain the pathophysiology of glaucoma and list associated histological and gross lesions
 - iv. Define cataracts and list possible etiologies
 - v. Describe major histological changes associated with cataracts
 - vi. Explain the pathophysiology of diabetic cataracts
 - vii. List, compare and contrast developmental disorders of the eyelid and conjunctiva and associate them with the development of associated diseases
 - viii. List inflammatory diseases of the cornea and conjunctiva, and categorize them in infectious and non-infectious.
 - ix. List, compare and contrast neoplasms from the eyelid, and conjunctiva
 - x. Describe how the cornea responds to injury and which factors dictate the repair's outcome
 - xi. List, compare and contrast inflammatory corneal diseases
 - xii. List infectious etiologies of keratitis and associate their prevalence amongst different species
 - xiii. List, compare and contrast neoplasms of the cornea
 - xiv. List and describe how the uvea reacts to injury and associate these reactions with disturbances in ocular homeostasis and function
 - xv. List, compare and contrast the two types of lens induced uveitis
 - xvi. List, compare and contrast the most common cases of uveitis
 - xvii. List, compare and contrast neoplasms of the uvea
 - xviii. Describe how the retina reacts to injury and associate these responses with ocular function and regeneration
 - xix. List common etiologies of retinitis and retinal degeneration
 - xx. Explain retinal dysplasia and list all possible etiologies
 - xxi. List, compare and contrast toxic causes of retinal degeneration
 - xxii. List neoplasms of the retina
 - xxiii. List, compare and contrasts acquired diseases of the lens
 - xxiv. Explain the pathophysiology of Feline post traumatic ocular sarcoma
 - xxv. List, compare and contrast developmental disorders of the ear and associate them with development of diseases
 - xxvi. Define otitis externa, list predisposing, primary and secondary factors of

- otitis and explain their relationship in the context of pathophysiology
- xxvii. List and explain structural changes associated with chronic inflammation of the external and middle ear
- xxviii. List, compare and contrast the most frequent neoplasms of the ear
- xxix. List, compare and contrast vascular lesions of the ear.
- xxx. Explain the pathophysiology of otitis media and its related clinical presentations and possible sequelae
- xxxi. Define nonpharyngeal polyps and explain its relationship with the ear and predisposing conditions
- xxxii. Define and explain the pathophysiology of Vestibular Disease
- xxxiii. List, compare and contrast etiologies of hearing loss and deafness, and explain different forms or categorizing the disease.

e. **Pathology of the reproductive system**

- i. List and compare the Disorders of Sexual Development
- ii. List, compare and contrast infectious agents that can affect the ovaries
- iii. List and compare ovarian neoplasms regarding cellular origin, hormone production, and neoplasm behavior
- iv. List, compare and contrast infectious agents that can affect uterine tubes, uterus, vagina and vulva
- v. Compare and contrast the effect of reduced estrogen and progesterone stimulation in the female reproductive tract and associate them with the development of disease
- vi. List etiologies that cause a reduction in the hormonal stimulation in female reproductive organs
- vii. Compare and contrast the effect increased estrogen and progesterone stimulation in the female reproductive tract
- viii. List and compare uterine neoplasms regarding cellular origin, and neoplasm behavior
- ix. List, compare and contrast infectious agents that can affect the vagina and vulva
- x. List, compare and contrast neoplasms that can develop in the vagina and vulva and associate them with behavior
- xi. List the main infectious agents associated with mastitis in animals.
- xii. Compare and contrast all presentations of mastitis and associate them with etiologic organisms
- xiii. Describe the main types of mammary tumors and list the most common types of tumors in the queen and bitch.
- xiv. List and compare histological features from benign versus malignant mammary tumors in domestic animals.
- xv. List and compare the major non-infectious causes of early embryonic death and abortion

- xvii. List and compare the major causes of infectious abortions
- xviii. List all zoonotic agents that can cause abortions in domestic species
- xix. List the major developmental anomalies of the male reproductive system.
- xx. Describe the degenerative, inflammatory and neoplasms of the testes
- xxi. List zoonotic agents that can infect the male reproductive tract
- xxii. Compare and contrast testicular neoplasms regarding cellular origin, hormone production and associated lesions
- xxiii. List the main inflammatory, infectious and neoplastic lesions of the epididymis and the accessory sex glands.
- xxiv. List the inflammatory, hyperplastic and neoplastic abnormalities occurring in the prostate gland.
- xxv. List the main inflammatory, infectious and neoplastic lesions of the scrotum, penis and prepuce.

f. Pathology of the nervous system

- i. Recite the terminology of the nervous system and its disorders.
- ii. Illustrate the ways in which the cellular components of the nervous system respond to injury.
- iii. Describe the consequences of trauma and pressure changes within the central nervous system (CNS).
- iv. Describe the spectrum of degenerative diseases of the CNS.
- v. Discuss the spectrum of congenital/inherited abnormalities which can occur in the central nervous system.
- vi. Describe how infectious agents gain access to the nervous system.
- vii. Give examples of specific infectious/inflammatory diseases affecting the nervous system of domestic animals.
- viii. Describe necrosis/malacia in the CNS giving examples of the major causes and the consequences thereof.
- ix. Enumerate the types of metabolic disorders which can affect the nervous system of domestic animals.
- x. Describe the type of disorders which can affect the spinal cord and appreciate their consequences.
- xi. Describe the process of degeneration and regeneration in peripheral nerves.
- xii. Describe the main types of tumors of the CNS which occur in domestic animals.
- xiii. Recognize color change and mass lesions in gross specimens of the central nervous system.

g. Pathology of the cardiovascular system

- i. Discuss the basic pathophysiologic mechanisms of cardiovascular dysfunction.
- ii. Explain the pathogenesis of congestive cardiac failure

- iii. Enumerate the changes characteristic of common types of congenital cardiac diseases and their significance.
- iv. List the different types of pericardial disease and how they develop.
- v. List the various acquired diseases of the myocardium.
- vi. Describe the etiology and pathogenesis of endocardial diseases particularly those affecting the cardiac valves.
- vii. Describe the etiology and pathogenesis of cardiomyopathy in the dog and cat.
- viii. List the most common neoplasms of the heart.
- ix. Enumerate the disease processes that affect arteries and veins.
- x. Recognize cardiac diseases post-mortem and collect appropriate tissues for histopathologic evaluation.

h. Pathology of the respiratory system

- i. Recall the function and architecture of the respiratory system.
- ii. Recall the defense mechanisms of the respiratory system and the consequences of impairment of the defense mechanism.
- iii. Identify the significance of the factors involved in respiratory disease due to air-borne and blood-borne agents.
- iv. List the specific diseases of nasal cavity in bovines, equines, cats, and pigs describing the etiology, gross and microscopic lesions, and diagnostic methods.
- v. List the neoplasms of the nasal cavity.
- vi. List the specific diseases of the larynx, trachea, and bronchi in bovine, equine, dog, and cats describing the etiology, gross and microscopic lesions, and diagnostic methods.
- vii. Classify pneumonia and describe the etiology, pathogenesis, lesions, and sequelae of the basic morphological types of pneumonia.
- viii. Describe the types of pneumonia in ruminants (cattle, sheep, goat), horse, pig, dog, and cat including the etiology, clinical signs/lesions, sequelae, and diagnostic methods.
- ix. List the main types of primary pulmonary tumors and the involvement of the lungs in disseminated neoplastic disease in domestic animals.
- x. List of the different types of pulmonary vascular disease and their pathological significance.
- xi. Describe the noninflammatory and inflammatory conditions and tumors affecting the pleura and mediastinum including the etiology, pathogenesis, lesions, and sequelae.
- xii. Be able to recognize, at post mortem, the common pulmonary lesions of ruminants (cattle, sheep, goats), horse, pig, dog, and cat.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcomes (CLOs) #	SGU-SVM Program Level Outcomes (PLOs)
1, 2,3, 4 ,5	Recall, understand, and adequately utilize multidisciplinary knowledge of physiology in homeostasis and pathologic processes
1, 2,3, 4,5	Identify and explain disturbances of organ systems in the context of disease
1, 2,3, 4	Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and toxic, metabolic, neoplastic and developmental diseases
3,4,5	Explain the relationship between disease processes and clinical signs. And create a list of differential diagnosis
4,5	Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.
4,5	Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.

XII. Course Schedule

- a. Please refer to Appendix I and II for the lecture and laboratory schedules.

XIII. Grading and assessment policy, and grading rubrics

- a. This course consists of four non-cumulative exams and four formative system assignments. Exams will use SVM's qualitative grading on the scale of A to F (see below).
- b. **Laboratory assignments are requisites to pass the course. Submission of laboratory assignments is considered mandatory participation and is a requisite to pass the course. Assignments must be submitted for the course to be considered completed, and each assignment is worth 5 points. Students who fail to submit an assignment without a valid reason will receive a score of zero “0” points for the assignment, but students will still have until the end of the course to submit the assignment and secure the course completion. An incomplete grade “I” will be given when course requirements have not been completed due to serious mitigating circumstances such as illness or family emergencies. The required coursework must be completed prior to registration for the next term. If the work is not completed and the grade not received from the instructor within 30 days, the Incomplete (“I”) will be automatically changed to a Fail (“F”) by the Office of the Registrar.**
- c. Exams will be performed using Examsoft and will be in a multiple-choice format. Lecture content will represent 100% of exam's questions. Exams will not be

cumulative, each exam will represent 22% of the course's grade, and each exam will cover systemic pathology of 2 or 3 Body Systems.

- d. For exams using Examsoft, a grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:
 1. Avoid talking out loud.
 2. Avoid looking away from the monitor.
 3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
 4. Check that your webcam is recording your full face at all times with adequate lighting.
- e. Exams will have the following point distributions:
 - i. Assignments: 20 points (5 points per assignment)
 - ii. Quiz 1: 40 points
 - iii. Mid-Term: 40 points
 - iv. Quiz 2: 40 points
 - v. Final exam: 40 points
 - vi. Total points: 180 points

- f. Grading scale: Final Grading will be based on cumulative performance of all examinations given for the course. Grading will be done as follows:

Letter	Range (%)	Grade Points	Grade Points Meaning
A	89.5-100	4.00	Excellent Pass
B+	84.5-89.49	3.50	Good Pass
B	79.5-84.49	3.00	Good Pass
C+	74.5-79.49	2.50	Acceptable Pass
C	69.5-74.49	2.00	Acceptable Pass
D+	64.5-69.49	1.50	Unsatisfactory Grade*
D	59.5-64.49	1.00	Unsatisfactory Grade*
P	0.00		Pass
F	1.0-59.49	0.00	Fail
I	0.0-0.99		Incomplete

*Requires remediation

- g. Completion Examination: Students who receive an approved grade of Incomplete (“I”) for missing a quiz or an examination (Mid-Term or Final) in a course must take a completion examination within seven (7) calendar days of the deferment. Incomplete grades are given when course requirements have not been completed due to serious mitigating circumstances such as illness or family emergencies. The Office of the Dean of Students must approve the reason supporting the receipt of “I” grades. “I” grades remain on the transcript until another grade is given upon completion. If students have an “I” grade on their transcript, the required coursework must be completed prior to registration for the next term. If the work is not completed and the grade not received from the instructor within 30 days, the Incomplete (“I”) will be automatically changed

to a Fail (“F”) by the Office of the Registrar. Incompletes are interim grades. Students do not repeat the course if they have received an “I” grade. Students will not be able to defer an examination for misreading the examination schedule, accommodating travel plans, or any other reason not considered a serious mitigating circumstance. The format and content of the Completion examinations will be defined by the Course Director and will be comparable in format, length, and appropriate course content as the examination that was deferred.

- h. Re-sit Examination: Under certain circumstances, students will be required to remedy “D+”, “D” and “F” grades by taking a mandatory comprehensive re-sit examination during the week prior to the beginning of classes in the following term as scheduled by the school.
 - i. Upon obtaining a grade of “C” or better on the re-sit exam, the maximum course grade earned is a “C”.
 - ii. At mid-term, students that are at risk of getting an unsatisfactory grade (“D+”, “D”, “F”) in the course will be advised by the CAPPs to prepare for remediation.
 - iii. It is the responsibility of the student to make appropriate and timely travel arrangements to return to Grenada to take the re-sit examination during the week prior to the beginning of classes in the following term as scheduled by the school.
 - iv. Students will be expected to appear for the re-sit examination. Failure to appear without an accepted excuse constitutes an automatic mandatory repeat of the course and sanctions related to unprofessional behavior.

XIV. Recommended study strategies

- a. This is an asynchronous course. Assignments and exams due dates are fixed, but if accommodations are needed and approved by the Dean of Students (Dr. Bhaiyat), students will receive an extension to complete assignments and take exams.
- b. The course material will be posted on Sakai.
- c. The exam material will come from lectures, labs, and classroom discussions.
- d. Students are expected to read lecture notes and power points and come prepared to answer questions.
- e. The goal of the exam is for you to demonstrate that you have successfully learned the material required for the course. So as you are studying each disease/condition, ask yourself the following questions:
 - i. What is the etiology?
 - ii. What is the pathogenesis?
 - iii. Is there a specific pathophysiology associated with the disease/condition?
 - iv. What species are affected?
 - v. What age range of animal is affected?
 - vi. What are the gross lesions? (Not to worry too much about microscopic lesions unless there is a pathognomonic one).
 - vii. How can you distinguish this disease/condition from other related ones?

- viii. What are the sequelae?
- ix. For any given question in the examination, consider the most important **process** causing the lesion/disease/condition in the question being asked, i.e., is it a congenital/developmental anomaly, is it degeneration or necrosis, is it a pathological pigmentation, is it a disturbance of circulation, is it a disturbance of growth, is it neoplasia, is it inflammation (acute, chronic), or is it an immune-mediated process. This would help in narrowing down the choices (hopefully leading to the correct choice).

XV. Instructor's expectations of the student

- a. The student is expected to attend all asynchronous lectures, and actively engage in Sakai forums and Zooms sessions.
- b. All assignments, tests/quizzes must be submitted in a timely manner.
- c. Students are expected to adhere strictly to the honor code. **If students share feedback or answers on Sakai Assignments, Exams or Quizzes, this will be considered student misconduct and a violation of the honor code.**

XVI. Professionalism statement

- a. Please exhibit professional behavior in class (online or otherwise).
- b. Some of the important values and characteristics that are expected include: respect, honesty, trust, reliability, commitment, equality, justice and discretion.
- c. Students are expected to log in on time for scheduled meetings, and exams.
- d. Submission of tests/quizzes and assignments must be done in a timely manner.
- e. The use of mobile phones or any educational material is not allowed during exams
- f. Students who breach any of the above rules can be subjected to disciplinary action.
- g. Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community. The Code of Conduct includes student comportment and the honor code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University. Abuses of this Code, outline in the student manual, will result in disciplinary action, which may include suspension or dismissal. **It is the responsibility of all students to know the University Code of Conduct.** It is required that all students abide by the terms of the University Code of Conduct.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

- a. Students are expected to be available during the standard 8:00 AM-5:00 PM AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an

excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

- b. System's assignments are requisites to pass the course. Submission of assignments is considered mandatory participation and is a requisite to pass the course. Assignments must be submitted for the course to be considered completed. Students who fail to submit an assignment without a valid reason will receive a score of zero "0" points for the assignment, but students will still have until the end of the course to submit the assignment and secure the course completion. An incomplete grade "I" will be given when course requirements have not been completed due to serious mitigating circumstances such as illness or family emergencies. The required coursework must be completed prior to registration for the next term. If the work is not completed and the grade not received from the instructor within 30 days, the Incomplete ("I") will be automatically changed to a Fail ("F") by the Office of the Registrar.
- c. If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.
- d. **Students who fail to appear or to complete a scheduled assessment (quiz, examination, assignment) within the time period allocated for this assessment without a valid excuse** (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) **will receive a score of zero ("0") points for the assessment.**
- e. Students who have technical issues during the examination MUST inform the Course Director (s) (mibhaiyat@sgu.edu, cdores@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.
- f. Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.
- g. Absence Reporting Procedures
 - i. Medical Excuse
 1. Medical excuses will be based on self-reporting by students. Students who feel they are too sick to take an examination or attend a required educational activity must fill out the Medical Excuse Form on the member's center of the SGU website. This form will be sent automatically to the Course Director(s), University Health Services, DOS Office, and the Dean of the SVM. The Medical Excuse Form states that

- the student does not feel well enough that day to take an examination or participate in another required educational activity. Students are only allowed two (2) such excuses in an academic year. The third excuse results the case being reviewed by the SVM Dean's Council, which may result in a mandatory medical leave of absence (LOA). The policies regarding completion examinations are outlined on page 113 of the Student Manual (see Completion Examination).
2. Students may request a medical excuse request for three (3) consecutive days. If illness persists for more than three days, students are not advised to fill out a second Medical Excuse Form. Students are directed to visit the University Health Services.
 3. See the Student Manual for further details.
- ii. Non-Medical Excuse
1. If, due to a catastrophic event or emergency, students are unable to attend any mandatory activity, they must immediately notify the DOS Office. The DOS Office will make a determination based upon the information provided and verification, and will notify the course instructor as to the validity of the absence, requesting that the instructor provide remediation of the missed activity. The instructor will specify the means through which students can resolve excused absences and inform the DOS Office.
 2. Only one (1) non-medical excuse per year is allowed (with the exception of an SVM-related activity, e.g., SCAVMA, other recognized national/international representation).
 3. See the Student Manual for further details.
- iii. Religious Observance
1. Students who miss an examination due to religious observance will be allowed to sit a re-scheduled examination within the term if the course instructor is notified through the Office of the DOS prior to the original examination.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

- a. Students who fail to appear or to complete a scheduled assessment (quiz, examination, assignment) within the time period allocated for this assessment without a valid excuse (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of zero ("0") points for the assessment.
- b. Students who have technical issues during the examination MUST inform the Course Directors (Dr. Bhaiyat: mibhaiyat@sgu.edu, Dr. Dores: cdores@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination.

- Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.
- c. Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

- a. All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.
- b. **Prior to Exam Day**
 - i. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
 - ii. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
 - iii. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
 - iv. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
 - v. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
 - vi. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
 - vii. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 1. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 2. [The Examsoft student perspective video 30mins](#)
 3. [The Examsoft/ExamID FAQ](#)
 4. Examsoft information page
 5. [The general Reminders/Guidelines](#)
- c. **A grade reduction of 5% will be applied to the exam if the student does not observe the following parameters during exams monitored online:**
 - i. Avoid talking out loud.
 - ii. Avoid looking away from the monitor.
 - iii. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.

- iv. Check that your webcam is recording your full face at all times with adequate lighting.
- d. All other exam policies are followed according to the SGU Examination Policy (<https://mycampus.sgu.edu/unified-mydrive/open/file/download/SGUPROD/60cb7112ec12c400185be4fa/latest>) and the Student Handbook.

XX. Copyright policy

- a. The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George’s University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. **Any other reproduction in whole or in part is prohibited.**

XXI. Appendices

- a. Appendix 1 – Lecture schedule for Veterinary Pathology II, Fall 2021

LECTURE SCHEDULE FOR VETERINARY PATHOLOGY II, TERM 4 FALL 2021						
Week	Lecture	Day	Date	Time	Lecturer	Lecture Topic
1	1	Monday	16-Aug	8:30 AM	Bhaiyat	Lymphoid System
	2	Tuesday	17-Aug	9:30 AM	Bhaiyat	Lymphoid System
	3	Wednesday	18-Aug	9:30 AM	Bhaiyat	Lymphoid System
	4	Thursday	19-Aug	9:30 AM	Bhaiyat	Lymphoid System
		Friday	21-Aug	-	-	-
2	5	Monday	23-Aug	9:30 AM	Bhaiyat	Lymphoid System
	6	Tuesday	24-Aug	10:30 AM	Bhaiyat	Lymphoid System
	7	Wednesday	25-Aug	Asynchronous	Dores	Special Senses
	8	Thursday	26-Aug	Asynchronous	Dores	Special Senses
		Friday	28-Aug	-	-	-
3	9	Monday	30-Aug	Asynchronous	Dores	Special Senses
	10	Tuesday	31-Aug	Asynchronous	Dores	Special Senses
	11	Wednesday	1-Sep	9:30 AM	Bhaiyat	Nervous System
	12	Thursday	2-Sep	9:30 AM	Bhaiyat	Nervous System
		Friday	3-Sep	-	-	-
4	13	Monday	6-Sep	11:30 AM	Bhaiyat	Quiz 1 (Lymphoid & Special Senses)
	14	Tuesday	7-Sep	9:30 AM	Bhaiyat	Nervous System
	15	Wednesday	8-Sep	8:30 AM	Bhaiyat	Nervous System
	16	Thursday	9-Sep	8:30 AM	Bhaiyat	Nervous System
		Friday	10-Sep	-	-	-
5		Monday	13-Sep	8:30 AM	Epidemiology Final Examination	
	17	Tuesday	14-Sep	8:30 AM	Bhaiyat	Nervous System
	18	Wednesday	15-Sep	8:30 AM	Bhaiyat	Nervous System
	19	Thursday	16-Sep	8:30 AM	Bhaiyat	Nervous System
		Friday	17-Sep	-	-	-
6	20	Monday	20-Sep	8:30 AM	Bhaiyat	Nervous System

	21	Tuesday	21-Sep	8:30 AM	Dores	Skeletal System
	22	Wednesday	22-Sep	8:30 AM	Dores	Skeletal System
	23	Thursday	23-Sep	8:30 AM	Dores	Skeletal System
		Friday	24-Sep	-	-	-
7	24	Monday	27-Sep	8:30 AM	Dores	Skeletal System
	25	Tuesday	28-Sep	8:30 AM	Dores	Skeletal System
	26	Wednesday	29-Sep	8:30 AM	Dores	Muscular System
	27	Thursday	30-Sep	8:30 AM	Dores	Muscular System
	28	Friday	1-Oct	11:30 AM	Dores	Muscular System
8		Monday	4-Oct	12:00 PM	Pathology Mid-Term Examination (Nervous & Musculoskeletal)	
		Tuesday	5-Oct	12:00 PM	VPH Mid-Term Examination	
		Wednesday	6-Oct	-	-	-
		Thursday	7-Oct	12:00 PM	AF&EAD Mid-Term Examination	
		Friday	8-Oct	12:00 PM	Introd to Clinical Medicine Mid-Term Exam	
9		Monday	11-Oct	12:00 PM	Anesthesiology Mid-Term Examination	
	29	Tuesday	12-Oct	8:30 AM	Bhaiyat	Cardiovascular System
	30	Wednesday	13-Oct	8:30 AM	Bhaiyat	Cardiovascular System
	31	Thursday	14-Oct	8:30 AM	Bhaiyat	Cardiovascular System
		Friday	15-Oct	-	-	-
10	32	Monday	18-Oct	8:30 AM	Bhaiyat	Cardiovascular System
	33	Tuesday	19-Oct	9:30 AM	Bhaiyat	Cardiovascular System
	34	Wednesday	20-Oct	8:30 AM	Bhaiyat	Cardiovascular System
	35	Thursday	21-Oct	8:30 AM	Dores	Endocrine System
	36	Friday	22-Oct	9:30 AM	Dores	Endocrine System
11		Monday	25-Oct	-	Grenada Thanksgiving Holiday	
	37	Tuesday	26-Oct	8:30 AM	Dores	Endocrine System
	38	Wednesday	27-Oct	8:30 AM	Dores	Endocrine System
	39	Thursday	28-Oct	8:30 AM	Dores	Endocrine System
		Friday	29-Oct	-	-	-
12	40	Monday	1-Nov	8:30 AM	Dores	Reproductive System
	41	Tuesday	2-Nov	8:30 AM	Dores	Reproductive System
	42	Wednesday	3-Nov	8:30 AM	Dores	Reproductive System
	43	Thursday	4-Nov	8:30 AM	Dores	Reproductive System
		Friday	5-Nov	-	-	-
13	44	Monday	8-Nov	11:30 AM	Bhaiyat	Quiz2 (Endocrine & Cardiovascular)
	45	Tuesday	9-Nov	8:30 AM	Dores	Reproductive System
	46	Wednesday	10-Nov	8:30 AM	Dores	Reproductive System
	47	Thursday	11-Nov	8:30 AM	Dores	Reproductive System
		Friday	12-Nov	-	-	-
14	48	Monday	15-Nov	8:30 AM	Bhaiyat	Respiratory System
	49	Tuesday	16-Nov	8:30 AM	Bhaiyat	Respiratory System
	50	Wednesday	17-Nov	8:30 AM	Bhaiyat	Respiratory System
	51	Thursday	18-Nov	8:30 AM	Bhaiyat	Respiratory System
		Friday	19-Nov	-	-	-
15	52	Monday	22-Nov	10:30 AM	Bhaiyat	Respiratory System
	53	Tuesday	23-Nov	8:30 AM	Bhaiyat	Respiratory System

	54	Wednesday	24-Nov	9:30 AM	Bhaiyat	Respiratory System
	55	Wednesday	24-Nov	10:30 AM	Bhaiyat	Respiratory System
		Thursday	25-Nov	-	-	-
		Friday	26-Nov	12:00 PM	Introd to Livestock Nutrition Final Examination	
16		Monday	29-Nov	12:00 PM	Path II Final Exam (Repro & Respiratory)	
		Tuesday	30-Nov	-	-	-
		Wednesday	1-Dec	12:00 PM	Surgical Skills Final Examination	
		Thursday	2-Dec	-	-	-
		Friday	3-Dec	12:00 PM	VPH Final Examination	
17		Monday	6-Dec	12:00 PM	Anesthesiology Final Examination	
		Tuesday	7-Dec	-	-	-
		Wednesday	8-Dec	12:00 PM	Intro to Clinical Medicine Final Examination	
		Thursday	9-Dec	-	-	-
		Friday	10-Dec	12:00 PM	AF&EAD Final Examination	

b. Appendix II – Laboratory schedule for Veterinary Pathology II, Fall 2021

LABORATORY SCHEDULE FOR VETERINARY PATHOLOGY II, TERM 4 FALL 2021								
Week	Lab. No.	Day	Date	Time	Venue	Group	Lecturer	Lab Topic
7	1	Thursday	30-Sep	1:30 PM	Charter Hall Lab	A	Dores	Musculoskeletal
-				3:00 PM	Charter Hall Lab	B	Dores	Musculoskeletal
8		Monday	4-Oct	12:00 PM	TBA	Vet Path II Mid-Term Examination		
10	2	Thursday	21-Oct	1:30 PM	Charter Hall Lab	A	Bhaiyat	Cardiovascular
-				3:00 PM	Charter Hall Lab	B	Bhaiyat	Cardiovascular
13	3	Thursday	11-Nov	1:30 PM	Charter Hall Lab	A	Dores	Reproductive
				3:00 PM	Charter Hall Lab	B	Dores	Reproductive
14	4	Thursday	18-Nov	1:30 PM	Charter Hall Lab	A	Bhaiyat	Respiratory
-				3:00 PM	Charter Hall Lab	B	Bhaiyat	Respiratory
16		Monday	29-Nov	12:00 PM	TBA	Vet Path II Final Examination		



ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT OF PATHOBIOLOGY
VETERINARY PUBLIC HEALTH SYLLABUS (2 Credit)
PTHB 510 (Term 4)
Fall 2021

I. Course Faculty and Staff Information

Course Director: Dr. Rohini R. Roopnarine, DVM, M.Phil, EdD (*Higher Ed.*), MRCVS
Professor,
Email Address: rroopnarine@sgu.edu
Office Location: Online
Office Hours: On Zoom (optional): Fridays: 1:30-2:30.

Joint Faculty: Dr. Josephine Azikuru Afema, BVM, MPVM, PhD, DACPM
Associate Professor,
Office Location: Online
Email address: jazikuru@sgu.edu
Office hours: On Zoom (optional): Fridays: Time set according to class schedule.

II. Course location

Online location- Sakai tools being used: Announcement, Resources, Syllabus, Lessons, Discussion (previously Forums), Tests and Quizzes, Panopto, Zoom and email.

III. Prerequisite and/or co-requisite courses

A solid background knowledge of Virology, Bacteriology, Epidemiology, Immunology and Parasitology.

IV. Required resources

Functional computer headphones, microphone and camera. Students must activate the Panopto tool within Sakai to access the recordings, and also ensure they activate the zoom tool within Sakai.

- Veterinary Public Health class notes and Powerpoints
- Compendium of Animal Rabies Prevention and Control, 2016. National Association of State Public Health Veterinarians (NASPHV)

V. Recommended resources

- Web resources: www.fsis.usda.gov; <http://www.cdc.gov>, <http://www.oie.int>, <http://www.usda.gov>, <https://www.avma.org>, <https://www.fda.gov/home>

VI. Accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Good internet capabilities and speed, headphones, Zoom.

VIII. Course rationale

This course is designed to provide students with the required background knowledge to the One Health approach that will equip them in their role as veterinarians in protecting the public health. Food-borne illness derived from meats of animal origin impacting the global environment, uniquely positions veterinarians as guardians of animal and human health. The course also equips students to be familiar with emerging zoonoses across diverse socio-cultural contexts as it pertains to disease prevention and control. Veterinarians are responsible for educating the public and assisting the relevant public health authorities in implementing prevention and control measures regarding diseases of animal origin that impact human health, as an example, the COVID-19 pandemic. The course covers the veterinarians' role in regulatory medicine regarding inspection of animals for food for human consumption and deals with important zoonoses currently encountered in the global environment, as an example, SARS-CoV-2 (agent of COVID-19). Students are expected to acquire an understanding of the roles of various regulatory agencies such as the USDA, FDA, CDC, OIE and the veterinarians' reporting responsibilities to these agencies.

IX. Course-Learning Outcomes

Upon successful completion of this course, the student will be able to...

1. Identify the requirements of US and international agencies such as the OIE, as they relate to the veterinarian's role in reporting notifiable diseases such as COVID-19.
2. Apply the One Health Concept to the professional responsibilities of the veterinarian in promoting human, animal and environmental health.
3. Apply their knowledge as a veterinarian in working with public health officials in the prevention and control of zoonotic diseases such as COVID-19 and food-borne diseases of animal origin.
4. Identify the main U.S. Federal agencies involved in Public health administration.

X. Lesson Learning Outcomes

Food Safety

Organization of the U.S. Meat and Poultry Inspection program

At the completion of this lecture the student will be able to:

- Determine the relevant U.S. agencies involved in the U.S. Meat and Poultry Inspection program
- Define the key terms that will be utilized throughout the Veterinary Public health course

Hazard Analysis and Critical Control Points (HACCP)

At the completion of this lecture the student will be able to:

Assess the key principles of HACCP as it pertains to preserving the safety of foods of animal origin with inclusion of the recent impact of COVID-19 on the Meat industry

Ante-Mortem Inspection and Disposition

At the completion of this lecture the student will be able to:

- Apply the four principles used by USDA FSIS Public health veterinarians (PHV's) in making a decision at ante-mortem inspection on animals destined for slaughter for human consumption
- Determine the disposition for various diseases identifiable in animal at ante-mortem inspection

Humane Slaughter

At the completion of this lecture the student will be able to:

- Apply the requirements of the Humane Slaughter Act (1978).
- Identify the strengths and weaknesses of the approved methods of stunning
- Determine if a humane slaughter violation has occurred due to improper stunning

Post-Mortem Inspection and Disposition

At the completion of this lecture the student will be able to:

- Apply the five principles used by USDA's Public Health Veterinarians (PHV's) in making a decision at post-mortem inspection on animals for slaughter for human consumption
- Determine the disposition for various diseases identifiable in animal at post-mortem inspection

Poultry Slaughter

At the completion of this lecture the student will be able to:

Determine the disposition for common diseases detected in poultry at post-mortem inspection

Meat Products for Human Consumption and Condemned Products

At the completion of this lecture the student will be able to:

- Differentiate between restricted from condemned products as it pertains to tissues allowed for human consumption
- Identify the disease conditions associated with specific restricted product treatments

Labeling and Composition of Pet Food

At the completion of this lecture the student will be able to:

- Identify the types of products allowed in pet foods
- Identify the agency involved in regulation of pet food composition

The FDA and Residues

At the completion of this lecture the student will be able to:

- Identify the drugs prohibited for extra label drug use in food animals
- Identify the relevant agency involved in the regulations governing use of residues in food animals

Zoonoses

Defining Zoonoses

At the completion of this lecture the student will be able to:

- Define the term Zoonoses to include important Transboundary Animal Diseases (TADs)
- Determine the role of the Veterinary surgeon in Prevention and Control
- Differentiate the agent, transmission, disease, control and prevention of specific Zoonoses
- Evaluate the role of the veterinarian in detection and reporting of zoonoses

Bovine Tuberculosis

At the completion of this lecture the student will be able to:

- Apply the principles of the US Federal – State eradication program
- Evaluate the role of the veterinarian in detection and reporting of *M.bovis*

Taeniasis-Cysticercosis

At the completion of this lecture the student will be able to:

- Evaluate the role of the veterinarian in public health education on prevention/control

Rocky Mountain Spotted Fever

At the completion of this lecture the student will be able to

- Evaluate the role of the veterinarian in detection and prevention/control

Visceral larval migrans

At the completion of this lecture the student will be able to

- Evaluate the role of the veterinarian in public health education on prevention/control

Brucellosis

At the completion of this lecture the student will be able to

- Apply the principles of the various US Federal – State eradication programs
- Evaluate the role of the veterinarian in detection and reporting of Brucellosis
- Differentiate zoonotic *Brucella* species with implications for human health and prevention education

***Coxiella Burnetii* (agent of Q fever)**

At the completion of this lecture the student will be able to

- Evaluate the role of the veterinarian in detection and reporting of *C. burnetii*
- Evaluate the role of the veterinarian in public health education on prevention
- Assess the importance of control programs for animals and humans working in research facilities with small ruminants

Immunocompromised people and pets

At the completion of this lecture the student will be able to

- Determine their role as veterinarians in advising owners on acquiring a suitable pet.

Lyme disease and Ehrlichiosis

At the completion of this lecture the student will be able to

- Evaluate the role of the veterinarian in public health education on prevention of vector borne diseases
- Create a diagnostic and prevention/control plan for animals and humans at risk of exposure to vector-borne agents

Rabies

At the completion of this lecture the student will be able to:

- Determine when to consider rabies as a differential on your diagnostic list for a case
- Determine the appropriate recommendations for managing an animal exposed to rabies
- Determine the appropriate recommendations for managing an animal that has bitten a human
- Describe the Veterinarian's role in rabies prevention and control in animals and humans

Emerging Zoonoses

Factors of Emergence

At the completion of this lecture the student will be able to:

- Define the factors that contribute to the emergence of zoonoses
- Demonstrate an awareness of their veterinary responsibilities in education of and protection of the public health on zoonoses prevention

Influenza viruses and Human health

At the completion of this lecture the student will be able to:

- Identify the factors that influence the epidemiology of influenza subtypes involved in global outbreaks of public health importance
- Evaluate the role of the Veterinarian in reporting outbreaks of highly pathogenic subtypes in animals
- Assess the Veterinarian's role in public health education regarding emerging zoonoses

Zoonotic Equine arboviruses

At the completion of this lecture the student will be able to:

- Execute your responsibilities as a Veterinarian in reporting outbreaks of these viruses
- Execute your role as a Veterinarian in public health education regarding prevention/control

Zoonotic Coronaviruses

SARS-CoV-2 (agent of COVID-19), SARS, MERS

At the completion of this lecture the student will be able to:

- Apply knowledge about the transmission and prevention of zoonotic coronaviruses of global health importance to veterinary practice.
- Execute your role as a Veterinarian in public health education regarding Prevention/control of zoonoses.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

SGU Program Level Outcome (PLO)	Course Learning Outcomes #
A. Core Medical Knowledge	
1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.	3
3. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases.	1,2,3
4. Explain the relationship between disease processes and clinical signs.	3
5. Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.	3
7. Evaluate and analyze normal versus abnormal animal behavior.	3
8. Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.	1,2,3
9. Apply the principles of veterinary public health for the promotion of human and animal health.	1,2,3,4
B. Core Professional Attributes	
12. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.	1,2,3
13. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.	1,2,3
14. Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.	1,2,3
15. Model lifelong continuing education and professional development.	1,2
17. Demonstrate and model self awareness including understanding personal limitations and willingness to seek advice.	2,3
19. Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.	2,3
C. Core Clinical Competencies (Skills)	
20. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.	3
26. Design and execute plans for health promotion, disease prevention, and food safety.	1,2,3,4
27. Demonstrate and model effective client communication and ethical conduct.	1,2,3

XII. Course Schedule

This course is a 2-credit course that lasts 10 weeks: Sept-Dec, 2021

Week	Lecture hrs/week	Assessments	Lecturer	Topic
5: Sept 14-17	3		Roopnarine (RR)	Introduction to VPH and 'One Health'
			RR	The US Meat and Poultry Inspection program
			Dr. Bidaisee	HACCP & COVID-19
6: Sept 20-24	4		RR	Ante Mortem Inspection
			RR	Humane Slaughter
			RR	Post-Mortem Inspection
7: Sept 27- Oct 1	4		RR	Restricted Products
			RR	Pet Food Composition
			RR	Poultry Slaughter
			RR	The FDA and Residues in Food animals
8: Oct 5		Midterm October 5: Examsoft	RR	Midterm Assessment
9: Oct 11-15	3		Afema (JA)	Zoonoses Classification. Bovine, cervid and elephant tuberculosis
10: Oct 18-22	3		JA	Neurocysticercosis
			JA	Rocky Mountain Spotted fever, Visceral migrans
			JA	Bovine, elk, swine brucellosis
			JA	Immunocompromised people and pets
			JA	<i>Coxiella burnetii</i>
			RR	Lyme disease
11: Oct 25-29	3		RR	Rabies
			RR	Rabies
12: Nov 1-5	4		RR	Rabies-clickers, cases

13: Nov 8-12	4		JA	Factors of Emergence
			RR	Zoonotic Coronaviruses Including SARS CoV-2 (agent of) COVID-19
14: Nov 15-19	2		JA	Influenza viral subtypes of public health importance
				Zoonotic equine arboviruses of emerging importance
15: Nov 22-26		No Lectures-Revision		Time for you to revise
16: Nov 29-Dec 3		VPH Final- EXAMSOFT: December 3	JA/RR	

XIII. Grading and assessment policy, and grading rubrics

Assessment 1: Midterm: This will be an examsoft assessment worth 20 points.

VPH final: This assessment will be conducted in the form of an Examsoft assessment. There will be 10 questions from Dr. Roopnarine's sections on Rabies and Zoonotic coronaviruses and 30 questions from Dr. Afema's lectures on Zoonoses and Emerging Zoonoses.

The grading scale below will be used to calculate the final course grade

Grade Scale

Percentage	Letter Grade
>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Types of Assessments:

Students must complete all assessments for this course, in order to obtain a final grade.

Students are expected to be able to recall and apply the concepts of virology, immunology, parasitology and bacteriology relevant to veterinary public health that were taught during the previous terms. Students are responsible for reviewing those notes if needed. Students are expected to make use of the recommended books and weblinks uploaded on the SAKAI network if needed. Both assessments, the VPH midterm and VPH Final will be conducted as an Examsoft assessments.

Assessments	Date	Points
Midterm: Examsoft	Tue October 5	20
VPH Final: Examsoft	Friday December 3	40
Total		60

A grade reduction of 5-10 % will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

Active participation in the course is recommended to enable applicability of core concepts to veterinary practice. Importantly, students should apply good time management skills, particularly crucial in the online environment, to ensure they meet the course requirements.

XV. Instructor's expectations of the student

Students are expected to adhere to the Professionalism Policy of the University (Student manual), and at all times demonstrate respect not only towards SGU faculty and staff, but also towards their fellow students and the general public. Students are also expected to read the required materials and to complete the mandatory assessments in a timely fashion.

General Expectations

- Remain professional, respectful and courteous at all times
- Keep posts on-topic and professional. Please refrain from discussions of religion, politics, etc.
- Remember that a real person wrote each post and will read what you write as well. It is easy to misinterpret online conversation. Give the benefit of the doubt. If you become upset, wait a day or two and cool down before posting.
- Proofread prior to submitting a post.
- Remember that discussion forums and social posts are visible by the entire class. Use e-mail for any private comments to the instructor. Inappropriate posts will be removed.

Contacting the Faculty

- Please feel free to email the faculty at any time.
- The faculty will generally respond to email within 24 hours. If you do not hear from us within 24-48 hrs hours, feel free to follow up.
- The faculty is willing to schedule an online meeting via ZOOM as required.

XVI. Professionalism statement

The policy relating to SGU's Student Policies, Procedures and Non-Academic Standards is detailed in the SGU student manual 2019-2020, <https://www.sgu.edu/studentmanual/school-of-veterinary-medicine/>. Students are expected to be polite in responding to peers and faculty via email or through the other online communication tools. It is essential that if a student is unable to complete a mandatory assessment due to illness or other emergency, that they inform the course director in a timely fashion. Please refer to XVII below.

XVII. Attendance/Participation policy

The policy relating to class attendance is detailed in the SGU student manual <https://www.sgu.edu/studentmanual/school-of-veterinary-medicine/>. Students are expected to be available during the standard 8:30—5:30pm AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

The course will be conducted fully online this term. The lectures will be recorded asynchronously and stored within Panopto. They are scheduled to occur between 4:30-5:30 pm and thus students are expected to view all of the lectures.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

It is mandatory that students check the following communications from the Course Instructor:

Announcements

The lesson plan for the week will be announced to the class. (Instructor – class). There will be reminders about deadlines and mandatory requirements to engage with the course.

Email

1. Normal email communications. Replies to student inquiries. (Instructor-to-individual)
2. Email to the class representative to determine the need for a zoom session depending on questions students may have on the weekly lessons.

ZOOM sessions - ZOOM will be used for Office Hours – These will be optional. Attendance at office hours that will be provided via zoom are NOT mandatory. However, for students participating, they will be required to submit any questions they may have at least 48 hrs PRIOR to the zoom session.

Lecture sessions will be recorded asynchronously using Panopto. Students are expected to review all lecture content provided as lecture recordings, powerpoints, assigned readings and lecture notes.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to appear for an examination without a valid reason (see student manual: Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (rroopnarine@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call *****)) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. Examsoft Policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).

5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and audio/video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to use these materials solely for the purpose of group or individual study. Reproduction in whole or in part is prohibited".

Appendix:

N/A



ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT OF PATHOBIOLOGY
VETERINARY EPIDEMIOLOGY SYLLABUS (1 Credit)
PTHB 511 (Term 4)
Fall 2021

I. Course Faculty and Staff Information

Course Director: Dr. Rohini Roopnarine, DVM, M. Phil, EdD (*Higher Ed.*), MRCVS
Professor,

Email Address: rroopnarine@sgu.edu

Office Location: Online

Office Hours: On Zoom (optional): To be arranged with the Class Coordinators.

II. Course location

Online location- Sakai tools being used: Announcements, Resources, Syllabus, Lessons, Forums, Tests and Quizzes, Panopto, Zoom, email.

III. Prerequisite and/or co-requisite courses

A solid background knowledge of virology, bacteriology, immunology and parasitology. Students are expected to be able to recall and apply the concepts of virology, immunology, parasitology and bacteriology relevant to veterinary public health that were taught during the previous terms. Students are responsible for reviewing those notes if needed.

IV. Required resources

Veterinary Epidemiology class notes and Powerpoints, functional computer headphones, microphone and camera. Students must activate the Panopto tool within Sakai to access the recordings, and also ensure they activate the zoom tool within Sakai.

V. Recommended resources

Veterinary Epidemiology class notes and Powerpoints, functional computer headphones, microphone and camera.

- Web resources: <http://www.cdc.gov>, <http://www.oie.int>, <http://www.usda.gov>, <https://www.avma.org>, <http://www.who.int/en>
- Recommended texts: Epidemiology, 5th Edition. Leon Gordis.

VI. Accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Good internet capabilities and speed, headphones, Zoom.

VIII. Course rationale

This course is designed to provide students with the epidemiological principles that can be applied to clinical veterinary medicine, and is a core course introducing important concepts for the Veterinary Public Health course that it precedes. Students will gain knowledge on the use of epidemiological principles in evaluating clinical studies and the importance of evidence-based medicine in evaluating the efficacy of therapeutic and preventive measures. The course is also concerned in arming students with the tools that apply to outbreak investigation and in understanding the important role of the veterinary surgeon in responding to emerging disease threats such as COVID-19. Epidemiology is a cornerstone of public health and the practice of preventive medicine in populations, and hence requires the student to have a solid foundation in the basic science courses.

IX. Course-Learning Outcomes

Upon successful completion of this course, the student will be able to...

1. Apply the principles of evidence-based veterinary medicine to the evaluation of clinical trials and control programs.
2. Apply the principles involved in evaluating screening tests for early disease detection and prevention.
3. Determine the role of the veterinarian in responding to outbreaks, and pandemics such as COVID-19.
4. Apply the epidemiological principles that underlie the concepts of herd immunity and the transmission of infectious diseases in responding to pandemics of animal origin.
5. Apply key epidemiological concepts that reflect an understanding of the mechanisms involved in disease transmission and reporting.

X. Lesson Learning Outcomes

Introduction to epidemiological concepts

At the completion of this lecture the student will be able to:

- Define the objectives of epidemiology
- Apply the core concepts introduced such as epidemic, endemic and pandemic
- Apply the concept and importance of evidence-based medicine to clinical practice

Disease Reporting

At the completion of this lecture the student will be able to:

- Understand the application of the terms disease prevalence, incidence and the Reproductive number(R_0) and disease modelling using the example of COVID-19
- Determine the interactions between the agent-host-environment in the occurrence of disease.
- Differentiate between the types of epidemic curves that are used to characterize outbreaks.
- Understand the importance of Flattening the curve.

Bias, Sample Selection, Confounding

At the completion of this lecture the student will be able to:

- Differentiate between types of bias
- Evaluate the types of bias present in study designs
- Evaluate the presence of potential confounding in study designs

Descriptive and Analytical Epidemiological Study designs

At the completion of this lecture the student will be able to:

- Differentiate between different types of study designs
- Determine which study designs are most appropriate to address specific research questions using examples from published work

Types of Qualitative studies and other types of Research Designs

At the completion of this lecture the student will be able to:

- Understand the value of Qualitative and Action Research approaches in Research design
- Understand there are multiple research approaches that expand beyond quantitative methodologies
- Determine the research approach that may be more suited for addressing a particular research question

Screening Tests

At the completion of this lecture the student will be able to:

- Define and differentiate the concepts of sensitivity and specificity
- Evaluate a test in terms of its sensitivity, specificity and predictive values
- Measure the sensitivity, specificity and predictive value of a test

Infectious Disease Epidemiology

At the completion of this lecture the student will be able to:

- Differentiate between different host types and their role in disease transmission
- Evaluate and calculate common measures of health including the case-fatality rate using the example of COVID-19

Herd Immunity

At the completion of this lecture the student will be able to:

- Apply the concept of herd immunity to disease prevention and control
- Discuss the importance of the Reproduction number (R_0) to disease spread
- Discuss the relevance of the R_0 to flattening the curve in the context of COVID-19

Outbreak Investigation

At the completion of this lecture the student will be able to:

Evaluate the different tasks involved in responding to an outbreak using the example of a Transboundary Animal Disease (TAD).

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

SGU Program Learning Outcome (PLO)	Course Learning Outcomes # (CLO)
A. Core Medical Knowledge	
3. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases.	2,3
4. Explain the relationship between disease processes and clinical signs.	2
6. Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.	1
8. Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.	3,4,5
9. Apply the principles of veterinary public health for the promotion of human and animal health.	2,3,4,5
11. Understand and apply basic principles of research, and recognize the contribution of research to all aspects of veterinary medicine.	1
B. Core Professional Attributes	
12. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.	1,3,4
13. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.	1,4
14. Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.	1,3,4
15. Model lifelong continuing education and professional development.	1
19. Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.	3,4
C. Core Clinical Competencies (Skills)	
20. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis	2
26. Design and execute plans for health promotion, disease prevention, and food safety.	1,2,3,4,5
27. Demonstrate and model effective client communication and ethical conduct.	1,2,3,4
28. Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.	1

XII. Course Schedule

This course is a 1 credit course that lasts 4 weeks: August 16-Sept 13. The course will be conducted fully online this term. The lectures will be recorded asynchronously and stored within Panopto. They are scheduled to occur between 4:30-5:30 pm and thus students are expected to view all of the lectures.

Week	Lecture hrs/wk	Assignments	Lecture topics
Prior to Week 1 Open Aug 10			Introductory Forum: Icebreaker
Week 1 Aug 16-20	4		Epidemiological concepts & Employment opportunities
			Disease Reporting
			Bias & Confounding
			Descriptive Studies
Week 2 Aug 23-27	4		Analytical Studies I-Case -control & Cohort studies
			Analytical Studies II -Clinical trials Qualitative Studies & Action research
		Quiz: In Sakai	
Week 3 Aug 30-Sept 3	4		Screening Tests
			Epidemiology of Infectious Diseases
Week 4 Sept 6- Sept 8	3		Herd Immunity
			Outbreak Investigation
Week 5 Sept 13		Epidemiology Final: Examsoft	

XIII. Grading and assessment policy, and grading rubrics

There will be 2 assessments, a quiz and a final examination. The quiz will be conducted on Sakai as a timed open-book assessment and the final examination will be conducted on Examsoft.

The grading scale below will be used to calculate the final course grade

Grade Scale

Percentage	Letter Grade
>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Examsoft:

A grade reduction of 5-10 % will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

Types of Assessments:

There are 2 assessments for this course. **Students must complete all assessments for this course, in order to obtain a final grade.** Students are expected to make use of the recommended weblinks uploaded on the SAKAI network if needed. The final examination will be conducted on Examsoft.

Assessments	Date	Points
Quiz	Wed Sept 1-Mon Sept 6	15
Epidemiology Final	Monday Sept 13	20
Total		35

XIV. Recommended study strategies

Importantly, students should apply good time management skills, particularly crucial in the online environment, to ensure they meet the course requirements.

XV. Instructor's expectations of the student

Students are expected to adhere to the Professionalism Policy (see XVII), and at all times demonstrate respect not only towards SGU faculty and staff, but also towards their fellow students and the general public. Students are also expected to complete the mandatory assessments in a timely fashion.

General Expectations

- Remain professional, respectful and courteous at all times

Contacting the Faculty

- Please feel free to email the faculty at any time.
- The faculty will generally respond to email within 24 hours. If you do not hear from us within 24-48 hrs hours, feel free to follow up.

XVI. Professionalism statement

The policy relating to SGU's Student Policies, Procedures and Non-Academic Standards for 2019/2020 <https://www.sgu.edu/studentmanual/school-of-veterinary-medicine/>. Students are expected to be polite in responding to peers and faculty via email or through the other online communication tools. It is essential that if a student is unable to complete a mandatory assessment due to illness or other emergency, that they inform the course director in a timely fashion. Please refer to XVII below.

XVII. Attendance/Participation policy

The policy relating to class attendance is detailed in the SGU student manual <https://www.sgu.edu/studentmanual/school-of-veterinary-medicine/>. Students are expected to be available during the standard 8:30—5:30pm AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

The course will be conducted fully online this term. The lectures will be recorded asynchronously and stored within Panopto. They are scheduled to occur between 4:30-5:30 pm and thus students are expected to view all of the lectures.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

It is mandatory that students check the following communications from the Course Instructor:

Announcements

The lesson plan for the week will be announced to the class. (Instructor – class). There will be reminders about deadlines and mandatory requirements to engage with the course.

Email

1. Normal email communications. Replies to student inquiries. (Instructor-to-individual)
2. Email to the class representative to determine the need for a zoom session depending on questions students may have on the weekly lessons.

ZOOM sessions - ZOOM will be used for Office Hours – These will be optional. Attendance at office hours that will be provided via zoom are NOT mandatory. However, for students participating, they will be required to submit any questions they may have at least 48 hrs PRIOR to the zoom session.

Lecture sessions will be recorded asynchronously using Panopto. Students are expected to review all lecture content provided as lecture recordings, powerpoints, assigned readings and lecture notes.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to appear for an examination without a valid reason (see student manual: Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (rroopnarine@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. Examsoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and audio/video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to use these materials solely for the purpose of group or individual study. Reproduction in whole or in part is prohibited".

Appendix:

N/A



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Pathobiology Department

Veterinary Immunology

PTHB 512 – 2 credits

Fall 2021

I. Course Faculty and Staff Information

Course Director:

Mercedes María Abeyá, DVM, PhD. mabeya@sgu.edu

Office: SVM trailer

Tel#1 (473) 444 –ext.3805

Visiting Professor:

Diana Stone, MPH, DVM, PhD, Diplomate ACVPM. dstone@sgu.edu

II. Course location

Online location—Sakai resources being used: Panopto, Lessons
Lecture Hall Assigned - David Brown Hall

III. Prerequisite and/or co-requisite courses

Current 2nd term SVM student.

IV. Required resources

Lessons on Saki

V. Recommended resources

The following are recommended reference books:

- Veterinary Immunology, an Introduction, Ian R. Tizard, 10th Ed.
- Basic Veterinary Immunology. 1st. Ed. Gerald N. Callahan & Robin M. Yates.
- Veterinary Immunology, Principles and Practice, MJ Day, 2nd Ed.

VI. Accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None

VIII. Course rationale

This course is designed to be an introduction to a complex and continually evolving discipline that defines the immune system. The primary objective of the course is to provide students the basic elements needed to understand the immune system and its role in combating disease processes. This area of study is dynamic and should be interwoven in other subjects as you progress through your veterinary education. In other words, this will not be the last time you encounter immunology in the DVM curriculum! Specific diseases associated with hypersensitivities, autoimmunity, and immune deficiency will be discussed in more detail in your other courses including General Pathology, Systemic Pathology, Clinical Pathology, and Medicine courses. This course will provide the found in immunology for these courses.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

- Understand and incorporate the immunological concepts presented in Terms 3, 4, 5, 6 and their clinical 4th year of training. Immunology forms the bases of many diagnostic tests, therapies and disease prevention strategies (such as vaccines). The basics of immunology are also needed to diagnose and treat diseases of the immune system. Normal immune responses can also contribute to disease.
- Recognize, describe and understand the basics of innate and acquired immunity including the role of cytokines, cell surface receptors, Complement proteins, phagocytic cells, antigen processing and presentation and the role of MHC molecules, humoral immune responses and cell-mediated immune responses, mucosal immunity, neonatal immunity, the hypersensitivities, generation of T-cell and B-cell receptor diversity, and the interaction of innate and acquired immunity.
- Apply problem solving skills. Students will be expected to apply immunology concepts to novel situations on exams.

- To understand the immunologic bases of immunology-based diagnostic assays and to correctly interpret results. To understand specificity and sensitivity of a test and the need for positive and negative controls for diagnostic tests.

A. Define and differentiate the properties of antigens, antibodies, MHC molecules, antigen processing, immune cells, innate/adaptive/passive immunity, and humoral and cell mediated immune responses.

B. Recognize and compare the innate and acquired immune mechanisms involved in mucosal immunity and immune responses to intra-cellular and extracellular pathogens.

C. Describe, interpret and predict the results of immunodiagnostic tests, antibody results for passive transfer, failure of passive transfer, primary/secondary immune responses to infection/vaccination.

D. Recognize and compare the immune mechanisms and clinical signs that characterize the four types of hypersensitivity reactions.

X. Lesson Learning Outcomes

**After successful completion of the course you should be able to:
(Lecture#/LLO/CLO; eg. First LLO for lecture 1 if it fits in CLO A: 1aA.)**

1aA: Define and differentiate innate and adaptive immunity and how these two systems interact.

1bB: Recognize the main features and difference between humoral and cell-mediated immune responses

1cA: Define passive immunity and why it is important.

2aAB: Identify and define the role of innate sentinel cells.

2bA: Define the molecules essential for innate immunity.

2cAB: Describe the steps of phagocytic killing.

3aA: Differentiate between the two main phagocytic cells.

3bAB: Define TLRs and describe their role in innate immunity.

3cAB: Explain the mechanisms by which NK cells identify and kill a virally infected cell.

4aAB: Define the complement system.

4bAB: Compare and contrast the classical and alternative complement pathways.

4cAB: Describe how the complement system destroys microbes (effector mechanisms).

5aA: Define antigen, recognize what molecules can be antigens, and identify what antigens are and their characteristics (immunogenicity vs antigenicity).

5bA: Describe what an epitope is and what role it plays in cross-reactivity.

5cA: Differentiate between a hapten, an epitope, and an antigen.

6aAB: Differentiate between intra/extracellular microbes.

6bAB: Define endogenous and exogenous antigens, and their sources, and appreciate different immune responses to each.

6cA: Be able to identify and list important non-microbial antigens.

7aA: List the major differences between MHC-I and MHC-II antigen capture, processing and presentation.

7bA: Identify and contrast the three professional/semi-pro APCs.

7cAB: Gain an initial appreciation of antigen presentation to lymphocytes.

8aAB: Compare the two pathways for antigen presentation, and contrast these with cross presentation.

8bAB: Link the importance of allelic diversity in MHC to the function of MHC during an adaptive immune response.

8cAB: Provide an example of the role of MHC in disease risk.

9aAB: Describe T/B cell maturation/selection and explain why they are absolutely essential processes.

9bAB: Compare and contrast the BCR and the TCR, and appreciate the process of BCR/TCR diversity.

9cAB: Recall lymphocyte surface receptors and explain the importance of co-stimulation.

10aAB: Describe the process of T cell activation and define Th cells

10bAB: Compare and contrast CD4+ T cell subsets (aka Classes), specifically Th1 and Th2.

10cAB: Relate T cell subsets to effector arms of the immune system: CTLs and Antibody.

11aA: Define CMI and its components.

11bA: Describe CTL activation and effector mechanisms.

11cD: Describe DTH and its role in CMI.

12aA: Identify/describe the activation/clonal expansion of B lymphocytes.

12bA: Recognize/differentiate the Fab and Fc regions of antibody, polyclonal vs monoclonal antibody.

12cA: Recognize normal/abnormal protein electrophoresis results and interpret the basic significance of low/high globulin fractions.

13aA: Recognize the different antibody classes and their different functions.

13bA: Recognize antibody class switching and affinity maturation and its importance to an antibody response to antigen.

13cA: Given a description or scenario, identify the class of antibody involved.

14aC: Recognize/interpret the terminology and use of antibodies against antibodies in diagnostic tests.

14bC: Define the concepts of antibody titers, seroconversion, acute vs convalescent antibody titers, T-dependent/T-independent antibody responses, protective and sterile immunity.

14cC: Recognize/interpret primary and secondary antibody responses, the classes and relative amounts of each class of antibody involved, and given a scenario, predict the kind of antibody response expected.

15aC: Recognize the different types of classical vaccines, how they differ and the pros and cons of each.

15bC: Identify the type of immune response the different classical vaccines will generate.

15cC: Describe the methods used to attenuate organisms for MLV and to kill "inactivated" vaccines

15dC: Describe the rationale behind some serial vaccination schedules used for young domestic animals.

15eC: Recognize the concept of core and noncore vaccines.

15fC: Describe the functions of adjuvants and what types of vaccines need them

16aC: Recognize the different types of "new generation" vaccines, how they differ and the pros and cons of each.

16bC: Identify the type of immune response the different "new generation" vaccines will generate.

16cC: Describe the potential adverse reactions to vaccines and when certain kinds of vaccines can and cannot be use.

17aC: Differentiate between colostrum and milk immunoglobulin composition and species differences

17bC: Describe the importance and the mechanism for maternal immunoglobulin absorption into the neonatal circulation and how maternal immunoglobulin protects the gut of the neonate.

17cC: Describe criteria for determining failure of passive transfer in foals and in calves and approaches to treatment.

18aA: Describe the immunology used to develop immunodiagnostic tests, including antigen-antibody interactions; the development and use of polyclonal/monoclonal antibodies and antibodies against other antibodies; primary/anamnestic antibody responses.

18bC: Describe the uses of immunodiagnostic tests, the samples and reagents used, controls needed and recognize whether the test is designed to detect antigen or antibody.

18cC: Describe titration, how titers are used in diagnostics and be able to interpret antibody titers.

19aC: Describe the immunologic concepts, advantages/limitation and procedures (samples and reagents needed) for Direct and Indirect Immunofluorescent (IF) assays and recognize examples.

19bC: Describe the immunologic concepts, advantages/limitation and procedures (samples and reagents needed) for the various types of ELISA tests and recognize examples of each: Direct, Indirect, Antigen Capture, Competitive.

19cC: Given a scenario and results from IF assays and ELISAs, be able to interpret the results in terms of: Primary/Secondary exposure to a pathogen, Infection, Vaccination status, Disease status.

20aC: Describe the immunologic concepts, advantages/limitations and procedures (samples and reagents needed) for Western Blot assays and recognize examples.

20bC: Describe the immunologic concepts, advantages/limitations and procedures (samples and reagents needed) for Immunohistochemistry assays and recognize examples.

20cC: Given a scenario and results from Western Blot and Immunohistochemistry assays, be able to interpret the results in terms of: Primary/Secondary exposure to a pathogen, Infection, Vaccination status, Disease status.

21aC: Describe the immunologic concepts, need for zone of equivalence, advantages/limitations and procedures (samples and reagents needed) for Precipitation tests and recognize: Single Immunodiffusion tests (Coggins), Radial Immunodiffusion tests.

21b: Describe the immunologic concepts, need for zone of equivalence, advantages/limitations and procedures for Agglutination tests (Hemagglutination, Hemagglutination inhibition, latex bead agglutination and bacterial agglutination tests)

21cC: Given a scenario and results from Precipitation and Agglutination assays, be able to interpret the results in terms of: Primary/Secondary exposure to a pathogen, Infection, Vaccination status, Disease status.

22aC: Describe the immunologic concepts, advantages/limitations and procedures (samples and reagents needed) for Neutralization tests and recognize examples such as serum neutralization test used for rabies serology (RFFIT and FAVN).

22bC: Describe the immunologic concepts, advantages/limitations and procedures (samples and reagents needed) for Complement Fixation tests and recognize examples

22cC: Given a scenario and results from Neutralization and Complement Fixation assays, be able to interpret the results in terms of: Primary/Secondary exposure to a pathogen, Infection, Vaccination status, Disease status.

23aC: Describe the concepts of sensitivity and specificity of a diagnostic test
23bC: Given appropriate data, be able to identify/calculate the sensitivity, specificity of the test or the expected TP/TN/FP/FN.
23cC: Given the sensitivity/specificity of specific diagnostic tests, identify which test is most useful to use in a given scenario.
24aD: Describe the events that occur with sensitization (priming) and second exposure to an allergen
24bD: Describe the mechanisms of Type I hypersensitivity and timing of clinical signs.
24cD: Describe the antibody classes and cellular infiltrates involved in Type I hypersensitivity.
24dD: Recognize the clinical signs commonly associated with Type 1 hypersensitivities
25aD: Describe the mechanisms of Type II hypersensitivity and timing of clinical signs.
25bD: Describe the antibody classes and cellular infiltrates involved in Type II hypersensitivity.
26aD: Describe the mechanisms of Type III and IV hypersensitivities and timing of clinical signs.
26bD: Describe the antibody classes and cellular infiltrates involved in Type III and IV hypersensitivity.
26cD: Describe the diagnostic tests used to diagnose the type of hypersensitivity present.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Included in Items: IX and X.

XII. Course Schedule

See appendix.

XIII. Grading and assessment policy, and grading rubrics

- **Exams:** There will be two exams for the course, which will consist of multiple choice questions MCQ totally 82 points:
 - **Midterm Exam:** 41 questions (41 points)
 - **Final Exam:** 41 questions (41 points)

- **Both exams will take place on Examssoft, MCQ, and students will have 75 minutes to complete.**
- **Students will have access to the exams the day of the exam.**

- **Assignments:** There will be 2 assignments for the course (one before Midterm Exam, and one before Final Exam), which will consist of multiple choice questions MCQ totally 8 points:
 - Midterm Assignment: 4 questions (4 points)
 - Final Assignment: 4 questions (4 points)

Both assignments will take place on Sakai, open book, and students will have 1 week to complete.

- A make-up exam will be given ONLY when the student has an EXCUSED absence. Only documented excuses, via the University Health Clinic, or via the SGU web page (under General/Medical Excuse Submissions), will be accepted. Excuses that are issued after the examination will not be accepted. Do not expect to be excused for weddings or birthdays. Funerals of very close family members are adequate justification. Excuses to attend special meetings will be considered through the SVM Associate Dean of Students Office and will include assessment of the student's level of academic performance. SGU policy: no wristwatches will be allowed into exams, not on wrists or on the desk top. Exams and quizzes are sequestered. The only time when questions can be viewed is during the exam. Any make-up exams may be given in an ESSAY, Short-Answer or Oral Format. (Must comply with SGU and SVM assessment guidelines)

- **Grading Scale**

≥89.50%	A
84.50-89.49	B+
79.50-84.49	B
74.50-79.49	C+
69.50-74.49	C
64.50-69.49	D+
59.50-64.49	D
<59.49	F

All other exam policies are followed according to the SGU Examination Policy and the Student handbook.

Please note: The course director enters in the raw scores (points). The computer then calculates the percent and assigns the letter grade to that percent. Percent's are carried out to TWO decimal points. **There is no provision in this course to obtain additional points.**

XIV. Recommended study strategies

Combine provided notes and lectures. All assessment will be derived from information in the Lecture PPTs and Long Notes.

XV. Instructor's expectations of the student

Students are expected to read the class notes before the lecture covering the material. Students are expected to attend all lectures and are encouraged to participate in forum discussions. Students are expected to contact the course instructor early on if they are having difficulty. Students are expected to take full advantage of DES and other SGU resources for academic help.

XVI. Professionalism statement

Professional behavior is expected at all times regardless of online format.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

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XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM

POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

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Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

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All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
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7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)

- b. [The Examssoft student perspective video 30mins](#)
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- e. [The general Reminders/Guidelines](#)

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Appendices

Course Schedule and weekly topics

Lecture	Date/Time	Topic	Professor
1	18 Aug 8 ³⁰ -9 ²⁰ am	Introduction to Immunology	Abeyá
2	19 Aug 8 ³⁰ -9 ²⁰ am	Innate Immunity	Abeyá
3	20 Aug 11 ³⁰ -12 ²⁰	Innate Immunity	Abeyá
4	24 Aug 8 ³⁰ -9 ²⁰ am	The Complement System	Abeyá
5	26 Aug 8 ³⁰ -9 ²⁰ am	Adaptive Immune Response/ Antigen	Abeyá
6	1 Sep 9 ³⁰ -10 ²⁰ am	Adaptive Immune Response/ Antigen	Abeyá
7	2 Sep 8 ³⁰ -9 ²⁰ am	Adaptive Immune Response/ APC and Ag processing	Abeyá
8	6 Sep	MHC	Abeyá

	9 ³⁰ -10 ²⁰ am		
9	8 Sep 8 ³⁰ -9 ²⁰ am	Lymphoid Organs; B and T lymphocytes	Abeyá
10	14 Sep 8 ³⁰ -9 ²⁰ am	T helper 1 and T helper 2 cells	Abeyá
11	15 Sep 11 ³⁰ -12 ²⁰ am	Cell-Mediated Immunity	Abeyá
12	16 Sep 8 ³⁰ -9 ²⁰ am	B lymphocytes and humoral immunity	Abeyá
13	17 Sep 10 ³⁰ -11 ²⁰ am	Primary/Secondary antibody responses	Abeyá
14	20 Sep 11 ³⁰ -12 ²⁰	More on humoral immune responses	Abeyá
Review	23 Sep 8 ³⁰ -9 ²⁰ am	Review Lectures 1- 5	Abeyá
Review	23 Sep 9 ³⁰ -10 ²⁰ am	Review Lectures 6- 10	Abeyá
Review	27 Sep 11 ³⁰ -12 ²⁰ am	Review Lectures 11-14	Abeyá
Assignment Due date	4 Oct 10 ⁰⁰ am	Sakai (4 questions) Lectures 1-14	Abeyá
Midterm	4 Oct 12 ⁰⁰ pm	(41 questions) - Covers lectures 1- 14	Examsoft
15	18 Oct ONLINE	Vaccines I	Abeyá
16	21 Oct ONLINE	Vaccines II	Abeyá
17	22 Oct ONLINE	Neonatal Immunity	Stone
18	26 Oct 11 ³⁰ -12 ²⁰	Immunodiagnostics	Stone

19	28 Oct 8 ³⁰ -9 ²⁰ am	Immunodiagnostics	Stone
20	3 Nov 11 ³⁰ -12 ²⁰	Immunodiagnostics	Stone
21	4 Nov 9 ³⁰ -10 ²⁰ am	Immunodiagnostics	Stone
22	4 Nov 10 ³⁰ -11 ²⁰ am	Immunodiagnostics	Stone
23	5 Nov 11 ³⁰ -12 ²⁰	Immunodiagnostics	Stone
24	9 Nov 9 ³⁰ -10 ²⁰ am	Hypersensitivities	Stone
25	9 Nov 10 ³⁰ -11 ²⁰ am	Hypersensitivities	Stone
26	12 Nov 9 ³⁰ -10 ²⁰ am	Hypersensitivities	Stone
Review	12 Nov 10 ³⁰ -11 ²⁰ am	Review Lectures 17-26	Stone
Assignment Due date	26 Nov 10 ⁰⁰ am	Sakai (4 questions) Lectures 17-26	Stone/Abeyá
Final	26 Nov 12 ⁰⁰ pm	Finals (41 questions) Lectures 17-26	Stone/Abeyá



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Pathobiology department

Veterinary Virology Syllabus -3 credits

PTHB 515 Term 3

Fall 2021

I. Course Faculty and Staff Information

Course Director: Sonia Cheetham, DVM PhD, Professor Pathobiology.

Email: scheetha@sgu.edu

Tel#1 (473) 444 –ext.3681

Office: SVM trailer

Office hours: office hours can be requested through the class rep or by email to the course director

II. Course location

Online location—Sakai resources being used: Panopto, Lessons, Assignments, SIS Hall for in person

III. Prerequisite and/or co-requisite courses

Current 3rd term SVM student, good base on biochemistry and immunology

IV. Required resources . Fenner's Veterinary Virology 5th edition, online access to Sakai

V. Recommended resources

Relevant internet sources for updating the current scenario of viruses and viral diseases of veterinary importance. They include sites of avma, aaep, aaha, pigsite, cdc, google scholar, pubmed; links are provided in lessons.

VI. Special accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements NA

VIII. Course rationale

The course consists of giving veterinary students the biological background needed for the understanding of viral diseases. Veterinarians are confronted daily with viral infections. Because of this fact, it is essential to deal with these unique classes of infectious agents in detail. Students of veterinary medicine should have a thorough understanding of certain viruses and the major diseases of veterinary importance caused by them. This course is divided into general virology and systematic virology. General virology deals with the basic nature of viruses, classification, multiplication, host-virus interaction, viral pathogenesis, diagnosis and vaccines. Systematic virology deals mainly with individual viral diseases. The major viral diseases which are of importance for veterinary practice will be discussed affecting each host species of veterinary significance. This course will provide the basic understanding needed to deal with the viral infections usually encountered in the clinical veterinary practice. This course will complement anatomical and clinical pathology and it is a requirement for the medicine courses in future terms.

IX. Course-level outcomes

Upon successful completion of this course, the student will be able to...

- 1) Explain the basic properties of viruses and their classification.
- 2) Identify viral diseases affecting various species of animals of veterinary medicine importance and determine their diagnosis.
- 3) Identify the advantages and limitations of vaccines and antiviral chemotherapeutics.
- 4) Evaluate the current and potential tools for prevention, control and treatment of viral diseases of the companion and food producing animals.

X. Lesson-level outcomes and mapping to CLOs

Provided in lessons as checklists

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SGUSVM program level outcome
CLO1: 1,2,3,4	A. Core Medical Knowledge (PLOs 3,4,5,6, 8) B. Core Professional Attributes C. Core Clinical Competencies (Skills)

XII. Course Schedule

This course is 3 credits.

1 credit hour= 15 lecture equivalent

1 **lecture (L)** hr = 2=3 lab hrs = 2 **self-study (SS)** or **assignment (as)** hrs

1 mandatory Zoom class meeting hour = 1 lecture hour. 1 assessment hour = 1 lecture hour.

Optional Zoom hours are equivalent to office hours = 1 per week maximum, not factored into credit hours as they are optional.

Dates	Week	Vet Viro learning (ONLINE) LESSONS TABS asynchronous (SS)	Discussion in person SIS hall	Assignments
Aug 18-20	1		Introduction Wed 130 pm (1L h) Replication Fri 130pm (1L h)	
Aug 23-27	2	a. Diagnoses b. Pathogenesis (4ss hs)	Friday 130pm (1L h)	
Aug 30- Sep3	3	a. Oncogenesis and Immuno b. Evolution (4ss hs)	Friday 1 30pm (1L h)	
Sep 6-10	4	a. Vaccines b. Epidemiology (4ss hs)	Friday 2 30pm (1L h)	
Sep 13-17	5	a. DNA viruses b. RNA viruses (4 ss hs)	Friday 1 30pm (1L h)	Gen Viro SAKAI MCQ practice (1 as h)
Sep 20-24	6	COVID tab (4 ss hs) NOT TESTED		
Sep 27-Oct 1	7	Discussion and Review	Tuesday 130pm (1L h) Friday 1 30pm (1L h)	
Oct 5th	8	Midterm (30 min) Viro (examsoft)		
Oct 11-15	9	Viruses of dogs (rabies, distemper, hepatitis, parvo, herpes, kennel cough viruses, papilloma) (4ss hs)	Thurs 1 30pm (1L h) Friday 1 30pm cases (1L h)	Assignment (FB) due Oct 22 (1 as h)
Oct 18-22	10	Viruses of cats (FELV, FIV, FIP, herpes, Calici, Fel panleukopenia) (4ss hs)	Wed 1 30pm (1L h) Friday 1 30pm cases (1L h)	Assignment (FB) due Oct 29 (1 as h)
Oct 25-29	11	Viruses of horses EIA, EVA, Influenza, Eq. encephalities, rhinopneumonitis, Eq abortion, Coital exanthema, papilloma sarcoïd, vesic stomatitis (4ss hs)	Friday 1 30pm (1L h)	Assignment (FB) due Nov 5 (1 as h)
Nov 1-5	12	Examsoft Quiz (30 min) Viruses of cattle: FMD, Leukosis, BVD, MCF, IBR & other present, rota Corona in calves shipping fever, Prions (4ss hs)	Mon 130pm (1L h)	Assignment (FB) due Nov 12 (1 as h)
Nov 8-12	13		Tue 1 30pm cases (1L h)	

			Friday 1 30pm cases (1L h)	
Nov 15-19	14	Viruses of small ruminants BT, CAE, OPP, OPA, Orf, Scrapie (3ss hs)	Thurs 1 30pm (1L h) Friday 1 30pm cases (1L h)	Assignment (FB) due Nov 26 (1 as h)
Nov 2-26	15	Lesson Viruses of pigs Hog cholera ASF, Aujeszky's Circovirus, Influenza, Rotavirus, TGEV, PED, Parvo, swine pox, vesic dz (FMD vs vesic stomatitis vs vesic exanthema) (4ss hrs)	Wed 1 30pm (1L h) Thur 1 30pm cases (1L h) Fri 130 REVIEW	Assignment (FB) due Dec3 (1 as h)
	16	Final Viro (examsoft)		

XIII. Grading and assessment policy, and grading rubrics

The examinations (summative assessments) will consist of MCQ questions on examsoft. The examinations will cover only the materials presented but outside reading is encouraged. The content of the examinations will be based on all the material covered in the lessons which are based on the **long notes**, and repeated in the Powerpoint presentations and verbal information presented by the lecturer. The aspects of immunology and biochemistry relevant to virology that were taught during the previous terms are considered part of the exam material. Students are responsible for reviewing those notes if needed. Students are expected to make use of the recommended notes. For the formative assessments: each lesson has a couple of MCQ embedded into the material as well as cases followed by MCQ on the second section. The short activity at the end on section 1 will be on MCQ on sakai test and quizzes. **The activities (MCQ, FB) for each lesson are due the Friday of the following week.** Late submissions may be granted but will only carry half the points and may cause the professionalism point to be lost.

Grading

Formative		Points
Section 1	Activities in lessons 1-9	2
	Formative Sakai MCQ (review)	2
Section 2	Canine FB	2
	Feline FB	2
	Equine FB	2
	Cattle FB	2
	Small Rum FB	2
	Swine FB	2
	Forum participation	3
Summative (Examsoft)	Quiz	20
	Midterm	20
	Final	40
	Professionalism	1
	Total	100

FB (fill-in-the-blank). The professionalism point considers compliance with checklists, assignment deadlines and adequate behavior and language during communications. All students will attain this point unless their behavior does not warrant it.

The forum is an important and significant part of an online course. While class discussion is limited on an online asynchronous course and face to face time is limited, the forum can assist with a free flowing conversation. There are identifiable characteristics that distinguish exemplary contributions to the forums from those of lesser quality. The criteria found on the forum rubric will be used to assess the quality of your postings and responses to the postings and comments of peers.

Poor quality postings will be deleted to prevent overcrowding of the forum which facilitates following the threads of enriching topics. Please remember to label your post so that the content is clear for others to follow.

Criteria	Unsatisfactory	Limited	Proficient	Exemplary
Posting quality	Postings show little or no evidence that readings were completed or understood. Postings are largely personal opinions or feelings, or "I agree" or "Great idea," without supporting statements with concepts from the readings, outside resources, relevant research, or specific real-life application. Points=0	Postings repeat basic information, but do not add value OR are outside the scope of the course Points=0.5	At least 50% of postings display questions that initiate productive discussions OR respond to other students questions thoughtfully OR share a relevant personal experiences that would benefit the forum participants by demonstrating real life cases or scenarios of applying what is being addressed by this course. Points=1	Postings display excellent questions that initiate productive discussions OR respond to other students questions thoughtfully OR share a relevant personal experiences that would benefit the forum participants by demonstrating real life cases or scenarios of applying what is being addressed by this course. Points=1.5
Participation in the Learning Community	No participation (postings or reading of others postings) OR contributions are only posted on the last day of the course. Points=0	Forum participation calculated by gradebook is 0%-1 but the student has made at least a couple of entries and has read at least 10% of others postings OR postings are placed later, after 2 weeks of that module being covered. Points=0.5	The student has made sufficient entries so that the forum participation calculated by gradebook is 2-5% and has read at least 30% of peers postings. Points=1	Student has posted significantly. Forum participation calculated by grade book is above 5% and has read at least 40% of peers postings. Points=1.5
	Points =0	Points=1	Points=2	Points=3

EXAMSOFT MONITORING: a grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Talking out loud.

2. Looking away from the monitor.

3. Having distractions (animals, people) in or walking through the room or making noise during the exam.

4. Webcam is not recording your full face at all times with adequate lighting.

Recommended study strategies

The online content posted in lessons and recordings on Panopto will be available. The exam material will come from material covered in the lessons. The checklists, short activities, MCQ questions, in person discussion and cases are mandatory. A review session of the material covered in each exam will be offered before each exam. The forums should be used to place questions regarding the material. Further questions can be asked during the weekly in person discussions.

The material for this course is presented in different formats (notes, tables, activities, assignments) which may at times seem repetitive. It aims to provide students with auditory, visual, reading/writing, kinesthetic (practical) and mixed learning approaches options so that they find what works for them

TIPS (that probably apply to all courses)

- **Try to memorize the least.** However, there are a few things you need to memorize: families with DNA and RNA genome, which ones have segmented genomes and which families are enveloped or naked. This info will help you figure out probable transmission, availability and efficacy of vaccines, etc, later on. Mnemonics are useful
 - For example, remember families with DNA genome (smaller group), all other will have RNA. You can make up an acronym or a story. Try to apply this information to every possible situation. Go back to check for confirmation, this will help with retention. Remember you need this for the exams in this course but also future courses, NAVLE and future practice. Try to integrate what you learn to things you already know
- **UNDERSTAND.** Don't read it 20 times, you may get a false sense of knowing the material because you can recite it.
 - Sit back and think about concepts (use the white board) this improves critical thinking and long term retention
- **Study with plenty of time.** After covering all the material there might be a stage of confusion. If you wait until the last day to study, you may have to take the exam in this state which is very stressful. Feeling comfortable with the material brings confidence which reduces test anxiety
- You may study alone but should try to **review with a friend/group.** This way you may be alerted of things you missed or misunderstood.
- **Sleep well** so you can be sharp and avoid silly mistakes.
- During the exam **don't overthink,** we are not trying to trick you.

XIV. Instructor's expectations of the student

Students are expected to **keep up with the material assigned per week**. Read the notes, complete assignment and ask questions. MCQs will be included in some of the lessons and cases so students should make sure to participate. There are **check lists** for each section, students should use them so that we can keep track of their progress in the course and identify any learning outcome that was not properly understood or presented. **Forums** are the best way of communication regarding questions about content, other issues can be sent to the class rep for them to notify the course director. Personal matters can be sent by email to the course director or the Dean of students.

XV. Professionalism statement

Please exhibit professional behavior and abide by the code of conduct in the student handbook. Students are expected to arrive on time for zooms and exams. Please see professionalism point description in the grading section.

XVI. Attendance/Participation Policy

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy. If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed (see the student manual).

Forum participation is not mandatory but encouraged and carries 3 points (please see grading and forum rubric). In person discussions and cases sessions are mandatory.

XVII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination. Students who have technical issues during the examination MUST inform the Course Director (s) (COURSE DIRECTOR email HERE) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call 866-429-8889) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination. Scheduling of examinations (regular, re-sit, completion,

comprehensive, or exemption) is at the discretion of the University.

XVIII. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XIX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.



ST GEORGE'S UNIVERSITY

SCHOOL OF VETERINARY MEDICINE

Department of Pathobiology

AVIAN, FISH AND EXOTIC ANIMAL DISEASES (3 credits)

PTHB 516 Term 4

Fall 2021

I. Course Faculty and Staff Information

Dave Marancik, DVM, PhD, CertAqVet, Professor

Email: dmaranci@sgu.edu

Tel: 473-444-4175 x 3837

Pathobiology Department

Office hours can be arranged with each professor for Zoom calls and through email for correspondence.

Ms. Jonnel Edwards, BSc, MSc, Lab Demonstrator

Email: jedward6@sgu.edu

Dr. Alfred Chikweto BVM, MSc, PhD Associate Professor

Email: achikweto@sgu.edu

Tel: 444-4175

Dr. Sophie Moittie, DVM, DVetMed, Assistant Professor

Email: smoittie@sgu.edu

Dr. Dan Johnson, DVM, DABVP, Visiting Professor

drdan@avianandexotic.com

II. Course location

All lectures will be given in the Raymond and Jan Sis Lecture Hall

The fish laboratory will be held in the upstairs room of the Aquatic Animal Medicine Research Laboratory.

III. Prerequisite and/or co-requisite courses

Good standing in Anatomy, Physiology, Histology/Embryology, Pathology and Pharmacology

IV. Required resources

1. St. George's University, School of Veterinary Medicine, course notes on Caged Bird Medicine
2. St. George's University, School of Veterinary Medicine, course notes on Aquatic Medicine
3. St. George's University, School of Veterinary Medicine, course notes on Commercial Avian Medicine
4. St. George's University, School of Veterinary Medicine, course notes on Small Companion Mammal Medicine
5. St. George's University, School of Veterinary Medicine, course notes on Reptiles and Amphibians Medicine

V. Recommended resources

1. Diseases of Poultry, Editor-in-chief: David E. Swayne. 13th edition (2013) Willey- Blackwell publication.
2. Infectious Diseases of Wild Birds, 1st Edition (2007) Edited by N. J. Thomas, D. B. Hunter and C. T. Atkinson. Blackwell Publishing.
3. Pathology of Pet and Aviary Birds. By R. E. Schmidt, D. R. Reavill and D. N. Phalen, 1st edition, (2003) Iowa State University Press
4. Fish Disease, Diagnosis and Treatment, By Edward J. Noga, 2nd Edition (2000), Iowa State University Press
5. Health, Maintenance and Principal Microbial Diseases of Cultured Fishes, By John A. Plumb, 2nd Edition (1999) Iowa State University Press
6. Systemic Pathology of Fish, Edited by Hugh W. Ferguson, 2nd Edition (2006) Scotian Press, London
7. Reptile Medicine and Surgery, 2nd Ed. Editor: Doug Mader, Saunders Company
8. Ferrets, Rabbits and Rodents-Clinical Medicine and Surgery-2nd Edition, Edited by Kathy Quesenberry, Saunders Company
9. Laboratory Animal Medicine, 3rd Edition (2015), Elsevier Inc.
10. Pathology of Laboratory Rodents and Rabbits, 3rd Edition (2007), Blackwell Publishing

VI. Special accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None

VIII. Course rationale

Non-traditional species represent an important and growing segment of veterinary medicine. This course provides a foundation in etiology, pathogenesis, diagnosis and

treatment of avian, fish and exotic animal species. This includes species that are commonly encountered as pets or in the wild, in laboratory settings and in food production. Strategies for species management, care and disease prevention are emphasized.

IX. Course-level outcomes

As a result of this course, students are expected to:

1. Define the unique anatomy and physiology of avian, aquatic animals, reptiles, amphibians, and small mammals as it applies to clinical management and disease pathogenesis.
2. Identify the major pathogens and recognize the clinical signs and lesions associated with common diseases.
3. Recognize unique husbandry requirements for each group of animals and disease manifestations if conditions are not adequately met.
4. Determine appropriate diagnostic tests to confirm diagnoses of infectious and non-infectious disease.
5. Determine treatment and biosecurity strategies in production, research, and pet animal environments including for zoonotic pathogens.

X. Lesson and Laboratory Level Outcomes

Lectures	Topic	
1	Fish	<ol style="list-style-type: none"> 1. Describe the various ways in which the veterinary profession are and can become increasingly involved with fish 2. Identify unique anatomy and physiology of fish as it applies to disease response and recognition of clinical signs. 3. Distinguish conditions that predispose fish to infection and disease.
2	Fish	<ol style="list-style-type: none"> 1. Discuss the important water quality parameters and their impact on fish health 2. Demonstrate how to measure water quality parameters 3. Determine when and how to alter water quality to improve fish health
3	Fish	<ol style="list-style-type: none"> 1. Distinguish important bacterial diseases of fish and their zoonotic potential 2. Recognize the clinical signs and pathogenic impact that these diseases can have on fish health 3. Identify how to diagnose and treat bacterial diseases of fish
4	Fish	<ol style="list-style-type: none"> 1. Compare and contrast the important parasitic pathogens of fish including location of infection and disease 2. Describe the methodology used to diagnose and treat parasites of fish
5	Fish	<ol style="list-style-type: none"> 1. Distinguish important viral diseases of fish

		<ol style="list-style-type: none"> 2. Recognize the clinical signs and describe how to diagnose and prevent viral diseases of fish 3. List common non-infectious causes of disease including neoplasia and toxicity
6	Marine Turtles	<ol style="list-style-type: none"> 1. Describe the basic biology of sea turtles and how that relates to proper husbandry and care in veterinary settings 2. List common causes of trauma in sea turtles and outline steps for trauma response 3. Determine proper handling & transportation procedures for moving sea turtles between the field and hospital 4. Apply safe diagnostic techniques and how to approach a treatment plan
7	Marine Turtles	<ol style="list-style-type: none"> 1. Describe the unique anatomy and physiology of sea turtles as it applies to anesthesia and surgery 2. List the common indications for surgery in sea turtles 3. Determine proper recovery and pain management protocols post-surgery
8	Commercial Birds	<ol style="list-style-type: none"> 1. Describe different types of management systems of poultry and how they can impact on disease occurrence. 2. Review strains and breeds of commercial chickens. 3. List the benefits of keeping poultry.
9	Commercial Birds	<ol style="list-style-type: none"> 1. Differentiate the characteristics of motile and non-motile salmonella. 2. Describe the clinical signs, pathology, method of diagnosis and prevention of diseases caused by non-motile salmonella and motile salmonella.
10	Commercial Birds	<ol style="list-style-type: none"> 1. List species of Mycoplasma causing disease in avian species. 2. Describe the mode of transmission of species of mycoplasma in various avian species. 3. Recognize the clinical signs, pathology, methods of diagnosis, treatment and prevention and control of mycoplasma species in avian species.
11	Commercial Birds	<ol style="list-style-type: none"> 1. Name the diseases caused by Escherichia coli in avian species. 2. Describe the mode of transmission of <i>E. coli</i> 3. Based on clinical signs, mode of transmission, and pathology, differentiate between early embryonic mortality/chick mortality and coli septicemia/airsac disease. 4. Enumerate the method of diagnosis. 5. Describe the prevention and control of <i>E. coli</i> infection in avian species.
12	Commercial Birds	<ol style="list-style-type: none"> 1. Describe epidemiology of Pastuerella species and Campylobacter species in avian hosts. 2. Describe the mode of transmission, clinical signs, and pathology of fowl cholera. 3. Describe the role of birds in transmission of Campylobacter to humans. 4. Describe methods of diagnosis, prevention, treatment and control of fowl cholera.
13	Commercial Birds	<ol style="list-style-type: none"> 1. List the etiologic agents of infectious coryza, chlamydiosis and coccidiosis in avian species.

		<p>2. Describe the mode of transmission of chlamydiosis, infectious coryza and coccidiosis in avian species.</p> <p>3. Describe the clinical signs, pathology and method of diagnosis of chlamydiosis, infectious coryza and coccidiosis in avian species.</p>
14	Commercial Birds	<p>1. Explain the classification of NCD virus based on the pathogenicity.</p> <p>2. Compare and contrast the clinical signs and gross lesions of various pathotypes of NCDV.</p> <p>3. Describe etiology, mode of transmission and clinical signs of Marek's disease.</p> <p>4. Describe prevention and control of NCD and Marek's disease.</p>
15	Commercial Birds	<p>1. Describe etiology of avian influenza in various avian species.</p> <p>2. Differential features of strains in relation to transmission, clinical signs and pathology in different avian species.</p> <p>3. Describe etiology, clinical signs, lesions, diagnosis, prevention and control of infectious bursal disease.</p>
16	Commercial Birds	<p>1. Describe etiology and epidemiology of fowl pox, infectious bronchitis (IB) and Egg drop syndrome (EDS 76).</p> <p>2. List avian species and age groups affected.</p> <p>3. Describe clinical signs and pathology in various age groups.</p> <p>4. Describe methods of diagnosis and prevention of fowl pox, IB and EDS 76.</p>
17	Commercial Birds	<p>1. Describe economic importance of fungal diseases.</p> <p>2. Describe etiology, clinical signs and pathology of fungal diseases.</p> <p>3. Describe methods of diagnosis, prevention and control of fungal diseases.</p> <p>4. Name various deficiency diseases and their economic impact.</p> <p>5. Describe clinical signs, and pathology of nutritional deficiency diseases. Apply the most suitable treatment for Vitamin E and D deficiencies.</p>
18-22	Reptiles and Amphibians	<p>1. Identify the medical, physical, husbandry and dietary needs of reptile and amphibians species.</p> <p>2. Apply proper examination, diagnostic, and treatment techniques.</p> <p>3. Identify and comprehend major diseases of concern for captive and wild species.</p>
23-32	Caged Birds	Please see lecture notes
33-42	Small Mammals	<p>1. Identify the medical, physical, husbandry and dietary needs of rabbits, rodents, ferrets, mice and other small mammals.</p> <p>2. Apply proper examination and diagnostic techniques.</p> <p>3. Identify and comprehend major diseases of concern for captive and wild species.</p>

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SGU SVM program level outcome
Define the unique anatomy and physiology of avian, aquatic animals, reptiles, amphibians, and small mammals as it applies to clinical management and disease pathogenesis.	Core Medical Knowledge
Identify the major pathogens and non-infectious diseases and recognize the clinical signs and lesions associated with common diseases.	Core Medical Knowledge
Recognize unique husbandry requirements for each group of animals and disease manifestations if conditions are not adequately met.	Core Medical Knowledge
Determine appropriate diagnostic tests to confirm diagnoses of infectious and non-infectious disease.	Core Medical Knowledge
Determine treatment and biosecurity strategies in production, research, and pet animal environments including for zoonotic pathogens.	Core Medical Knowledge

XII. Course Schedule

All lectures will be given via Panopto in accordance with SGU guidance. A Zoom session has been scheduled with each instructors to review concepts, ask questions, and discuss career opportunities. The plan is to have each lecturer conduct at least one Zoom session within their section. Additionally, all instructors are available through email and more Zoom sessions can be scheduled if needed and dependent on scheduling.

Week	Lecture	Day/Date	Lecturer	Topic
1	1	Mon 16 Aug	Marancik	Aquatic Medicine
	2	Tues 17 Aug	Marancik	Aquatic Medicine
	3	Wed 18 Aug	Marancik	Aquatic Medicine
	4	Thurs 19 Aug	Marancik	Aquatic Medicine
	5	Fri 20 Aug	Marancik	Aquatic Medicine
Aquatic Assignment Open Friday, 20 Aug				

Week	Lecture	Day/Date	Lecturer	Topic
2	6	Mon 23 Aug	Edwards	Aquatic Medicine
	7	Tues 24 Aug	Marancik	Aquatic Medicine
	8	Wed 25 Aug	Marancik	Aquatic Medicine
Aquatic Assignment Due Saturday, 28 Aug at 11:59 pm				

Week	Lecture	Day/Date	Lecturer	Topic
3		Mon 30 Aug	Quiz 1	Aquatic Medicine
	9	Thurs 2 Sept	Chikweto	Commercial Bird Medicine
	10	Fri 3 Sept	Chikweto	Commercial Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
4	11	Mon 6 Sept	Chikweto	Commercial Bird Medicine
	12	Wed 8 Sept	Chikweto	Commercial Bird Medicine
	13	Thurs 9 Sept	Chikweto	Commercial Bird Medicine
	14	Fri 10 Sept	Chikweto	Commercial Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
5	15	Tues 14 Sept	Chikweto	Commercial Bird Medicine
	16	Wed 15 Sept	Chikweto	Commercial Bird Medicine
	17	Thurs 16 Sept	Chikweto	Commercial Bird Medicine
	18	Fri 17 Sept	Chikweto	Commercial Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
6	19	Mon 20 Sept	Moittie	Reptile/Amphib Medicine
	20	Wed 22 Sept	Moittie	Reptile/Amphib Medicine
	21	Fri 24 Sept	Moittie	Reptile/Amphib Medicine

Week	Lecture	Day/Date	Lecturer	Topic
7	22	Tues 28 Sept	Moittie	Reptile/Amphib Medicine
	23	Thurs 30 Sept	Moittie	Reptile/Amphib Medicine

Week	Lecture	Day/Date	Topic
8	Mid-Term	Thurs 7 Oct 12:00 pm	Commercial Bird and Reptile/Amphibian Medicine

Week	Lecture	Day/Date	Lecturer	Topic
9	24	Tues 12 Oct	Moittie	Caged Bird Medicine

	25	Thurs 14 Oct	Moittie	Caged Bird Medicine
	26	Fri 15 Oct	Moittie	Caged Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
10	27	Mon 18 Oct	Moittie	Caged Bird Medicine
	28	Wed 20 Oct	Moittie	Caged Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
11	29	Tues 26 Oct	Moittie	Caged Bird Medicine
	30	Wed 27 Oct	Moittie	Caged Bird Medicine
	31	Thurs 28 Oct	Moittie	Caged Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
12	32	Tues 2 Nov	Moittie	Caged Bird Medicine
	33	Thurs 4 Nov	Moittie	Caged Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
13	34	Mon 8 Nov	Johnson	Small Companion Animals
	35	Tues 9 Nov	Johnson	Small Companion Animals
	36	Wed 10 Nov	Johnson	Small Companion Animals
	37	Thurs 11 Nov	Johnson	Small Companion Animals
	38	Fri 12 Nov	Johnson	Small Companion Animals

Week	Lecture	Day/Date	Lecturer	Topic
14	39	Mon 15 Nov	Johnson	Small Companion Animals
	40	Tues 16 Nov	Johnson	Small Companion Animals
	41	Wed 17 Nov	Johnson	Small Companion Animals
	42	Thurs 18 Nov	Johnson	Small Companion Animals
	43	Fri 19 Nov	Johnson	Small Companion Animals

Week	Lecture	Day/Date	Topic
17	Final	Fri 10 Dec 12:00 pm	Caged Bird and Small Companion Animal Medicine

Schedule for Laboratory

Lab Group	Day	Date	Time	Topic/Venue	Lecturer
Group A	Fri	20 Aug	1:30 pm	Fish/AAMRL	Dr. Marancik, Ms. Edwards
Group B	Fri	20 Aug	2:45 pm	Fish/AAMRL	Dr. Marancik, Ms. Edwards
Group C	Fri	20 Aug	4:00 pm	Fish/AAMRL	Dr. Marancik Ms. Edwards

XI. Grading and assessment policy, and grading rubrics.

All students are expected to be familiar with the examination guidelines issued by the office of the Dean of the School of Veterinary Medicine. All students are expected to attend assigned academic activities for all courses. Scheduling of examinations is at the discretion of the University. University policy dictates that an examination cannot be given prior to the scheduled date. Students who fail to appear for an examination without a valid reason will receive a score of “0” points for the examination. Students who receive an approved grade of Incomplete (“I”) for a course must take a completion examination as scheduled. Incomplete grades are given when course requirements have not been completed due to serious mitigating circumstances such as illness or family emergencies. The Office of the Dean of Students must approve the reason supporting the receipt of “I” grades. “I” grades remain on the transcript until another grade is given upon completion. If students have an “I” grade on their transcript, the required coursework must be completed prior to registration for the next term. If the work is not completed and the grade not received from the instructor within 30 days, the Incomplete (“I”) will be automatically changed to a Fail (“F”) by the Office of the Registrar. Incompletes are interim grades. Students do not repeat the course if they have received an “I” grade.

There will be ONE Quiz, ONE Assignment, and TWO examinations for the course consisting of multiple choice questions (MCQ’s) administered through Exam Soft. The quiz and examinations shall cover the material described in the lectures and laboratory sessions.

The assessment schedule is as follows:

Quiz 1: 15 Points (Aquatic Animals)

Assignment 1: 10 Points (Aquatic Animals)

Exam 1 (Mid-Term): 30 Points (Commercial Birds and Reptiles/Amphibians)

Exam 2 (Final): 40 points (Caged Birds and Small Companion Mammals)

Total points: 95

All examinations will be sequestered. Students will NOT be provided with an electronic review of the questions they missed. Students can, however, meet with Faculty to go over the topics that they had problems with, not the actual questions. A raw score of the quiz/examination will be given upon exit from SoftTest.

A grade reduction of 5%-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

Final Grading will be based on cumulative performance of all quizzes and examinations given for the course. Grading will be done as follows:

Letter	Range (%)	Grade Points	Grade Points Meaning
A	90-100	4.00	Excellent Pass
B+	85-89.5	3.50	Good Pass
B	80-84.5	3.00	Good Pass
C+	75-79.5	2.50	Acceptable Pass
C	70-74.5	2.00	Acceptable Pass
D+	65-69.5	1.50	Conditional Pass
D	60-64.5	1.00	Conditional Pass
P		0.00	Pass
F	<59.5	0.00	Fail

XII. Recommended study strategies

Study strategies will vary depending on the instructor, the material provided and the question format in each examination. Please inquire with each instructor for the best way to learn and apply the material. Generally, you will be expected to answer higher order questions and apply the information in a clinical scenario.

XIII. Instructor's expectations of the student

The student is expected to attend and come prepared to all lectures. This includes reviewing the learning objectives and class notes before each lecture period. Students should play a proactive role in their education which includes participating in class discussions and asking questions.

XIV. Professionalism statement

1. Please exhibit professional behavior in class.
2. Students are expected to arrive on time for lectures and exams.
3. The consumption of food is not allowed during lectures. Water and non-alcoholic drinks in spill-proof containers are allowed.
4. The use of mobile phones is not allowed during class and exams. Exceptions to these rules have to be discussed with the course director.
5. The lecturer may ask students who breach any of the above rules to leave the class.

XV. Attendance policy

Lecture and laboratory attendance and absence policies adhere to those outlined in the St. George's University Student Manual.

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVI. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (dmaranci@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XVII. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. A Examsoft/ExamID quick guide for students (Please note that the current Examplify version is 2.3.8)
 - b. The Examsoft student perspective video 30mins
 - c. The Examsoft/ExamID FAQ
 - d. Examsoft information page
 - e. The general Reminders/Guidelines

XVIII. Copyright policy

“The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials solely for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited”



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

PATHOBIOLOGY DEPARTMENT
Veterinary Clinical Pathology (4 credits)
PTHB 532 TERM 3
Fall 2021

I. Course Faculty and Staff Information

Course instructors

Melinda Wilkerson, DVM, MS, PhD, ACVP (Anatomic/Clinical pathology)
Professor and co-course director
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Richard M. Kabuusu, DVM, MPH, CPH, PhD
Professor and co-course director
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Ms. Lucinda Ogilvie
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Secretary: Ms. Cindy Edwards
Office location: Trailer Block
Email: cedwards@sgu.edu, Office telephone number: +1473 439 2000 xtn 3339

II. Course location

- **Sis Hall (East)**
- Online location—Sakai resources being used (i.e. Resources will contain ppt pdfs and supplemental materials, Panopto for recordings, Lessons for Chemistry section, Tests & Quizzes for formative quizzes.). Top Hat will be used for the first half of the course prior to midterms.
- Aperio/ Leica digital microscopy for laboratory sessions at
<http://www.slidehosting.com/Login.php>
Username = SGUGUEST
Password= Leic@2020
- **Top Hat will be used for this course**
 - Invitation To Top Hat

You have been invited to join **Clinical Pathology** on Top Hat. If you already have a Top Hat account, go to [\[https://app-ca.tophat.com/e/967863\]](https://app-ca.tophat.com/e/967863) to be taken directly to our course.

If you are new to Top Hat, follow these steps:

- • Go to <https://app.tophat.com/register/student>
- • Click "Search by school" and input the name of our school (St. George's University)
- • **Search for our course with the following join code: [967863]**

2. If you need any assistance with your account, please refer to the following support articles:

- • Getting Started with Top Hat: <https://bit.ly/31TGMlw>
- • Top Hat's iOS App : <https://bit.ly/2DJvfxo>
- • Top Hat's Android App: <https://bit.ly/2E2WJ0s>
- • Buying Top Hat Products: <https://bit.ly/3anTWuY>
- • Managing your Account Settings: <https://bit.ly/2Cnp6pl>

3. If you encounter any technical issues, the Top Hat Support team is ready to help. Top Hat's full library of support articles can be accessed via their support site here: <https://success.tophat.com/s/>. You can also contact their Support Team directly with any of your questions or concerns.

Support

- Instructors requiring assistance with Top Hat can contact our Support Team directly by way of email (support@tophat.com), the in-app support button, the *Contact Support* button on this page, or by calling us at 1-888-663-5491.

III. Prerequisite and/or co-requisite courses

- Physiology
- Basic cellular processes
- All present term three courses

IV. Required resources

- Resources: Long class notes (where provided in resources or online Lesson pages and Forums) and power-point lectures
- Laboratory activities and explanations will be provided in Lesson Pages in Sakai

V. Recommended resources

- Laptop specs need functional microphone and camera
- Thrall MA, Weiser G, Allison RW and Campbell TW. (2012). Veterinary hematology and clinical Chemistry, 2nd Edition. Wiley-Blackwell.
- **Stockham SL and Scott MA (2008). Fundamentals of veterinary clinical pathology. 2nd Edition. Blackwell Publishing (**Dr. Wilkerson follows this textbook very closely**)
- *eclinpath website; online textbook. Website: <http://www.eclinpath.com/>
- Villers E, Ristic J and Blackwood L (2016). BSAVA manual of canine and feline clinical pathology. 3rd Edition. <https://mycampus.sgu.edu/group/mycoach-vet/integrating-example>

VI. Students with Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

- Reliable internet

VIII. Course rationale

Daily, veterinarians mostly in small and large animal practice, but in other practices (diagnostics, research, teaching, exotics) are required to select appropriate tests and reliable referral laboratories for common and rare diseases of their patients. They are expected to collect specimens that include (but not limited to), blood, urine and fine needle aspirates and to ensure that the samples are examined before they deteriorate, and thereby yielding

inaccurate or misleading results. Most importantly veterinarians are expected to interpret results correctly with due regard to biological and non-biological factors which can influence results. Generally, clinical pathology, sometimes known as laboratory medicine, allows the veterinarian to evaluate the status and function of internal organs by assessing laboratory analytes from whole blood, serum or plasma, urine, and fluids, and interpreting cytologic samples. Clinical pathology, the subspecialty that deals with the use of laboratory methods (clinical chemistry, hematology, urinalysis, cytology) for the diagnosis and treatment of disease, is integral to nearly all diagnostic investigations.

IX Course learning outcomes (See Appendix for more explanation)

Upon successful completion of this course, the student will be able to:

CLO1. Identify explain pre-analytical and analytical aspects of laboratory analytes

CLO2. Interpret laboratory data by being able to identify abnormalities using classifications and propose pathologic states, physiologic conditions, or specific diseases that might cause the abnormalities

CLO3. Describe the pathogenesis of the laboratory data abnormalities (the series of events that lead to the disease or pathologic state and abnormal laboratory data)

CLO4. Identify cells microscopically, digitally or abnormalities in cells that are of diagnostic/pathologic importance including microscopic features of cells in blood films, cavitory effusions, and aspirates from lesions in tissues (marrow, lymph nodes, & common inflammatory or neoplastic lesions).

X. Lesson learning outcomes

1. Introductory concepts

- a. Identify and differentiate between blood samples (whole blood, plasma, and serum) and blood tubes
- b. Identify differences in types of assays (i.e. qualitative or quantitative)
- a. Define reference intervals, reference range, and differentiate which analytes typically have Gaussian or non-Gaussian reference interval distributions
- b. Distinguish between preanalytical, analytical, and post analytical errors
- c. Define analytical precision, accuracy, analytical sensitivity, analytical specificity and detection limit

Introduction to CBC (Erythrogram, leukogram, thrombogram)

2. Erythrocytes (Review erythron pools, iron, and Classify Anemias)

- a. Define the function of the bone marrow and the tissue pools and contrast differences in the spleen of the cat compared to other species
- b. Identify tissue stores for iron
- c. Define reticulocytes and polychromatophils and explain their significance
- d. Be able to interpret erythrocyte data and provide a classification of the anemia using marrow responsiveness ([Retic]), morphologic criteria (Wintrobe Indices) or pathophysiologic criteria

3. Erythrogram (Wintrobe Indices)

- a. Recognize which analytes impedance analyzers measure (MCV, RBC, Hgb)
- b. Recognize which analytes are calculated HCT, MCHC, MCH and what they measure.
- c. Be able to calculate absolute reticulocyte concentration

4. Erythrocytes morphology of RBCs and hemoparasites

- a. Identify and define discocytes, rubricytosis, hypochromia, anisocytosis (macrocytes, microcytes, spherocytes) and inclusions other than parasites such as basophilic stippling & Howell jolly bodies
- b. Identify and define abnormal erythrocyte shapes: poikilocytes, schizocytes, spherocytes, ecchinocytes, elliptocytes, codocytes, acanthocytes, eccentrocytes, pyknotocytes, keratocytes
- c. Identify hemoparasites and species they target: *Anaplasma marginale*, *A. centralie*, *Cytauxzoon*, *Babesia*, *Mycoplasmas sp.*

5. Nonregenerative & regenerative anemias

- a. Identify the disorders associated with **nonregenerative anemias** and describe the pathogenesis of the anemia in inflammation, renal disease, erythroid hypoplasia and ineffective erythropoiesis
- b. Identify the disorders associated with **regenerative anemias** (blood loss and hemolytic) and describe the pathogenesis of anemia in blood loss disorders (acute vs chronic)
- a. Describe the pathogenesis of extravascular and intravascular hemolytic anemias and the morphologic findings you expect for each disorder and the morphologic findings expected with each.

6. Analytical Methods In-Office Hematology (Dr. George Daniel, Abaxis)

- a. Describe the basic principles of hematology analysis of red blood cell mass [RBC], [Hct], [Hgb], WBC, and Platelets using:
 - Impedance analyzers* (SGU uses these analyzers, Most important)
 - Dual impedance/optical or flow cytometry-based analyzers
 - Be able to interpret the platelet histogram for clumps

7. Hemolytic anemia disorders

- a. Identify the disorders associated with hemolytic anemia
- b. Explain the difference between Rouleaux and agglutination

- c. Identify the tests to determine if immune mediated hemolytic anemia is present
- d. Describe pathogenesis and expected erythrocyte morphology with:
 - **Immune mediated**
 - **Infectious agents**
 - **erythrocyte metabolic defects** due to oxidative injury results in
 - Heinz body anemia, hypophosphatemia, eccentrocytic anemia
 - **erythrocyte fragmentation**

8. Erythrocytes (Fe tests/Erythrocytosis)

- a. Interpret [Fe], TIBC, ferritin, and stainable Fe in the context of Fe deficiency, inflammation, and hemolysis.
- b. Be able to identify erythrocytosis in a CBC
- c. Describe causes and pathogenesis of erythrocytosis

9. Intro to Leukocytes (pools, migration, analytic principles, and neutrophil shifts)

- a. Describe the myeloid bone marrow pools and time spent in each neutrophil pool in health and during inflammation (monocyte pools are similar)
- b. Describe and contrast 3 lymphocyte migration paths
- c. Describe how [nRBC] > 10 interferes with [WBC]
- d. Describe how you determine differential white cell counts and concentrations
- e. Define left shifts of neutrophil concentrations (regenerative vs degenerative)
- f. Describe the reason for and significance of hypersegmented neutrophils

10. Leukocytosis (Neutrophilia, lymphocytosis, monocytosis, eosinophilia, and basophilia)

- a. Describe, define, and identify toxic neutrophils
- b. Describe expected patterns and pathogenesis for mature segmented and band neutrophils in acute inflammatory neutrophilia, chronic inflammatory neutrophilia, steroid or stress neutrophilia, and physiologic neutrophilia
- c. List diseases and conditions that cause lymphocytosis.
- d. Describe pathogenesis of chronic lymphocytosis, physiologic (shift) lymphocytosis, and lymphoproliferative lymphocytosis
- e. Describe reactive lymphocytes and significance
- f. List common causes of monocytosis, eosinophilia, and basophilia

11. Leukopenia (neutropenia and lymphopenia)

- a. List diseases and conditions that cause neutropenia.
- b. Describe pathogenesis of inflammatory (overwhelming) neutropenia
- c. Describe pathogenesis of granulocytic hypoplasia
- d. List diseases and conditions of lymphopenia.
- e. Describe pathogenesis of inflammatory lymphopenia, stress lymphopenia, and depletion lymphopenia

12. Leukocytes, abnormal morphology, organisms, and leukemia

- a. Describe and identify leukocyte organisms
- b. Describe and contrast myeloid, lymphoid, erythroid, and megakaryocytic leukemia
- c. Identify the CD molecule used to distinguish acute from chronic leukemia

- d. Identify CD molecules that distinguish myeloid from monocytic from lymphocytic leukemias
- e. Recognize the purpose of the PARR test

13. Thrombogram (analytical principles, thrombocytopenia and thrombocytosis)

- a. Review the physiology and functions of platelets
- b. Describe the analytical principles of determination of platelet concentration via impedance, optical, and manual methods (slide estimate)
- c. Describe the causes of platelet clumping and how it effects the accuracy of the platelet concentration
- d. Identify the canine breeds that have macroplatelets and pseudothrombocytopenia
- e. List the causes of thrombocytopenia
- f. Describe the pathogenesis of immune mediated and consumptive thrombocytopenia.
- g. Describe the pathogenesis of inflammatory, Fe deficiency, and exercise induced thrombocytosis

14. Proteins Introductory concepts

- a. Describe production sites for proteins
- b. Describe physiologic functions of albumin, globulins, fibrinogen
- c. Define Inflammatory protein groups (Acute phase proteins and Delayed response)
- d. Describe analytical principles of measuring TP (plasma and serum), albumin, globulin, and fibrinogen
 - o Observe video and describe how to perform a plasma total protein by refractometer
 - o Recognize interferences in refractometry and BCG
 - o Be able to interpret serum protein electrophoresis (SPE) patterns
 - o Differences between total solids concentration and total protein concentration

15. Proteins Hyper and hypoproteinemia

- a. Define and explain processes that cause dysproteinemias (hyperproteinemia and pathologic states)
- b. Interpret serum and plasma protein concentrations that indicate:
 - Protein loss e.g. PLD, PLN, PLE, decreased synthesis or protein catabolism
- c. Describe the pathogenesis of the serum/plasma protein concentrations in
 - PLD, PLN, PLE, decreased synthesis or protein catabolism (hepatic insufficiency, malabsorption, cachexia)
- d. Factitious hyperalbuminemia in a BCG assay (pseudo hyperalbuminemia)

16: Overview of hemostasis

- a. List the major facts about hemostasis
- b. List major differences between bleeding and thrombosis
- c. Describe the process that leads to the formation of a platelet plug
- d. Outline the main function of platelets in primary hemostasis
- e. Outline the antithrombotic and prothrombotic properties of endothelial cells
- f. Outline the main goal of secondary hemostasis
- g. Outline the main regulatory proteins of the secondary hemostasis
- h. Describe the main steps of the cell-based model of thrombin generation
- i. Compare and contrast cell-based model and coagulation cascade
- j. List the role (and factors) of the contact pathway

- k. Outline the main goal of tertiary hemostasis (fibrinolysis)
- l. Outline the main regulatory proteins of the tertiary hemostasis
- m. List the anticoagulant properties of thrombin

17: Disorders of hemostasis

- a. List hemorrhagic patterns associated with primary hemostatic disorders
- b. List hemorrhagic patterns associated with secondary hemostatic disorders
- c. Describe the main clinical pathology abnormalities of primary hemostatic disorders
- d. List key differential diagnoses for extrinsic pathway disorders
- e. List major differential diagnoses for intrinsic pathway disorders
- f. List some differential diagnoses for primary hemostatic disorders
- g. Outline the major causes of thrombosis
- h. Describe the relationship between hemostasis and inflammation

18: Laboratory evaluation of hemostasis disorders

- a. Interpret tests used to assess thrombi formation and/ or antithrombotic processes
- b. Interpret CBC and coagulation test results in clinically healthy animals
- c. Interpret qualitative test results used to assess primary hemostatic disorders
- d. Interpret quantitative test results used to assess primary hemostatic disorders
- e. Interpret tests used to assess intrinsic and common pathway disorders
- f. Interpret tests used to assess extrinsic and common pathway disorders

19: Principles of cytological examination

- a. Describe good aspiration, imprint and smearing techniques
- b. List the indications, advantages for cytology, and limitations
- c. Outline the “systematic approach” to the interpretation of cytologic specimens
- d. Describe characteristics of good cytologic preparations
- e. Describe characteristics of non-diagnostic preparations
- f. Recognize artifacts in cytologic preparations

20: Inflammatory vs neoplastic processes

- a. Apply “cytologic algorithm” criteria to cutaneous masses
- b. Describe the components of inflammatory processes
- c. Recognize common microorganisms in septic inflammatory lesions
- d. Memorize specific stains used to identify organisms
- e. Recognize degenerate neutrophils
- f. Recognize non-degenerate neutrophils
- g. Describe the biologic behavior of neoplastic lesions
- h. Outline features (criteria) for malignancy
- i. Recognize epithelial and mesenchymal cell neoplasms
- j. Recognize round cell neoplasms in images and cytology preparations

21: Benign neoplasms, round cell neoplasms and lymph nodes

- a. List examples of benign neoplasms
- b. List the various round cell neoplasms
- c. List the biologic behavior of round cell neoplasms

- d. Describe distinct features of round cell neoplasms
- e. List some special stains for round cell neoplasms
- f. List the common indications for lymph node aspiration
- g. Categorize lymphadenopathy based on cytology
- h. List advanced diagnostic techniques for lymphomas

22: Internal organs and respiratory tract cytology

- a. List the common indications for aspiration of internal organs and the risks
- b. Recognize the major features of neoplastic or inflammatory lesions
- c. Stage estrus in a dog based on cytologic findings
- d. Recognize the major cytologic findings in the prostatic diseases
- e. List common cytologic findings in major hepatopathies
- f. List the sampling techniques for the respiratory tract
- g. Recognize oro-pharyngeal contamination of samples
- h. Classify respiratory samples as neoplastic or inflammatory based on images

23: Pathogenesis of body cavitory effusions

- a. Outline the major mechanisms for analyzing fluids
- b. Discuss the pathogenesis of fluid accumulation within these spaces
- c. Differentiate between protein-poor and protein-rich transudates
- d. Describe the relationship between renal failure and fluid accumulation
- e. Differentiate between neoplastic and inflammatory effusions
- f. Recognize mesothelial cells
- g. List several causes and features of protein-poor transudates
- h. List several causes and features of protein-rich transudates

24: Specific body cavitory effusions

- a. List several causes and features of exudates
- b. List major causes and features of septic exudates
- c. Differentiate between neoplastic and inflammatory effusions
- d. Differentiate iatrogenic from pathologic hemorrhage
- e. Differentiate chyle from pseudo-chyle
- f. Classify equine peritonitis based on cytological findings
- g. Describe cytologic features of FIP
- h. Describe cytologic features in uroperitoneum
- i. Describe cytologic features in bile peritonitis

25: Synovial fluid cytology and cerebrospinal fluid

- a. Describe the collection and handling of synovial fluid
- b. Describe the major cells in normal joint fluid
- c. Describe the major cells in acute and chronic arthritis
- d. Differentiate thixotropism from mucin clot)
- e. Describe techniques unique to joint fluid analysis
- f. Describe the collection and handling of CSF samples
- g. Explain the basis for urgent analysis of CSF
- h. List the key elements and unique tests of CSF analysis

- i. Describe the common findings in “normal” CSF
- j. Explain the underlying causes for abnormal findings in CSF

26: Turning point Q&A, hemostasis and cytology

27. Lab evaluation of the Kidney : Concentrating ability of the Nephron (Specific Gravity & Osmolality)

- a. Describe or explain the physiologic processes of nephron regarding: GFR, resorption/excretion of water and solutes, osmolality of nephron segments
- b. Describe analytical principles of Urine Specific Gravity & Osmolality and their relationship
- c. Describe mechanisms of polyuria in various disorders (i. e Chronic renal failure, diabetes mellitus, diabetes insipidus, hypercalcemia, hyperadrenocorticism)

28. Lab Eval Kidney 2 Urinary

- a. Define azotemia and uremia
- b. Define and recognize chronic renal insufficiency/failure based on lab data
- c. Define and recognize acute renal failure based on lab data
- d. Interpret UN & CREAT concentrations in serum with/without USG_{ref} and urinalysis;
 - o Describe mechanisms of pre-renal, renal, and post renal azotemia
 - o List tests that evaluate renal disease

29. Interpret Urinalysis data regarding:

- a. physical characteristics of urine, qualitative or semi-quantitative chemical characteristics of urine (pH, protein, glucose, ketone, bilirubin, urobilinogen, heme)
- b. $USG_{ref} < 1.007$, $1.008 - 1.013$, > 1.013 in dehydrated states,
- c. $USG_{ref} > 1.013$ when glucosuria or proteinuria is present
- d. Interpret significance in urine sediment findings (i.e. cells, casts, crystals, organisms)
- e. Interpret Protein/Creatinine Ratio in PLN and hematuria (voided sample)
- f. Differentiate between pre – renal and post renal proteinuria
- g. Urinalysis – Videos for urine chemistry / sediment
<https://www.youtube.com/watch?v=jhmzkUcAbIM>
 (8mins, 44 secs)

Idexx – the urine sediment examination

<https://www.youtube.com/watch?v=dswfnZXb3nM>
 (10mins, 43 secs)

30. Interpret Urinalysis data regarding:

Sediments including cells, crystals, bacteria, casts

31. Electrolytes, total body sodium, Chloride and bicarbonate (HCO_3^- or TCO_2) body water, osmolality

- a. Recognize, list, and explain causes of hypernatremia, hyponatremia, and normonatremia.
- b. Interpret Na and CL- data from a clinical scenario, recognize abnormalities and provide possible pathogenesis (mechanisms).
- c. Calculate and interpret osmolality

- d. Interpret serum chemistry data (especially electrolyte and total solute concentrations) that indicate or suggest:
- Different forms of dehydration (i.e., hypertonic, isotonic, & hypotonic)
 - Hypoadrenocorticism
 - Metabolic acidoses and alkaloses
 - Uroperitoneum
 - Oliguric or anuric renal failure
 - Anorexia
 - Ketoacidotic diabetes mellitus
 - Equine sweating
 - Upper gastro-intestinal obstruction in dogs, cats, or ruminants
 - Lactic acidosis
 - Ethylene glycol toxicosis
- e. Recognize, list, and explain causes of increased or decreased bicarbonate. Be able to interpret HCO_3^- or TCO_2^- data from a clinical scenario, recognize abnormalities and provide possible pathogenesis (mechanisms).

32. Electrolytes K & Anion gap

- a. Recognize, list, and explain causes of hyperkalemia and hypokalemia.
- b. Be able to interpret K data from a clinical scenario, recognize abnormalities and provide possible pathogenesis (mechanisms).
- c. Recognize, list, and explain causes of increased or decreased anion gap. Be able to interpret anion gap (AG) data from a clinical scenario and determine which anions are most likely (i.e. inorganic vs organic) and the conditions responsible.
- d. Calculate the AG

33, 34. Blood gases / Acid Base

- a. Define Acidemia, Alkalemia, Acidosis, Alkalosis, Hypercapnia, Hypocapnia, Hypoxemia, Hypoxia
- b. Interpret blood gas data including:
- Increases and decreases in plasma pH values
 - Increases and decreases in plasma Paco_2
 - Increases and decreases in plasma Pao_2
 - Increases and decreases in plasma HCO_3^- concentrations
 - Increases and decreases in plasma total CO_2 concentrations
- c. Interpret blood gas data that indicate or suggest:
- Metabolic acidosis,
 - Metabolic acidosis with compensatory respiratory alkalosis
 - Metabolic alkalosis
 - Metabolic alkalosis with compensatory respiratory acidosis
 - Respiratory acidosis
 - Respiratory acidosis with compensatory metabolic alkalosis
 - Respiratory alkalosis
 - Respiratory alkalosis with compensatory metabolic acidosis
 - Hypoxemia due to pulmonary disease
 - Hypoxemia due to impaired respiratory exchange of gases
- d. Explain, list, or recognize the reasons for:
- Decreased serum HCO_3^- concentration due to poor sample handling

- Decreased PaCO₂ due to sample being exposed to air or when collected with excess heparin
- Increased PaO₂ due to sample being exposed to air or when collected with excess heparin
- Decreased PaO₂ and decreased pH when there is delayed analysis of a heparinized blood sample
- Increased PaCO₂ due to respiratory disease or disorders that restrict respiration or as a compensation to alkalemia
- Decreased PaCO₂ as a response to hypoxemia or acidemia
- Acidemia due to disorders that cause lactic acidosis, ketoacidosis, renal failure, or extensive pulmonary disease
- Alkalemia due to disorders that cause gastric or abomasal loss of HCl, bovine renal failure, or hypoxemia
- Decreased PaO₂ due to pulmonary disease
- Increased PaO₂ during gas anesthesia
- PaO₂ is within reference intervals when anemia is causing hypoxia
- Tissue hypoxia when there is not hypoxemia

35, 36. Calcium, magnesium, Vit D, PTH, PTHrp,

- Recognize typical total calcium and phosphorus concentrations, and their regulatory hormone [iPTH, PTHrp, vit. D] data that suggest or indicate:
 - Primary hyper & hypo -parathyroidism
 - Humoral hypercalcemia of malignancy
 - Secondary hyperparathyroidism
 - Hypervitaminosis D
 - Renal insufficiency/failure in dogs, cats, cattle, and horses
 - Milk fever
- Interpret Ca, fCa Vit D3, and their regulatory hormone data including:
 - Hypercalcemia and hypocalcemia
- Explain the difference in the regulation of [fCa⁺⁺] in horses compared to other species.
- Explain, list, or recognize the physiologic and pathologic processes or mechanisms that cause:
 - Hypercalcemia in hyperparathyroidism, malignancies, cholecalciferol & other toxicosis, equine renal failure, canine hypoadrenocorticism, and canine renal failure, hyperproteinemia
 - Hypocalcemia in hypoparathyroidism, chronic renal disease (dogs, cats, and cattle), post parturient state or during early lactation, toxic causes
 - Alterations in free Ca²⁺ concentrations due to acidemia or alkalemia
 - Increased iPTH concentrations due to parathyroid neoplasm, chronic renal disease, or a diet with a low Ca²⁺:PO₄ ratio, and Increased PTHrp concentrations due to malignancies
 - Explain, list, or recognize the reasons for hypocalcemia due to hypoproteinemia and/or hypoalbuminemia
 - Pseudo hypocalcemia due to collection of blood into an EDTA anticoagulant
 - Decreased fCa²⁺ concentration when blood sample collected with excess heparin
 - Altered fCa²⁺ concentrations when blood or serum sample is not handled anaerobically

37. Phosphorus & Magnesium

- a. Interpret phosphorus, magnesium, and their regulatory hormone data including:
 - Hyperphosphatemia and hypophosphatemia
 - Hypermagnesemia and hypomagnesemia
- b. Hyperphosphatemia due to dehydration, renal failure, uroperitoneum, urinary tract obstruction, hypoparathyroidism, and myopathies
- c. Hyperphosphatemia due to in vitro hemolysis or delayed blood sample handling
- d. Hypophosphatemia due to anorexia, hyperparathyroidism, hyperinsulinism, and milk fever
- e. Explain, list, or recognize the reasons for hypomagnesemia due to hypoproteinemia and/or hypoalbuminemia
- f. Hypomagnesemia due to renal failure
- g. Interpret serum magnesium for
 - Decreased GFR
 - Hemolysis
 - Hypoproteinemia
 - Osmotic diuresis
 - Ketonuria
 - Bovine grass tetany

38. Enzymology including Muscle, Liver, pancreas

- a. Define and identify leakage enzymes vs. inducible enzymes
- b. Identify different liver enzymes used for evaluating liver disease in small and large animals.
- c. Different enzyme data when assays are performed at different temperatures or with different substrates
 - a. Interpret serum enzyme data including increased activities of ALP, ALT, AMS, AST, CK, GGT, GMD, ID, LD, and LPS

39. Muscle

- a. Explain, list, or recognize the reasons for:
 - Alterations in AST, LD, or CK activities due to in vitro hemolysis or delayed blood sample handling
 - Increased activities of AST, LD, CK, or ALT due to muscular disorders
- b. Interpret serum enzyme data that indicate or suggest:
 - Muscle damage

40. Liver Enzymology

- a. Explain, list, or recognize the physiologic and pathologic processes or mechanisms that cause the following:
 - Increased activities of ALP, ALT, AST, GGT, GMD, ID, and LD due to hepatic, biliary, or hepatobiliary disorders or conditions
 - Increased activities of ALP due to glucocorticoids in dogs and hyperthyroidism in cats
- c. Interpret serum enzyme data that indicate or suggest:
 - Hepatocellular damage
 - Cholestasis

- Hepatic lipidosis
- Muscle damage
- Changes associated with glucocorticoids
- Decreased glomerular filtration rate

41. Liver function

- Explain, list, or recognize the physiologic and pathologic processes or mechanisms that cause the following:
 - Hypoproteinemia due to hepatic disorders
 - Ammonium biurate crystalluria due to hepatic disorders
 - Hyposthenuria due to hepatic disorders
 - Hyperbilirubinemia due to in vivo hemolysis, anorexia (horses, cattle), and cholestasis (obstructive or functional)
 - Bilirubinuria due to in vivo hemolysis or cholestasis
 - Increased bilirubin, unconjugated bilirubin, conjugated bilirubin, or δ -bilirubin concentration in pathologic or physiologic states
 - Hypercholelemia (increased bile acid concentration) due to portosystemic shunts, diffuse liver disease, and cholestasis (obstructive or functional)
 - Hyperammonemia or increased bile acids due to portosystemic shunts, diffuse liver disease, and, in horses, intestinal disease
- Interpret CBC, serum chemistry, or urinalysis data that suggest or indicate
 - Hepatic dysfunction including evidence of:
 - Raised bile acids
 - Hepatic lipidosis in cats
 - Decreased number of functional hepatocytes
 - Portosystemic shunt
 - Decreased hepatocyte uptake of bilirubin
 - Decreased biliary excretion of bilirubin or bile acids
 - Extravascular hemolysis
 - Intestinal disease in horses
 - Explain, list, or recognize the reasons for:
 - Falsely decreased serum bilirubin concentration after sample is exposed to daylight
 - False elevations or decreases in bile acid concentrations due to lipemia or hemolyzed blood samples respectively

42. Lipids

- Explain, list, or recognize the physiologic or pathologic mechanisms and interpret increases and decreases of cholesterol and / or triglycerides that are associated with the following:
 - hypercholesterolemia
 - protein-losing nephropathy, hypothyroidism, cholestasis, diabetes mellitus, metabolism disorders in specific breeds, liver disease (cholestasis) and eating a meal
 - Hypertriglyceridemia – post prandial, equine & camelid hyperlipemias, acute pancreatitis, metabolism disorders in specific breeds, and diabetic disorders
 - Hypocholesterolemia due to hepatic insufficiency.
 - Explain the mechanism of production of ketones and NEFAs in ruminants during negative energy balance with hepatic lipidosis.

43. Pancreas (exocrine, inflammatory) pancreatitis

- a. Explain, list, or recognize the physiologic or pathologic processes or mechanisms that cause the following:
 - Hyperamylasemia, hyperlipasemia, increased PLI concentration in acute pancreatitis
 - Increased TLI concentration, amylase and lipase in azotemic dogs
- b. Interpret
 - increased serum AMS & LPS activities
 - increased PLI concentration
 - Increased activities of AMS or LPS due to pancreatic disease, dehydration, or renal disease
 - Increases in PLI concentration due to pancreatic disease

44. Pancreas (exocrine, non-inflammatory) - Intestinal disorders

- a. Interpret laboratory test results related to exocrine pancreas and intestine that suggest or indicate:
 - Exocrine pancreatic insufficiency / Pancreatic acinar cell damage
 - Azotemic disorders (decr GFR)
 - Diffuse or segmental disease of intestinal mucosa
 - Protein-losing enteropathy
- b. Explain, list, or recognize the reasons for:
 - Increased TLI concentrations in a nonfasted dog
 - False feline TLI (or PLI) data if a canine assay is used
 - False folate concentration if there is in vitro hemolysis
 - False cobalamin concentration if the sample is exposed to daylight
 - Decreased TLI concentration in chronic pancreatitis or pancreatic acinar cell atrophy (exocrine pancreatic insufficiency)
 - Decreased cobalamin or folate concentrations due to pancreatic or intestinal disorders
 - Increased fecal α 1-PI concentration in dogs and cats with intestinal diseases
 - decreased serum TLI concentration
 - decreased cobalamin concentration
 - decreased and increased folate concentration
 - Flat glucose absorption curves in horses with intestinal diseases
 - Microbial dysbiosis

45. Endocrine pancreas - hyperglycemia

- a. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
 - Hyperglycemia due to excitement, eating a meal, stress, β -cell destruction, feline pancreatic insular amyloidosis, acute pancreatitis, hyperadrenocorticism, equine hyperpituitarism, pheochromocytoma, steroid therapy, intravenous glucose therapy, xylazine & detomidine therapy, and insulin overdose
 - Increased fructosamine concentration in persistent hyperglycemic states
 - Decreased fructosamine concentration in persistent hypoglycemic states, hypoproteinemic states, or hyperthyroidism
 - Hypoinsulinemia due to β -cell damage or hypoglycemic disorders

46. Endocrine pancreas – hypoglycemia

- a. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or

- mechanisms that cause the following:
- Hypoglycemia due to functional β -cell neoplasm, hypoadrenocorticism, hepatic insufficiency, xylitol toxicosis, spontaneous bovine ketosis, and insulin overdose, hypoglycemia in sepsis, young animals, small breeds
 - Hyperinsulinemia (inappropriate) relative to glucose in functional β -cell neoplasm and insulin in hypoglycemic disorders
- b. Interpret serum (blood, plasma) glucose, ketoamine, and insulin concentrations including:
- Hypoglycemia
 - decreased fructosamine concentration
 - Hyperinsulinemia
- c. Interpret serum (blood, plasma) glucose, ketoamine, and insulin concentrations that indicate or suggest:
- Recent ingestion of a meal
 - Diabetes mellitus due to a variety of disorders
 - Functional β -cell neoplasm
 - Hepatic insufficiency/failure
- d. Explain, list, or recognize the reasons for:
- Pseudo hypoglycemia due to delayed removal of serum from clotted blood, marked leukocytosis, or marked erythrocytosis
 - Artfactual hypoglycemia due to collection of blood into NaF-oxalate tubes

47. Adrenal hormones - Hyperadrenocorticism

- a. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
- Typical hematology and Chemistry changes seen in hyperadrenocorticism
 - The common presentation in terms of organ involved – ie primary, secondary and tertiary organ
 - Normocortisolemia in a dog with hyperadrenocorticism
 - Increased urinary cortisol to creatinine ratio due to hyperadrenocorticism or nonadrenal disease
 - Increased ACTH concentration in hyperadrenocorticism
 - Decreased ACTH concentration in hyperadrenocorticism
- b. Interpret serum or plasma cortisol and ACTH concentrations and urine cortisol:creatinine ratios that indicate or suggest:
- Hyperadrenocorticism due to pituitary neoplasm
 - Hyperadrenocorticism due to adrenal neoplasm
 - Iatrogenic hyperadrenocorticism
 - Primary hypoadrenocorticism
 - Iatrogenic hypoadrenocorticism
 - Nonadrenal disease that is causing hypercortisolemia or secondary hyperadrenocorticism
- b. Interpret serum or plasma cortisol in the following
- Inadequate cortisol suppression in LDDST in PDH, FAN, or nonadrenal disease
 - Inadequate cortisol suppression in HDDST in PDH, FAN, or nonadrenal disease
 - Escape from suppression in LDDST or HDDST
 - Adequate cortisol suppression in PDH or nonadrenal disease

- Exaggerated cortisol response to ACTH in PDH, FAN, or nonadrenal disease
- Poor cortisol response to ACTH in FAN
- Normal cortisol response to ACTH in PDH, FAN, or nonadrenal disease
- Explain, list, or recognize the reasons for:
 - Falsely low ACTH concentrations if sample is not handled properly
- Interpret serum or plasma cortisol and ACTH concentrations and urine cortisol:creatinine ratios including:
 - Hypercortisolemia
- c. Differentiate between tests and be able to apply to disease syndromes associated with hyperadrenocorticism
- d. Describe the sensitivity and specificity of tests used for diagnosis of hyperadrenocorticism

48. Adrenal hormones - Hypoadrenocorticism (Addison's disease)

- a. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
 - Typical hematology and Chemistry changes seen in hypoadrenocorticism
 - The common presentation in terms of organ involved – ie primary, secondary and tertiary organ
 - Poor cortisol response to ACTH in hypoadrenocorticism
 - Increased ACTH concentration in hypoadrenocorticism
- b. Differentiate between tests and be able to apply to disease syndromes associated with hypoadrenocorticism
- c. Describe the sensitivity and specificity of tests used for diagnosis of hypoadrenocorticism

49. Endocrine Hypothyroidism (dogs)

- a. Describe the feedback mechanism in control of thyroid hormones and list which hormones are the most active and which ones are involved in the feedback mechanism
- b. Describe why freeT4 by equilibrium dialysis is the gold standard test for assessing the thyroid.
- c. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
- d. The most common organ involved – i. e. primary, secondary or tertiary organ
- e. Important changes in hematology and chemistry associated with hypothyroidism
- f. Understand euthyroid sick syndrome and list the factors that cause this
- g. Hypothyroxemia or decreased free [T4] due to lymphocytic thyroiditis (or other causes of thyroid gland damage), nonthyroidal disease, and some drug treatments
- h. Increased TSH concentrations due to lymphocytic thyroiditis (or other causes of thyroid gland damage)
- i. Increased anti T4AA concentration due to lymphocytic thyroiditis
- j. List the main breeds of dogs which have lower RIs for T4
- k. Explain, list, or recognize the reasons for:
 - Positive interference by thyroxine autoantibodies on measurement of thyroxine concentration
- l. Interpret serum thyroxine, free thyroxine (by equilibrium dialysis), TSH, and TgAA concentrations including:
 - Hypothyroxemia

- Hypothyroxemia with concurrent free thyroxine concentrations
- Increased TSH concentration
- Increased TgAA concentration

50. Endocrine Hyperthyroidism (cats)

- a. Describe the feedback mechanism in control of thyroid hormones and list which hormones are the most active and which ones are involved in the feedback mechanism
- b. Describe why freeT4 by equilibrium dialysis is the gold standard test for assessing the thyroid.
- c. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
- d. The most common organ involved – i. e. primary, secondary or tertiary organ
- e. Important changes in hematology and chemistry associated with hyperthyroidism
- f. Hyperthyroxemia due to thyroid neoplasm or administration of TSH
- g. Absence of hyperthyroxemia in feline hyperthyroidism due to thyroid adenoma
- h. Failure to suppress [T4] with T3 treatments in a cat
- i. Interpret serum thyroxine, free thyroxine (by equilibrium dialysis), (TSH) concentrations including:
 - Hyperthyroxemia
 - Hyperthyroxemia with concurrent free thyroxine concentrations
 - Decreased TSH concentration

ALL LABORATORIES ARE MANDATORY UNLESS YOU HAVE AN APPROVED ABSENCE

Learning outcomes for the laboratory sessions

Lab 1. See Online Videos (Sakai). In lab activities will be recorded live (Micro lab)

- Observe, perform, describe how to handle EDTA blood samples appropriately
- Observe, perform, describe, how to make an adequate blood film
- Observe, perform, describe how to perform a spun HCT (PCV)
- Be able to determine the HCT of microhematocrit tube using microhematocrit reader (exercise in Lab 1)
- Observe and be able to describe the basic principles of the Abaxis HM5 hematology analyzer for RBC, HCT, Hgb, and WBC concentration determinations via PowerPoint and online video

Lab 2. Blood film evaluation of healthy animals (dog, cat, and horse) (in lab recorded live – Micro lab). Leica online Slide hosting site and prior PowerPoint lectures
Slide hosting site and log in information

<https://SlideHosting.com>

Username = SGUGUEST, password Leic@2020

Select Lessons, choose Lab 1

- Identify and describe the morphologies of RBCs (crenation/echinocytes from healthy animals)
- Identify and describe the morphologies of platelets from healthy animals
- Identify and describe the morphologies of WBCs from healthy animals
- Be able to perform or describe how to do a differential WBC count and an absolute WBC count
- Perform platelet estimates via blood film review
- Compare obtained results with data from HM5 (dog and cat samples)

Lab 3. Interpretation of Anemic cases (3 dog films, information posted in Sakai Lessons and on Leica online slide hosting site) –See log in above, Select Lessons. In lab discussion will be recorded live – Micro lab.

- Identify morphologic abnormalities of RBC (anisocytosis, macrocytes, microcytes, hypochromasia, polychromasia, spherocytes, and platelets (clumping) and describe clinical significance
- Recognize a left shift and be able to identify leukocyte patterns
- Practice interpretation of the hematology data
- Be able to classify anemia, leukocyte patterns, and thrombogram

Lab 4. Instructor will moderate student discussions of select cases in this lab, activate participation by TEAMS will be encouraged. Live discussion will be recorded. **Allen Pensick Hall**

Lab 5 Leica online slide hosting site (See Aperio log in above, Select Lessons then Cytology Slides Lab 5 – Micro Lab)

- Recognize bacteria in a digital image
- Recognize degenerate and non-degenerate neutrophils in digital images
- Identify “criteria for malignancy” using digital images
- Recognize epithelial and mesenchymal neoplasms using digital images
- Describe characteristics of discrete round cells neoplasms using digital images

Lab 6 (Charter Hall lab)

- Cytology case discussions including on cytology using digital images that emphasize cytological findings suggestive of malignant and benign neoplasms, acute, septic, or chronic inflammation

Lab 7. UA (Micro lab and Zoom)

Online activities (19 mins)

- Distinguish artifacts from significant findings
- Interpret urinalysis, CBC and serum chemistry results
- Urinalysis – chemistry & Sediment “how to” videos
<https://www.youtube.com/watch?v=jhmzkUcAbIM>
(8mins, 44 secs)

Idexx – the urine sediment examination

<https://www.youtube.com/watch?v=dswfnZXb3nM>
(10mins, 43 secs)

Lab 8, 9 (Zoom online and in KTB)

- Case discussions including interpretation abnormal laboratory findings and describe
- pathogenesis of the laboratory abnormalities (Chemistry and Endocrine analytes)

Lab 10 (Zoom online and in Charter Hall)

Case Discussions 3-4 pm

XI. Course Schedule

Week Date	Lecture topic and Lab topics, Quizzes, Exams	Instructor	Assessment
W1. Aug. 16 Aug. 17 Aug. 18 Aug. 20	1. Introductory concepts 2. Erythrogram & Classify anemias 3. Wintrobe indices & RBC morphology 4. RBC Morphology & hemoparasites	Wilkerson Wilkerson Wilkerson Wilkerson	
W2. Aug. 23 Aug. 24 Aug. 25 Aug 26 Aug 27	5. Non-Regenerative & Regenerative anemias 6. Principles of hematology analyzer reports Lab 1: Spun Hematocrits, plasma proteins, blood film preparation in lab (online videos too) – Micro lab in Marion Hall 7. Hemolytic Anemia Disorders 8. Fe testing/Erythrocytosis	Wilkerson George Daniels Wilkerson, Daniels Wilkerson Wilkerson	
W3. Aug 30 Aug 31 Sept 1 Sept 2 Sept 3	9. Leukogram concepts (Define left shifts) 10. Leukocytosis Lab 2: Examination of Healthy Species blood films (In lab and Aperio digital microscopy) Micro lab 11. Leukopenia 12. Leukocyte morphology and parasites	Wilkerson Wilkerson Wilkerson Wilkerson Wilkerson	
W4. Sept 6 Sept 7 Sept 8 Sept 9 Sept 10	13. Thrombogram (Thrombocytopenia, Thrombocytosis) 14. Introductory Concepts of Proteins Lab 3: Interpretation of Anemic Blood films Micro lab 15. Hyperproteinemia, Hypoproteinemia 16. Overview of hemostasis	Wilkerson Wilkerson Wilkerson Wilkerson Kabuusu	
W5. Sept 13 Sept 14 Sept 15 Sept 16 Sept 17	17. Disorders of hemostasis 18. Laboratory evaluation of hemostasis Lab 4: Case Discussions Hematology/hemostasis (Allen Pensick Hall) 19. Principles of cytology 20. Inflammatory and neoplastic processes	Kabuusu Kabuusu Wilkerson/Kabuusu Kabuusu Kabuusu	
W6. Sept 20 Sept 21 Sept 22 Sept 23 Sept 24	CLIN PATH QUIZ 1 21. Benign neoplasms/ round cell neoplasms & LNs 22. Internal organs and respiratory cytology 23. Pathogenesis of cavitory effusions 24. Specific cavitory effusions 2	Wilkerson/Kabuusu Kabuusu Kabuusu Kabuusu Kabuusu	20 points
W7. Sept 27 Sept 28 Sept 29 Sept 30 Sept 30 Oct 1	25. Synovial fluids and CSF cytology 26. Turningpoint session (hemostasis and cytology) Lab 5. Cytology Digital Microscopy (Micro Lab) Lab 6: Cytology Case discussions (Charter Hall Lab) 27. Lab Eval Kidney 28. Lab Eval Kidney 2	Kabuusu Kabuusu Kabuusu Seddon Seddon	
W8.	MID TERM WEEK		
W9. Oct 11 Oct 12 Oct 13 Oct 14 Oct 15	Clin Path Mid TERM 29. Urinalysis chem Lab 7: Renal/UA (Micro lab/Zoom) 30. Urinalysis sediment 31. Electrolytes Na, Cl, HCO ₃ , H ₂ O, osmolality	Kabuusu Seddon All Instructors Seddon Seddon	40 points

W10.	Oct 18 Oct 19 Oct 21 Oct 22	32. Electrolytes K, Anion Gap 33. Blood gases & acid base 34. Blood gases & acid base 35. Ca, Vit D, PTH, PTHrp	Seddon Seddon Seddon Seddon	
W11.	Oct 25 Oct 26 Oct 27 Oct 28 Oct 29	Thanksgiving Holiday 36. Ca, Vit D, PTH, PTHrp Lab 8. Electrolytes Cases Ca, Phos, Mg (KB Taylor Hall Blue /Zoom online) 37. Magnesium & Phos CLIN PATH Quiz 2	Seddon Seddon Seddon Seddon	20 points
W12.	Nov 1 Nov 2 Nov 3 Nov 4 Nov 5	38. Enzymology 39. Muscle 40. Liver 41. Liver function 42. Lipids	Seddon Seddon Seddon Seddon Seddon	
W13.	Nov 8 Nov 10 Nov 11 Nov 12	43. Exocrine pancreas - pancreatitis Lab 9. Liver, muscle, lipids/exocrine pancreas cases (KB Taylor Hall Blue/Zoom online) 44. Exocrine pancreas GI disorders 45. Endocrine panc Glucose - hyperglycemia	Seddon Seddon Seddon Seddon	
W14.	Nov 15 Nov 16 Nov 17 Nov 18 Nov 19	46. Endocrine panc Glucose - hypoglycemia 47. Adrenal hormones- HyperA 48. Adrenal hormones- HypoA 49. Thyroid hormones - Hypothyroidism 50. Thyroid hormones - Hyperthyroidism	Seddon Seddon Seddon Seddon Seddon	
W15.	Nov 24	Lab 10: chemistry case discussions (Charter Hall Lab/Zoom online)	Seddon	
W17.		December 6: Final Exam		Final Exam 40 points
		Total Points		120 points

Note: *There may be some points for online Top Hat questions, however, these points will not go into the Sakai gradebook and are for instructor testing only as the program this year is a pilot. The questions in Top Hat and in Sakai are for student practice. Students are encouraged to do them as they should prepare them for the quizzes and exams.*

XI. Grading and assessment policy, and grading rubrics

Final grading will be based on cumulative performance in all examinations.

Letter	Grade Points	Grade Points Meaning
A 89.5-100	4.00	Excellent Pass
B+ 84.5-89.49	3.50	Good Pass
B 79.5-84.49	3.00	Good Pass
C+ 74.5-79.49	2.50	Acceptable Pass
C 69.5-74.49	2.00	Acceptable Pass
D + 64.5-69.49	1.50	Conditional Pass
D 59.5-64.49	1.00	Conditional Pass
F 1-59.49	0.00	Fail
I 0-0.99		Incomplete

A grade reduction of 5% will be applied to that exam if a student does not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

*This syllabus is subject to change

XII. Recommend study strategies

Relative to other term three courses, clinical pathology is a difficult course. It depends mostly on a student's ability to understand and apply learned material. Only a small part of it depends on strict memorization of material.

Students are encouraged to determine their individual learning styles (visual, tactile or auditory) and apply these appropriately. Briefly; a visual learner likes to see the information they are trying to understand, to take notes or makes chats when reading; a tactile learner likes a hands-on approach (lab sessions – this terms labs will be converted to video and digital

technology to view glass slides) while an auditory learner prefers to listen or talk to others (study groups).

Students are also encouraged to study the material sooner rather than later and to set studying schedules and stick to them.

We also recommend practicing applying the learned concepts to the cases that are posted to Sakai for the laboratories and presentations.

XIII. Instructor's expectations of the student

The student is expected to review the online lectures prior to the zoom sessions.

XIV. Professionalism statement

Students are expected to conduct them themselves professionally during forums, labs, zoom sessions, and during exams. If in doubt, please refer to the student and lab manuals, as well as to the syllabus.

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines.

XV. Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Laboratory session attendance is mandatory: any student failing to attend without an approved absence from the Dean's Office will receive 0.5 points deduction.

XVI. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (rkabuusu@sgu.edu, mwilkers@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

IX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**) *may be updated during the semester
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page

[The general Reminders/Guidelines](#)

XVII. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices

Detail description of CLOs

CLO1. Explain *pre-analytical and Analytical Aspects of laboratory analytes*. A student should be able to explain when the reported laboratory data represent poor sample handling, poor sample quality, unique sample properties, or the limitations of an analytical procedure. A student should also be able to describe the basis of the analytical principle of the assay for each laboratory analyte.

CLO2. *Be able to interpret Laboratory Data*, there are two recurring tasks for the cases.

- State appropriate terms to describe abnormalities and use classifications if appropriate (e.g., acute inflammatory leukogram, renal azotemia, hypernatremia or hypoglycemia)
- Propose appropriate pathologic states, physiologic conditions, pathologic syndromes, or specific diseases that might cause the defined abnormalities. The specificity of the proposed disorders should be appropriate for the available information (or the conclusion that can be justified); e.g., the leukogram justifies a conclusion that the animal has an inflammatory disease (but do not know where, why, or the cause), or the data can justify a conclusion of acute bacterial cystitis.

CLO3. *Describe pathogenesis of laboratory data* found in common clinical disorders and conditions (***most objectives of this course fall into this area***).

- Be able to identify or distinguish how a variety of clinical disorders and conditions can produce the same laboratory test result.
- Describe the *hows* and *whys* of pathogenic states so that laboratory data can provide clues to the variety of clinical disorders and conditions that occur in animals.

Pathogenesis (*patho-* disease; *-genesis* origin, creation, production) is the sequence of events that occur during the development of or the response to a disease. In the context of clinical pathology, *pathogenesis* of laboratory data starts with the initial pathologic event that causes changes in tissues, cells, or body fluids which eventually produce abnormal laboratory data.

The different pathogenesis levels can be divided as follows.

- Organ: changes in an organ that creates the abnormal laboratory data – rarely an adequate explanation in this course
- **Cellular:** what happens to cells; or how do cells create the abnormality – **common level for abnormal cell concentrations or the microscopic features of cells**
- **Physiologic:** what are the cellular or physiologic responses to hormones, to tissue damage, or to cellular or tissue dysfunction – **common level for clinical chemistry abnormalities**
- Biochemical: what happens in biochemical pathways – occasional level for either clinical chemistry abnormalities or microscopic features of cells
- Molecular: what happens with a molecule's interaction with other molecules – this level of understanding is usually not needed for clinical disorders or conditions

Other major pathogenesis concepts should be remembered when describing the processes that result in abnormal laboratory data.

- An abnormal analyte concentration in a body fluid typically represents a disruption of equilibrium. Blood concentrations in health reflect a balance between an analyte entering the blood and the analyte leaving the blood. An abnormal concentration indicates an imbalance in those processes.
- An abnormal analyte concentration in a body fluid was caused by either an initial event (e.g., pathologic, physiologic, or pharmacologic) or a physiologic response to the initial change (e.g., destruction of pancreatic β -cells leads to decreased insulin release which lead to decreased glucose utilization by cells which leads to hyperglycemia). Therefore, to understand pathogeneses, we need to know what the initial event is.
- When considering potential reasons for abnormal blood analyte concentrations, one should think of basic processes that might cause such concentrations.
 - If there is an increased analyte concentration, is it due to increased rate of entering blood (if so, how?) or a decreased rate of leaving blood (if so, how?).
 - If there is a decreased analyte concentration, is it due to decreased rate of entering blood (if so, how?), an increased rate of leaving blood (if so, how?), or destruction within the blood (if so, how?).

CLO4. Be able to identify normal and abnormal cells. A student should be able to **identify cells or abnormalities in cells** that are of diagnostic importance using a microscope. This would include microscopic features of cells in blood films, cavitory effusions, and aspirates from lesions in tissues (marrow, lymph nodes, & common inflammatory or neoplastic lesions).



ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT OF PATHOBIOLOGY
VETERINARY PUBLIC HEALTH: A GLOBAL PERSPECTIVE SYLLABUS 1 credit
PTHB 537 (Term 5 and 6)
Autumn 2021

I. Course Faculty and Staff Information

Course Director: Dr. Rohini Roopnarine, DVM M.Phil EdD (Higher Ed.), MRCVS
Professor, Veterinary Public Health,
Office Location: Trailer Building
Tel: 444-4175 ext 3678
Email Address: rroopnarine@sgu.edu
Office Hours: By appointment

Guest Faculty: Dr. Kurt Arden, BVM BVS, MVetSci, PGCAP, BVMedSci(hons),
CertHealthSci, MRCVS FHEA
Lecturer in Veterinary Public Health and Dairy Cattle Veterinarian,
Massey University, NZ.

II. Course location

Online location- Sakai tools being used: Announcement, Resources, Syllabus, Lessons, Forums, Tests and Quizzes, Panopto, Zoom and Socrative, Assignments, email and KuraCloud.

III. Prerequisite and/or co-requisite courses

A solid background knowledge of virology, bacteriology, immunology and parasitology.

IV. Required resources

Functional computer headphones, microphone and camera. Students must activate the Panopto tool within Sakai to access the recordings, and also ensure they activate the zoom tool within Sakai.

- Veterinary Public Health class notes, PDF's and Additional Resources.
- Animal disease Surveillance:
 - Animal Disease Surveillance and Survey Systems, 2008, Ed. M. Salman, Pub. Wiley & Sons:
 - Chapter 1: Surveillance and monitoring systems for animal health programmes and disease surveys.
 - Chapter 2: Application of Surveillance and Monitoring Systems in Disease Control Programs.
- Animal Notifiable diseases
 - DEFRA and APHA: Notifiable diseases in animals:
 - <https://www.gov.uk/government/collections/notifiable-diseases-in-animals>

- Animal Welfare
 - Wotton S. (2006) 'Humane slaughter'. Chapter 5.1 in Buncic S. 'Integrated Food Safety and Veterinary Public Health'. Published 2006 by CABI, Wallingford, Oxfordshire.
 - Farm Animal Welfare in Great Britain: Past, Present and Future, 2009, Farm Animal Welfare Council. Paragraphs: 1 to 17, 36 to 71, 81 to 106 and all the recommendations
 - [https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/319292/Farm Animal Welfare in Great Britain - Past Present and Future.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/319292/Farm_Animal_Welfare_in_Great_Britain_-_Past_Present_and_Future.pdf)
- Food Safety
 - in Buncic S. 'Integrated Food Safety and Veterinary Public Health'. Published 2006 by CABI, Wallingford, Oxfordshire. Part I and Part II

V. Recommended resources

- Humblet, M, Vandeputte, S, Albert, A, Gosset, C, Kirschvink, N, Haubruge, E, FecherBourgeois, F, Pastoret, P, & Saegerman, C 2012, 'Multidisciplinary and Evidence-based Method for Prioritizing Diseases of Food-producing Animals and Zoonoses', Emerging Infectious Diseases, 18, 4, p. e1, CINAHL Plus, EBSCOhost
- Goodchild, A, Jones, J, Clifton-Hadley, R, Watkins, G, & Sayers, A 2012, 'Geographical association between the genotype of bovine tuberculosis in found dead badgers and in cattle herds [electronic resource]', Veterinary Record Journal Of The British Veterinary Association, 170, 10, p. 259, Agricola, EBSCOhost
- APHA animal disease surveillance reports:
 - <https://www.gov.uk/government/collections/animal-disease-surveillance-reports>
- SAVSNET : <https://www.liverpool.ac.uk/savsnet/>
- Vet Compass : <http://www.rvc.ac.uk/vetcompass>
- OIE, Animal Health in the World: overview: <http://www.oie.int/en/animal-health-in-the-world/oie-listed-diseases-2016/>
- DEFRA guidance and codes of practice - Welfare at slaughter:
 - <https://www.gov.uk/government/collections/welfare-of-animals-at-the-time-of-killing>
- DEFRA guidance and codes of practice – On Farm:
 - <https://www.gov.uk/guidance/animal-welfare>
- DEFRA guidance and codes of practice - Welfare of pets:
 - <https://www.gov.uk/guidance/animal-welfare-legislation-protecting-pets>
- OIE: <http://www.oie.int/en/animal-welfare/animal-welfare-at-a-glance/>

VI. Accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. In this course, all assessments are allocated a period of one week (7 days) for students to complete. Hence, as has been confirmed by Ms. Andrea Blair, double time will not be allocated for completion of the assessments.**
- c. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Good internet capabilities and speed, headphones, Zoom.

VIII. Course rationale

This course is designed to ensure that students meet the standards of the RCVS requirements for practicing in the United Kingdom. The course covers the veterinarians' role in regulatory medicine regarding inspection of animals for food for human consumption and reporting requirements as it pertains to identification of zoonotic diseases.

- Course goals
 - To prepare students to effectively carry out the public health responsibilities of veterinarians as it pertains to the requirements established by the RCVS Day One Competences for Veterinary Public Health and Food Hygiene.
 - To prepare students to effectively carry out the public health responsibilities of veterinarians as it pertains to the requirements established by the European Association of Establishments for Veterinary Education (EAEVE)
 - To prepare students to effectively carry out the public health responsibilities of veterinarians as it pertains to the requirements established by the World organization for Animal Health (OIE).

IX. Course-Level Outcomes

Upon successful completion of this course, the student will be able to:

1. Describe the principles of UK and European union legislation as they relate to the veterinarian's role in public health.
2. Describe the role of the agencies involved in Animal Health regulation in the UK and the principles of International Animal health Trade as indicated by the OIE frameworks.
3. Identify the 10 principles the Veterinary Surgeon is expected to apply when preparing veterinary certificates.
4. Describe the principles of risk-based assessments including risk analysis, risk monitoring, risk assessment, risk management as it relates to Food Hygiene within the UK official food controls.

5. Describe the principles of the UK legislation as it pertains to Animal Welfare on the farm, during transport and at slaughter.

X. Lesson Learning Outcomes

Course delivery is through didactic lectures and tutorials consisting of both presentations and discussion of recommended texts.

Introduction to the course and State Veterinary Medicine.

- At the completion of this lecture the student will be able to:
 - Identify the different UK and international organisations that have a role in the design and application of Veterinary State Medicine and Public Health in the UK
 - Identify the principal statutory instruments underpinning Animal Health, Animal Welfare and Food Safety legislation in the UK.
 - Recognise and apply legal requirements as they apply to the veterinary profession in relation to Animal Health, Animal Welfare and Food Safety in the UK.

State Veterinary Medicine, Enforcement and Public health.

- At the completion of this lecture the student will be able to:
 - Recognise the role of the Veterinarian in State Veterinary medicine.
 - Identify the principles of certification for veterinary certificates.
 - Be familiar with the 12 principles of certification for veterinary certificates
 - Explain the:
 - importance drug withdrawal periods
 - implementation of residue surveillance schemes
 - enforcement actions of Veterinary Services and the organisations involved.

Foodborne Zoonotic Disease

- At the completion of this lecture the student will be able to:
 - Describe the clinical signs, therapeutics and prevention mechanisms of common foodborne zoonotic disease.
 - Understand the physiology and reservoir species of common foodborne zoonotic disease.
 - Describe the epidemiology, control measures and eradication plan of bovine tuberculosis within the United Kingdom.

Animal Health Surveillance principles and UK practice and Animal Notifiable Diseases.

- At the completion of this lecture the student will be able to:
 - Describe the principles of Animal Health Surveillance in the UK and its principal applications for companion and farm animals.
 - Discuss the role of international organizations and trade in setting the principles of animal health surveillance.
 - Identify the legal framework that underlies statutory surveillance.
 - Identify diseases notifiable under UK legislation and their control systems.

On Farm Animal Welfare and Animal Welfare of Slaughter

- At the completion of this lecture the student will be able to:
 - Identify and discuss the principles underlying Animal Welfare application in the UK (5 freedoms).
 - Identify the main provisions of UK animal Welfare legislation.
 - Identify and recognise the main applications of the provisions of UK Animal Welfare legislation for farm animals.
 - Identify and recognise the main applications of the provisions of UK Animal Welfare legislation for companion animals.
 - Identify and recognise the main applications of the provisions of UK Animal Welfare legislation for transport and slaughter.

Red-meat Slaughter, GMP, GHP and HACCP

- At the completion of this lecture the student will be able to:
 - Describe pre-requisites necessary for slaughter including:
 - Operational requirements
 - Animal requirements ex. food chain information (FCI)
 - Describe general operations in abattoirs and processing plants including the slaughter process for different species
 - Describe the principles of:
 - Good Manufacturing Practice (GMP),
 - Good Hygiene Practice (GHP),
 - Personal hygiene
 - Describe the hazards to the consumer associated with malpractices/ faults pre-and post –processing
 - Explain the importance and advantages of, and need for, the HACCP system, benefits and areas of application
 - Describe the seven principles of HACCP particularly as they relate to food safety at all stages of the food chain

- Explain FBO's role and responsibilities for implementation and maintenance of prerequisite programmes and HACCP-based procedures
- Appraise the importance of validation and verification of the HACCP plan
- Appraise the role of Official Veterinarian in the auditing and verification of FBO's own procedures and actions in the case of non-compliance

Animal products and by-products

- At the completion of this lecture the student will be able to:
 - Describe and differentiate the various types and categories of animal by-products, their processing and their inspection.
 - Develop an appreciation of the importance of ABP control for veterinary public health and animal health
 - Understand the role of the profession in the control, inspection and enforcement of ABP under the current legislation
 - Familiarise with the concept of ABP and their legislation

Food Science and Food Technology

- At the completion of this lecture the student will be able to:
 - Describe the main intrinsic factors affecting microbial behaviour in foods
 - Describe the basic chemical/biochemical and sensory aspects of microbial food spoilage
 - Describe the basic technical aspects, and their effects on microbiology and quality, on the main types of Animal Products.
 - Describe the principles for selection of targets for microbiological testing including total microorganism numbers, indicator organisms, pathogens and the basic mechanisms of meeting microbiological criteria for foods

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes Core clinical Competencies missing ©..see if you think the course meets any of B or C, but not crucial yet as these are all AVMA program cputcomes here

SGU Program Level Outcome (PLO)	Course Learning Outcomes #
A. Core Medical Knowledge	
3. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases.	1,2
4. Explain the relationship between disease processes and clinical signs.	1,2
5. Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.	3
6. Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.	3
7. Evaluate and analyze normal versus abnormal animal behavior.	4
8. Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.	1
9. Apply the principles of veterinary public health for the promotion of human and animal health.	1,2,3,4
B. Core Professional Attributes	
12. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.	1,3,4,5
13. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.	3
14. Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.	3
19. Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.	1,2,4,5
C. Core Clinical Competencies (Skills)	
26. Design and execute plans for health promotion, disease prevention, and food safety.	4
27. Demonstrate and model effective client communication and ethical conduct.	3

XII. Course Schedule

This course is 1 credit course that lasts 3 weeks: September 01/09/21 – September 25/09/21.

Week	Day	Time (AST)	Length	Date	Topic	Lecture
1	Wednesday	7am - 8am	1 hour	01/09/2021	State Veterinary medicine and Surveillance	Introduction to the course and Veterinary Public Health
1	Thursday	7am - 8am	1 hour	02/09/2021	State Veterinary medicine and Surveillance	State Veterinary Medicine
1	Friday	7am - 8am	1 hour	03/09/2021	State Veterinary medicine and Surveillance	State Veterinary Medicine and Public Health Enforcement
1	Saturday	4pm-6pm	2 hours	04/09/2021	State Veterinary medicine and Surveillance	Foodborne Disease
2	Wednesday	7am - 8am	1 hour	08/09/2021	State Veterinary medicine and Surveillance	Notifiable Diseases
2	Thursday	7am - 8am	1 hour	09/09/2021	Animal Welfare and Slaughter	On Farm Animal Welfare
2	Friday	7am - 8am	1 hour	10/09/2021	Animal Welfare and Slaughter	Welfare of Slaughter
2	Saturday	4pm-6pm	2 hours	11/09/2021	Animal Welfare and Slaughter	Red Meat Slaughter, Dressing and Processing' a GMP, GHP and HACCP framework
3	Wednesday	7am - 8am	1 hour	15/09/2021	Food Safety	Animal Products and By-Products
3	Thursday	7am - 8am	1 hour	16/09/2021	Food Safety	Emerging Diseases wrap up
3	Friday	7am - 8am	1 hour	17/09/2021	Food Safety	White Meat Wrap Up
3	Saturday	4pm-6pm	2 hours	18/09/2021	Food Safety	Food Science and Food Technology
4	Exam	18/09/2021	1 hour	due by 25/09/2021	Open Book Exam	

XIII. Grading and assessment policy, and grading rubrics

The grading scale below will be used to calculate the final course grade

Grade Scale

Percentage	Letter Grade
>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Types of Assessments:

Students must complete all assessments for this course, in order to obtain a final grade.

There will be a final exam for the course, which will consist of multiple-choice questions and short essay questions. The examination shall cover the material described in the lectures, PDF's, readings and class study exercises. The aspects of parasitology, virology and bacteriology relevant to veterinary public health that were taught during the previous terms are considered part of the exam material. Students are responsible for reviewing those notes and referring to recommended books and readings uploaded on the SAKAI network if needed. The assessment (Quiz) is to be completed and graded within the Sakai "Tests and Quizzes" tool.

Assessments	Date	Points
Quiz 1 (Final)	18/09/21	20

XIV. Recommended study strategies

Active participation in the course is recommended to enable applicability of core concepts to veterinary practice. Importantly, students should apply good time management skills, particularly crucial in the online environment, to ensure they meet the course requirements.

XV. Instructor's expectations of the student

Students are expected to adhere to the Professionalism Policy of the University (Student manual), and at all times demonstrate respect not only towards SGU faculty and staff, but also towards their fellow students and the general public. Students are also expected to read the required materials and to complete the mandatory examination by its due date.

General Expectations

- Remain professional, respectful and courteous at all times
- Keep posts on-topic and professional. Please refrain from discussions of religion, politics, etc.
- Remember that a real person wrote each post and will read what you write as well. It is easy to misinterpret online conversation. Give the benefit of the doubt. If you become upset, wait a day or two and cool down before posting.
- Proofread prior to submitting a post.
- Remember that discussion forums and social posts are visible by the entire class. Use e-mail for any private comments to the instructor. Inappropriate posts will be removed.

Contacting the Faculty

- Please feel free to email the faculty at any time.
- The faculty will generally respond to email within 24 hours. If you do not hear from us within 24-48 hrs hours, feel free to follow up.
- The faculty is willing to schedule an online meeting via ZOOM as required.

XVI. Professionalism statement

The policy relating to SGU's Student Policies, Procedures and Non-Academic Standards is detailed in the SGU student manual 2019-2020, <https://www.sgu.edu/studentmanual/school-of-veterinary-medicine/>. Students are expected to be polite in responding to peers and faculty via email or through the other online communication tools. It is essential that if a student is unable to complete a mandatory assessment due to illness or other emergency, that they inform the course director in a timely fashion. Please refer to XVII below.

XVII. Attendance/Participation policy

The policy relating to class attendance is detailed in the SGU student manual <https://www.sgu.edu/studentmanual/school-of-veterinary-medicine/>. Students are expected to be available during the standard 8-5pm AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

It is mandatory that students check the following communications from the Course Instructor:

Announcements

The lesson plan for the week will be announced to the class. (Instructor – class). There will be reminders about deadlines and mandatory requirements to engage with the course.

Email

1. Normal email communications. Replies to student inquiries. (Instructor-to-individual)
2. Email to the class representative to determine the need for a zoom session depending on questions students may have on the weekly lessons.

ZOOM sessions - ZOOM will be used for Office Hours – These will be optional. Attendance at office hours that will be provided via zoom are NOT mandatory. However, for students participating, they will be required to submit any questions they may have at least 48 hrs PRIOR to the zoom session.

Lecture sessions will be recorded asynchronously using Panopto. Students are expected to review all lecture content provided as lecture recordings, pdf's, assigned readings and lecture notes.

Attendance at office hours that will be provided via zoom are NOT mandatory. However, for students participating, they will be required to submit any questions they may have PRIOR to the zoom session.

Lecture sessions will be recorded asynchronously using Panopto and synchronously using zoom. Zoom content will be provided as a recording for those unable to attend at the assigned time.

Students are expected to review all lecture content provided as lecture recordings, PDF's, assigned readings and lecture notes.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to appear for an examination without a valid reason (see student manual:

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (COURSE DIRECTOR email HERE) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call *****) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of "0" points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XX. Copyright policy

The materials (such as slides, handouts and audio/video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to use these materials solely for the purpose of group or individual study. Reproduction in whole or in part is prohibited".

Appendix:

N/A



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

PATHOBIOLOGY DEPARTMENT

SYLLABUS – Transboundary Animal Disease (1 credit)

PTHB539 (Selective and GVHT)

Fall 2021

I. Faculty and Staff Information

- a. Course Director:
 - i. Dr. Brian Butler, DVM, MPH, PhD, Dipl. ACVP, *Professor*
 - ii. Email: bbutler@sgu.edu
 - iii. Office Location: SVM trailer
 - iv. Office Hours: by appointment

- b. Staff members:
 - i. Ms. Cindy Edwards, Executive secretary, cedwards@sgu.edu

II. Course location

All course content and assessments are available online. Synchronous sessions with the instructor will use Zoom.

III. Prerequisite and/or co-requisite courses

Successful completion of all DVM Term 4 courses.

IV. Required resources

- a. Course materials provided in My Courses > Resources: Lecture notes, lecture slides, prescribed readings, and access to online Initial Accreditation Training (IAT).
- b. Student logins for the IAT will be provided at the beginning of the term.

V. Recommended resources

Pathologic Basis of Veterinary Disease. Zachary and McGavin. Sixth ed.

Atlas of Transboundary Animal Diseases. Fernandez and White. OIE publication. 2010.

VI. Students with Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None

VIII. Course rationale

Veterinarians play an integral role in the surveillance of animal diseases and the preservation of global health. In this course students will learn how to recognize the clinical signs and diagnostic lesions associated with the most important transboundary animal diseases as identified by the World Organization for Animal Health [French translation: Office International des Épizooties (OIE)]. Students will learn about the authoritative organizations, both in the Americas and within the relevant agencies in the United Kingdom and European Union, which coordinate surveillance systems and response mechanisms to identify and control animal disease outbreaks. A combination of seminars, small group activities, and web-based content will be utilized as teaching modalities in this course.

This course includes web-based lessons and hypothetical learning scenarios which are provided by the Emerging and Exotic Diseases of Animals (EEDA) web-based course. Completion of the web-based training modules will fulfill the Initial Accreditation Training for the USDA National Veterinary Accreditation Program. All students that successfully complete the EEDA/Initial Accreditation Training will receive a certificate of completion and will be eligible to take the USDA Orientation Program during Year 4 Clinical Training.

This selective course is particularly relevant for all veterinary students pursuing careers in large/mixed animal practice, as well as those students interested in careers in animal production, pathology, laboratory diagnostics, epidemiology, research, public health, government/military, and veterinary preventive medicine. Course material will be relevant to students of all nationalities including the USA- and UK-based students as part of the AVMA and RCVS requirements, respectively.

IX. Course goals

- a. Examine the importance of OIE-listed diseases and provide the most appropriate resources for staying current about emerging animal diseases. Determine the implications of OIE-listed diseases on animal production, animal welfare, international trade, and public health.
- b. Determine the structure, organization, and hierarchy of local, state, federal, and international organizations that contribute to animal health worldwide. Also, identify career opportunities within the veterinary profession relating to animal disease surveillance and outbreak response teams.
- c. Explain the USDA Veterinary Accreditation Program. Identify the legal and ethical responsibilities of an accredited veterinarian. Each student will fulfill the requirements for the USDA Initial Accreditation Training.

- d. Provide clinical case-based learning scenarios that will allow each student to practice how to properly make diagnoses, collect and process samples, and notify the appropriate authorities when a notifiable animal disease is suspected.
- e. Provide each group of students with an opportunity to research an important animal disease outbreak scenario. Students will give a short presentation that will demonstrate what they have learned from this historical research. Presentations will highlight clinical signs, lesions, differential diagnoses, diagnostic challenges, biosecurity, outbreak response, economic impact, and public health implications of the outbreak.

X. Course-level outcomes

Upon successful completion of this course, the student will be able to...

1. Know the implications of transboundary animal diseases (TADs) on animal production, animal welfare, international trade, and public health.
2. Identify the responsibilities of a veterinarian with regards to tracking animal movement and transport, disease surveillance, initiation of a rapid outbreak response, and preservation of public health.
3. Identify and evaluate where to find relevant up-to-date information about current events pertaining to emerging or re-emerging infections.
4. Recognize the official veterinarian who should be contacted if a notifiable disease is identified or suspected in your country.
5. Identify which animal diseases require compulsory notification by the veterinarian to the prescribed regional and national authority to mitigate disease transmission.
6. Recognize and evaluate the most used methods of livestock identification, traceability, and oversight by the relevant veterinary authority.
7. Classify, compare, and evaluate the clinical signs, clinical course, diagnostic lesions, transmission potential (including vectors), and etiologic agents associated with select TADs.
8. Recognize and compare the current global distribution of select TADs and identify where to find up-to-date information on this matter.
9. Explain and critique a historical account of an animal disease outbreak and apply knowledge and concepts covered throughout the course.

XI. Lesson-level outcomes

Please refer to the appended table for Lesson Level Outcomes (LLO) at the end of this document.

XII. Alignment of Course Learning Outcomes with Program Learning Outcomes

Please refer to the appended table for Lecture Level Outcomes (LLO) at the end of this document.

XIII. Course Schedule: Weekly Lectures and Assignments with Student CHECKLISTS

Week #	Start Date	Weekly <u>Learning Schedule</u> <i>Please use the checklists below to keep track of your progress through the EEDA online modules - Black.</i> *Live Zoom Sessions (2) – Red	<u>Assignment</u> <i>This course has ONE assignment (TEDA Clinical Case Scenario) with a due date of Friday, September 24th at 11:59 pm.</i> <i>Assignment may be uploaded to <u>Sakai > Assignments</u> anytime prior to the deadline.</i>
1	Aug 16	Veterinary Accreditation Lessons: <ul style="list-style-type: none"> <input type="radio"/> Introduction to Vet Accreditation <input type="radio"/> Certifications for Animal Movement <input type="radio"/> Reportable and Program Diseases 	
2	Aug 23	Emerging and Exotic Diseases of Animals: <ul style="list-style-type: none"> <input type="radio"/> Causes and Consequences of Transboundary and Emerging Diseases of Animals (TEDA) <input type="radio"/> Routes of Transmission 	
3	Aug 30	<u>Live Zoom Session – Course Updates and discussion</u> <u>Monday, Aug 30th at 1:30 pm AST.</u> Participation Optional Emerging and Exotic Diseases of Animals (continued): <ul style="list-style-type: none"> <input type="radio"/> Response to a Foreign Animal Disease Outbreak (USA) <input type="radio"/> A Veterinarian’s Role in an Animal Health Emergency 	
4	Sep 6	Disease Incursions: <ul style="list-style-type: none"> <input type="radio"/> Intro and Learning Objectives <input type="radio"/> Highly Pathogenic Avian Influenza 	

		<input type="radio"/> Canine Influenza	
5	Sep 13	<p><u>Live Zoom Session – Progress report and discussion</u></p> <p><u>Monday, Sep 13th at 1:30 pm AST.</u></p> <p>Participation Optional</p> <p>Disease Incursions (continued):</p> <input type="radio"/> New World Screwworm <input type="radio"/> Swine Fevers	
6	Sep 20	<p>Disease Incursions (continued):</p> <input type="radio"/> Monkeypox <input type="radio"/> Foot and Mouth Disease	<p>Assignment <u>DEADLINE:</u></p> <ul style="list-style-type: none"> • Friday, September 24th at 11:59 pm. • <i>Please upload your assignment in Sakai > Assignments as a single Word doc.</i>
7	Sep 27	<p>Disease Incursions (continued):</p> <input type="radio"/> West Nile Virus <input type="radio"/> Porcine Epidemic Diarrhea	
8 MIDTERMS	Oct 4	<p><i>This course does not have a midterm examination.</i></p>	
End of Course			
9	Oct 11		
10	Oct 18		
11	Oct 25		
12	Nov 1		
13	Nov 8		
14	Nov 15		
15	Nov 22		
16 FINALS	Nov 29		
17 FINALS	Dec 6		
18 CAPPS	Dec 13		

XIV. Grading and assessment policy, and grading rubrics (*In compliance with SGU and SVM assessment guidelines.*)

All students are expected to be familiar with the examination guidelines issued by the office of the Dean of the School of Veterinary Medicine. Please refer to the Student Manual for details.

- Grading scale. *Please refer to the SVM Student Manual.*
- **Assessment plan:**
 - i. Evaluation of student performance is based upon **three** components:
 - 1. Emerging and Exotic Diseases of Animals (EEDA) web-based modules**
 - a. Each module is followed by a Quiz that requires a passing score of 80% to proceed to the next module. 15 quizzes total.
 - b. These courses must be completed within the deadlines in your Weekly Learning Schedule. Please use the provided checklist to keep track of your progress.
 - 2. Assignment: TEDA Clinical Case Scenario**
 - a. Each student will choose ONE of the available Scenarios from the EEDA content provided online.
 - b. Download and complete the Study Guide. Upload the completed Word Document to Sakai > Assignments.
 - c. **Deadline is Friday, Sept 24th at 11:59 pm**
 - 3. Zoom Session participation:**
 - a. Attendance and participation for the TWO scheduled real-time Zoom Sessions is mandatory to receive participation points.
 - b. Participation will include asking and answering questions during the real-time Zoom Sessions.
 - c. If you are unable to attend, please email your Course Director (bbutler@sgu.edu) prior to the scheduled session.
- **Assessment breakdown:**

	Points
EEDA web-based modules (15)	150
Assignment: TEDA Clinical Case Scenario	25
Zoom Session attendance:	
Session 1	25
Session 2	25
Total points	225

XV. Recommended study strategies

- Know the syllabus.
- Know the learning outcomes.
- Pre-read material before Zoom Sessions and be sure to know all new vocabulary before class.
- **Learning through repetition is key for long-term retention.**
 - Pre-read material and complete modules prior to attending the live sessions with your instructor. Review content from each module if you receive quiz scores lower than 80%. Create study outlines that will aid with NAVLE review in the future.

XVI. Instructor's expectations of the student

Each student is expected to complete the EEDA online modules, complete the assignment, and participate during live sessions.

XVII. Professionalism statement

Please refer to SVM Student Manual.

XVIII. Attendance/Participation Policy (In compliance with SGU and SVM assessment guidelines.)

Attendance is mandatory for all sessions in this course. Any absence from class requires the necessary documentation from the Dean of Students Office. Please contact the Dean of Students Office directly of details and procedures. Any unexcused absence may lead to failure of the course at the discretion of the Course Director.

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XIX. Policy regarding missing examinations and/or failure of submission of assignments

- Students who fail to attend an examination or fail to submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.
- Students who have technical issues during the examination MUST inform the Course Director (bbutler@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call 866-429-8889) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.
- Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.

- a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Exemplify version is **2.3.8**)
- b. [The Examsoft student perspective video 30mins](#)
- c. [The Examsoft/ExamID FAQ](#)
- d. Examsoft information page
- e. [The general Reminders/Guidelines](#)

XXI. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited. Students that do not respect this policy may be charged with academic dishonesty which can result in dismissal.

Appendices:

Detailed course content: Lecture Level Learning Outcomes

Course Introduction:

1. Explain the term Transboundary Animal Disease (TAD). What consequences may these diseases have on animal production practices and on the economies of nations?
2. Describe the significance of OIE-Listed diseases.
3. List the most important resources for staying current on updates about emerging diseases.
4. Become familiar with ProMed and HealthMap. Subscribe to ProMed email server and monitor emerging diseases in your home state/country/region throughout the course and report to the class.

Module 1: Introduction to Veterinary Accreditation: Rules, Responsibilities, Requirements, Rewards

1. Explain what veterinary accreditation is, including its mission and the governmental agency responsible for managing it.
2. List activities restricted to an accredited veterinarian (AV), including the importance of attention to detail in those activities and the potential consequences for failing to perform activities correctly.
3. Explain the two-category system of veterinary accreditation and identify which category of accreditation is required for a given species.
4. Describe the ethical responsibilities of an AV and the consequences for ethical lapses
5. List and/or identify the official guidelines/books/documents that govern and describe the role and responsibilities of an AV.
6. List the steps/requirements for becoming an AV and requirements for maintaining accreditation
7. Explain why a veterinarian would want to be accredited, including several benefits of being an AV.

Module 2: Certifications for Animal Movement: The Role of the Accredited Veterinarian (USA)

1. Explain the purpose of health certifications and the legal and ethical responsibilities associated with them.
2. Describe the difference between a certificate of veterinary inspection (CVI) and a health certificate.
3. When given a scenario for movement of an animal or animals (including livestock and pets), determine what is required for legal movement of the animal(s).
4. Recognize the common violations and errors made on health certifications that prevent successful movement of animals.
5. Describe the important steps in the import and export of animals and where you would find accurate information to assure the successful import or export of an animal.
6. List the agencies involved in the importation of pets and a brief description of their involvement.

Module 3: Reportable and Program Diseases: Eradication, Certification, Control, and Surveillance

1. Compare and contrast USDA Program Diseases, OIE Listed diseases, reportable diseases, foreign animal diseases, and transboundary diseases.
2. List the general characteristics of diseases that may be designated as USDA Program Diseases.
3. List the four different general types/categories of the USDA Disease Programs, and provide a brief description of each. Also provide examples of diseases in each type/category.
4. Explain what laboratories perform tests for USDA Program Diseases and how to find their contact information.
5. Find the contact information for reporting a disease occurrence to animal health officials.
6. Use content in this lesson and/or links to appropriate websites to answer questions regarding activities associated with the USDA Program Diseases.

Module 4: Causes and Consequences of Transboundary and Emerging Diseases of Animals: Role of the Veterinarian

1. Describe the veterinarian's responsibility to human health as stated in the veterinarian's oath and list ways in which a veterinarian can fulfill that responsibility.
2. Define the terms emerging, exotic, transboundary, epizootic, and zoonotic disease.
3. Describe the goal of the One Health initiative.
4. List the main functions of the World Organization for Animal Health (OIE).
5. List and briefly explain factors that impact disease emergence and reemergence.

Module 5: Routes of Transmission and the Introduction of Transboundary Animal Diseases

1. List the portals of entry by which foreign animal diseases can enter the United States, and describe ways to reduce the risk from each portal of entry.
2. Define infectious disease, contagious disease, communicable disease and infestation.
3. Give an example of a disease that is communicable but not contagious, and describe how the control of such a disease would differ from the control of a highly contagious disease.
4. Define the various routes of infectious disease transmission and explain, with examples, how an agent's route of transmission affects its introduction into a new area.
5. Define fomite, biological vector, mechanical vector and reservoir host.
6. Explain why vector-borne diseases can be particularly difficult to control.

Module 6: Response to a Foreign Animal Disease Outbreak in the United States

1. Name the primary agencies responsible for international animal health and U.S. animal health.
2. Recognize the three operational units of APHIS-Veterinary Services and the basic functions of each and important functions/agencies within them.
3. Explain who is responsible for border patrol and who is responsible for the importation of animals, briefly overview the importation process.

4. Describe the difference between an Assistant Director (AD) and a State Animal Health Official (SAHO).
5. Explain the roles of the National Veterinary Services Laboratories (NVSL), the National Animal Health Laboratory Network (NAHLN), and international reference laboratories in diagnosing an exotic disease in the United States.
6. In general, explain the important components/steps and responsible persons/agencies in handling a FAD incursion, include in your explanation recognition, reporting, response, investigation, recovery, the practitioner, FADD, EMRS, AD, SAHO, USDA APHIS, NVSL, and OIE.
7. List several activities that might be part of an animal health emergency response.

Module 7: A Veterinarian's Role in an Animal Health Emergency

1. Give an example of an animal health emergency response team a practicing veterinarian could be a part of, and describe, in general, how he/she would become part of that team.
2. Explain why veterinarians must be part of a recognized emergency response team when assisting with an animal health emergency rather than just showing up to help.
3. Diagram the basic organizational structure of the incident command system and indicate which section most veterinarians would work in.
4. List some of the most likely tasks veterinarians would be doing in an animal health emergency response resulting from: infectious disease outbreak; natural disaster; and/or man-made disaster.
5. Create an emergency response plan for your veterinary business and your home.

Fall 2021

PTHB 541: Food Hygiene and Meat Inspection

Course Pre-requisite:

- Enrollment in the Global Veterinary Health (GVH) track of the Doctor of Veterinary Medicine (DVM) Program
- Completion of the term 4 DVM course: Veterinary Public Health

Course Overview:

The aim of this course is to prepare students for the role of a veterinarian in the regulatory practices and procedures towards promoting food safety.

This course is a field based experience towards providing students with theoretical and practical knowledge and skills in food hygiene and meat inspection in an abattoir setting, a full throughput commercial poultry processing plant and a fish processing plant.

This course consists of preparatory sessions in Grenada and Trinidad to be completed after pre-requisites followed by a one week abattoir rotation at Langford abattoir at the University of Bristol, UK.

Course Director

Satesh Bidaisee

Professor of Public Health

Department of Public Health and Preventive Medicine

St. George's University

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Email: sbidaisee@sgu.edu

Office: Caribbean House, True Blue Campus.

Course Collaborators:

Dr. Eleni Michalopoulou and Dr. Austin Kirwan

Course Aims and Objectives

(Mon Aug 16, 2021 12:00 AM - Fri Dec 31, 2021 11:55 PM)

The aim of this course is to prepare students for the role of a veterinarian in the food system. Emphasis will be on the processes involved in producing safe meat products from healthy animals, but where relevant, links will be made with practice and role of the veterinarian in ensuring that animals are healthy when they are sent for slaughter and their welfare is not compromised.

Specific objectives for the course will include:

- To expose students with the processes involved in slaughtering and processing of animals
- To familiarize students with welfare aspects of the slaughtering process
- To demonstrate to students practical meat inspection

Overall, students will also be expected to develop the following skills and attributes:

Verbal communication with colleagues, written records/reports, teamwork and professional behavior, evidence of enquiry, awareness of personal limitations, responsible use of medicines, understanding public health risks, health and safety, hygiene and biosecurity awareness and the application of knowledge, practical skills and clinical reasoning (including assignments and wet labs specimen reports).

Course Description

(Mon Aug 16, 2021 12:00 AM - Fri Dec 31, 2021 11:55 PM)

This course is a field based experience towards providing students with theoretical and practical knowledge and skills in food hygiene and meat inspection in an abattoir setting, a full throughput commercial poultry processing plant and a fish processing plant. Students will be exposed to procedures, standards, regulations, food safety assurance and health and safety for the United Kingdom, United States and the Caribbean region. Students will familiarize themselves with slaughter processes of cattle, sheep and pigs as a virtual experience. The virtual abattoir experience will provide exposure to processes involved in slaughtering of animals as well as animal health, food safety and welfare controls that are carried out. The role of the veterinarian in relation to animal welfare and safety of food products of animal origin will be emphasized.

Course Methodology

(Mon Aug 16, 2021 12:00 AM - Fri Dec 31, 2021 11:55 PM)

This course consists of preparatory sessions in Grenada to be completed after pre-requisites followed by a virtual abattoir rotation at Langford abattoir at the University of Bristol, UK.

The Grenada experience will include preparatory lecture sessions and visits to the Mirabeau

Abattoir to observe ante mortem, slaughter and post mortem inspections and Gouyave Fish Market to observe the processing of fish from landing to package products. Another experience will involve a visit to a Poultry Farm which is a fully integrated poultry farm and processing enterprise.

Course Schedule

(Mon Aug 16, 2021 12:00 AM - Fri Dec 31, 2021 11:55 PM)

A. Preparatory sessions in Grenada:

- 2 hrs of lecture:
 - Introduction to Food Hygiene and Meat Inspection
 - Principles of Ante Mortem and Post Mortem Inspection
- 2 hrs of ante mortem, slaughter and post mortem demonstration at Mirabeau Abattoir
- 1 hr of fish processing at Gouyave Fish Market

B. Virtual Abattoir

Course Evaluation

(Mon Aug 16, 2021 12:00 AM - Fri Dec 31, 2021 11:55 PM)

The following components contribute equally to a passing grade (70% and above)

- Food Safety and Hygiene Blog Discussion Forum: 12.5%
- Ante Mortem and Post Mortem Written Assignment: 12.5%
- Report on Abattoir Visit: 25%
- Report on Fish Processing Field Trip: 25%
- Report on Poultry Processing Field Trip: 25%

Total: 100%

For Virtual Abattoir:

- Abattoir case report; a draft of this must be peer-reviewed by another student (template is available) prior to submission of final version
- A wet lab specimen report for two specimens to be chosen from post mortem room practical
- A report on a structural and facility audit of the abattoir (group task; verbal report)
- A completed reflective logsheet/assessment form and written report to be submitted

Course Resources

All resources required for this course will be provide with the Sakai Course Platform



ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT of Small Animal Medicine and Surgery (SAMS)

RADIOLOGY I SYLLABUS (1 credit)

SAMS 501, TERM I

Fall 2021

I. Course Faculty and Staff Information

Course Director:

Thomas Hanson DVM, MS

Professor of Diagnostic Imaging, SAMS, SVM SGU

Office Location: Cassia building, True Blue Campus, Lower floor

Email address Thanson3@sgu.edu

Office Hours: by appointment

Administration: Ms Ruth Thornhill

SAMS, Cassia building, lower floor, True Blue Campus

Email Address: rthornhill@sgu.edu

II. Course Material (see XII. for schedules)

Lectures: Self-directed learning modules and interactive review sessions

Labs: Interactive positioning and anatomy sessions

Examination- One quiz delivered within My Courses/Test and quizzes

Final examination will be delivered by *Examsoft*

III. Prerequisite and/or co-requisite courses

Co-requisite course: Veterinary Anatomy I

IV. Required reading resources:

The student is required to read the following text sections, which will be provided on

SAMS 501 My Courses/ Resources: **Thrall, D.E. Textbook of Veterinary Diagnostic Radiology**, 6th Edition, Elsevier/ Saunders, 2013: **Chapter 1**: Radiation Protection and Physics of Diagnostic Radiology, pages 2 to 21.

V. **Recommended resources**

Students are NOT required to acquire a textbook. However we recommend the following:

Main recommended textbook:

Thrall, D.E. **Textbook of Veterinary Diagnostic Radiology**, 7th Edition, Elsevier/ Saunders 2018. Includes chapters on physics of radiology and normal radiographic anatomy of Canine, Feline and Equine species. This is a very good reference for more in-depth reading. It covers all the material that will be discussed in lectures and labs. Available at the library.

Additional recommended textbooks:

Ayers, Susie. **Small Animal Radiographic Techniques and Positioning**, Wiley& Blackwell, 2012.

Thrall, D.E. and Robertson, I.D. **Atlas of Normal Radiographic Anatomy & Anatomic Variants in the Dog and Cat**. 2nd edition, Elsevier, 2016.

Websites: These are definitively worth looking at:

Radiology website with normal radiographic anatomy of main domestic species of the University of Illinois:

http://vetmed.illinois.edu/courses/imaging_anatomy/index.html

London Royal Veterinary College website on normal radiographic anatomy:

<http://www.onlineveterinaryanatomy.net/>

VI. **Accommodation**

Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

Information can be found at mycampus.sgu.edu/group/saas

VII. **Other requirements**

For the lab sessions, writing material and laptop of your choice are required

VIII. Course rationale

The student should at the end of the course be able to competently recognize the normal radiological anatomy of cats and dogs, know the basic principles of how the images are created and know the basics of image interpretation. Students should be familiar with the standard projections, the anatomy they show and how they are obtained. The course offers the theoretical and practical basis for learning and understanding radiologic anatomy of the cat and dog. The course serves as a basis for Radiology II in Term 2 and clinical radiology in terms 5 and 6.

Lectures:-The course consists of 2 lectures of basic radiology physics, image formation and radiation safety. Six interactive, self-directed learning modules. The subsequent modules cover the anatomic regions of small animals that will be discussed in the labs that follow. Modules will cover the forelimb, hindlimb and pelvis, vertebral column, the skull, thorax and abdomen in dogs and cats. Lecture schedule, times and course study plan is detailed in the appendices

Lab Classes:- There are 7 in-person labs. Physics of radiology and radiation safety will be reviewed in the first lab, after the completion of lectures 1A and 1B. Subsequent labs will include an interactive exploration of imaging of the small animal abdomen, thorax, thoracic limb, pelvic limb, vertebral column and skull. For each anatomic region, students will explore the topics of patient positioning, normal radiographic anatomy, image quality and comparative anatomy.

- In assigned groups, student will research and prepare a presentation on the aspects of imaging as stated above
- Time will be allotted for the preparation and coordination of the presentation
- Presentations will be given to the attendees of the lab section, and recorded. Access to the recordings will be made available. The recordings will be the property of SGU.
- The Lab sessions are **mandatory** and students must make sure to complete the allocated lab session.
- Note that Lab completion does **not** incur points towards the final course grade, however unexcused negative lab completion may negatively influence the final course grade.

The course should prepare the student to be competent in:

- understanding the basic principles of x-ray formation and x-ray interaction with tissues and the environment
- understanding the basic principles of image formation
- recognizing common artifacts

- learning about consistent radiographic technique to ensure good quality diagnostic radiographs
- knowing how to label and identify radiographs
- knowing the standard radiographic projections that are used to visualize the discussed anatomical regions in cats and dogs in practice and be aware of the importance of correct and consistent positioning
- understanding basic principles and the radiological terminology of image interpretation
- recognizing normal radiological anatomy in juvenile and adult cats and dogs and recognizing specific species differences
- awareness of the health hazards of using ionizing radiation and how to minimize them

IX. Course-level outcomes

Upon successful completion of this course, the student will be able to

- explain the basic principles of how an x-ray generator works and x-rays are generated
- explain the basic principles of how a radiograph is created
- discuss image quality, radiographic technique, sources of potential artefacts and their prevention
- list and identify the standard projections used in radiography of canine and feline anatomy and how these projections are obtained
- identify the normal radiological anatomical features and anatomical variations in the young and adult dog and cat
- apply the basics of image interpretation
- employ correct radiological terminology
- state the potential radiation hazards to personnel, patient and the public when using ionizing radiation to ensure its safe use in clinical practice

X. Lesson Level Outcomes

Lessons include the Lectures and Laboratory Sessions and together with the Course Level Outcomes are appended as a table at the end of the syllabus as part of the course schedule under *Appendices*.

XI. Alignment of Course Level Outcomes with Program Level Outcomes

Course Level Outcome (CLO)	SGU SVM Program Level Outcome (PLO)
Explain the normal radiological anatomy of the body systems of the juvenile and adult canine and feline species and variations thereof.	<p>PLO 1 Recall, understand and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals</p> <p>PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>
List, explain and apply the commonly used radiographic projections in dogs and cats to radiograph the body systems including axial and appendicular skeleton, skull, thorax and abdomen.	<p>PLO 1 Recall, understand and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals</p> <p>PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>
Explain the basic principles of X-ray and image formation in radiology (physics).	<p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine</p> <p>PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>
Discuss image quality, radiographic technique, sources of potential artefacts and their prevention	<p>PLO 1 Recall, understand and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine</p> <p>PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>

<p>Integrate, explain and apply the principles of radiation safety and awareness of the risks of the medical use of ionizing radiation to the patient, staff, the public and the environment.</p>	<p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine</p> <p>PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity.</p>
<p>Demonstrate proficiency in the correct use of medical terminology when verbally describing and reporting diagnostic radiographic studies of cats and dogs.</p>	<p>PLO 1 Recall, understand and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals</p> <p>PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>

XII. Course Schedule

Appended under **Appendices**.

XIII. Grading and assessment policy

Types of assessment: There will be 1 formative quiz during the course available in My Courses; Test and quizzes tab . The quiz will consist of MC question type questions and a number of the questions will include images. It will account for 11% of the overall points. The final examination will be cumulative and cover course material since the quiz and will account for 89% of the overall points. Resit/ Make-up and Completion exams may include question types other than MC. Students need to be familiar with the use of the test and quizzes software in My Courses and Examsoft prior to the examinations. A ‘practice examination’ can be downloaded in ExamSoft to practice image manipulation.

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

Examination material will be based on all of the information provided on *My Courses*, in lectures and radiology labs including lecture notes, lecture and lab Powerpoint pdfs, panopto recordings, self-study questions and any additional material as indicated on *My Courses*. Exam- type questions will be supplied to become familiar with the type of questions asked and no breakdown of the questions prior to the exam will be provided. An effort is made to communicate Exam details prior to the examinations. The only time when questions can be viewed is during the exam. *There will be no detailed breakdown of questions published prior to the exam quizzes.*

In all exams, a maximum of 1 point is awarded per question answered correctly. Questions may be complex and correct answers must be given to obtain the point.

If there are queries regarding exam content after the exam, these should be submitted in writing via the class representative(s) to the course director/ instructors. The content of such queries must be worded professionally and reviewed and edited by the class representative prior to submission.

The SGU SVM grading

>89.5%	A
84.5-89.49	B+
79.5-84.49	B
74.5-79.49	C+
69.5-74.49	C
64.5-69.49	D+
59.5-64.49	D
<59.49	F

scale applies:

Examination details: SAMS 501, Radiology I

Examination/quizzes

Quiz/Exam	Date	Number of MCQs	Maximum Points	Lecture Content	Lab Content
Quiz 1 In MyCourses/Test&Quizzes	Week 6 Week of Sept. 20	10	10 points (1/question)	Lectures 1A & 1B	Lab 1
Final Exam In ExamSoft	Week 16- Dec. 1	35	35 (1/question)	Lectures 2-7	Labs 2-7
Total			45 points		

Grading criteria: Grading is objective. There is a maximum of one point per correct answer, i.e. the number of total points making up the final course grade is the sum of correct answers achieved in the final exam and test quiz.

Note that Lab attendance does **not** incur points towards the final course grade, however unexcused lab attendance may negatively influence the final course grade

Student feedback for outcomes assessment evaluation

Students are encouraged to leave constructive comments, suggestions and criticism, at the end of the course, for faculty and instructors to review and consider. **Professionalism is expected.**

XIV Recommended study strategies

Students should read all the material provided in lectures and labs. When studying for examinations, all the material relating to that exam that is provided on *MyCourses* must be reviewed. Exam contents are summarised under XIII and will be announced prior to the exam. Since DI works with images, the images supplied in the lecture and lab

material are good examples of the anatomy discussed and must be recognized. Reviewing images in the listed additional sources will increase confidence in recognition of the radiological appearance of normal anatomy. If the visual aspect of DI is a challenge, drawing the regions/ projections may be of help to be able to visualise them. Reviewing 3D Anatomy specimens or models may help with understanding the three-dimensional aspects of radiology. Students are requested to ask for support (request office hours, make use of DES) in a timely and professional manner, i.e. prior to the exam, so support can be given and potential problems can hopefully be solved.

XV. Instructor's expectations of the student

The student should at the end of the course be able to competently recognize the radiological anatomy of the dogs and cats including some examples/ comparisons of these species, know the basic principles of how the images are created, the standard projections for each anatomical region and the radiographic appearance of the anatomy in the various projections, know the basics of image interpretation and follow good radiographic practice (including technique and radiation safety principles). Students are expected to read the supplied documentation. Revision of corresponding material from Anatomy I prior to the lectures and revision of the lecture prior to radiology labs is recommended. The material is provided on *My Courses*. The radiology labs cover the preceding lecture material unless the timetable does not allow it, and students are expected to be familiar with the material taught in lectures, so it can be applied during the lab classes.

XVI. Professionalism statement

Students are expected to behave professionally, courteous and respectful towards their peers, staff and faculty at all times. Cell phones should be turned off or set on silent during zoom sessions and office hours. The use of computers, tablets or phones for different purposes other than for following the lecture or Lab being given (i.e. Twitter, facebook, blogs et al) is unprofessional and should not occur. Personal video and audio recording of lectures or labs are not allowed, *panopto* recordings are created for each lecture and uploaded on MyCourses.

XVII. Attendance policy

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every

academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Participation policy: Students are expected attend all lectures and labs, and completed the learning modules in the time provided.

XVIII. Policy regarding missing examinations

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination. Students who have technical issues during the examination MUST inform the **Course Director Dr Hanson** email address Thanson3@sgu.edu and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), **AND Dean of Students** (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of "0" points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School. **Carenage/ Medical Excuse Submissions/SVM Examinations** will be accepted. If you don't think you are healthy enough to take an exam, please notify the Dean of students **PRIOR** to the time of the exam. Excuses that are issued **after** the examination has started/ been given will not be accepted. If an extended absence is required, a **leave of absence** form from the Dean of Students office must be submitted. University protocol limits you to 2 medical excuses per year only, and then you need a medical leave of absence. Students who fail to appear for an examination without a valid reason (see student manual: SGU SVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy/Test and quizzes policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to contact the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. [Examsoft information page](#)
 - e. [The general Reminders/Guidelines](#)

On Exam Day

1. All examinees scheduled to sit a computer-based exam are required to bring their laptops and all necessary accessories, (mouse, Ethernet cable and power cord/battery charger), for use on exam day.

2. An examinee who is experiencing a **computer problem** should **notify the course director** Dr Hanson immediately:- email address Thanson3@sgu.edu AND IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND the Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination.
3. Examinees must reset the clock on their laptops to the correct local time and time
4. **No communication of any kind is permitted between examinees once the exam has started**
5. Examinees are not allowed to use a telephone or other communication device at any point during the examination.
6. Examinees found violating any of the Examination Policies and Procedures including attempting to disable or tamper with the exam’s security features will be subject to academic disciplinary action.
7. Permitted Items—only the following items will be allowed into the exam venue:
 - Laptop and accessories
 - SGU ID
 - Completely clear (see-through) bottle of plain water
 - Items specified by Course Director or permitted by Dean of Students (DOS) office

If there are queries regarding exam content after the exam, these should be submitted in writing via the class representative(s) to the course director/ instructors. The content of any such query must be worded professionally and if necessary edited by the class representative prior to submission. Students are encouraged to not send questions that may be answered by reviewing the teaching material provided.

Note: For Diagnostic imaging examinations students should familiarize themselves with the use of image manipulation such as magnifying images and panning (using the cursor to ‘move’ the image which is larger than the actual display) the images, which will be needed to assess images, especially when small screens are used.

XX. Copyright policy (if applicable):

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George’s University (SGU) are the intellectual property of the

Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited. This includes publication on public pages on the internet, e.g. *Facebook*.

Appendices:

Appended: XXI and XXII: Lecture and Lab Course Schedule and Learning Outcomes

XXI. Lecture schedule:

Date Time	Lecture content	Lecture learning outcome
Week 3 Aug. 31, 2021	Lecture 1 Physics of radiology: X-ray generation, interaction of the x-ray with patient/ matter, image formation and interpretation, image contrast	1 list and identify the standard projections for radiographing the abdomen in dogs and cats 2 identify and interpret the normal and comparative radiographic anatomy of the abdomen in dogs and cats 3 demonstrate an understanding of radiographic technique relevant to the small animal abdomen 4 demonstrate an understanding of principles of radiation safety
Week 4 Sep. 7 2021	Lecture 2 Artifacts and Radiation safety: Time, shielding, technique, monitoring, methods of radiation protection (ALARA)	1 Explain definition, causes, examples and prevention of typical artefacts 2 Explain causes, advantages and disadvantages of image distortion and magnification 3 explain the sources of radiation hazard in using X-rays in veterinary medicine and list how radiation hazards can be controlled/minimized 4 list which areas of the body are sensitive to radiation 5 recommend standard radiation safety protocols when undertaking radiography of animals
Week 5 Sep. 14, 2021	Lecture 3 Small Animal Thorax	1. list and identify the standard projections & positioning for radiographing the thorax of dogs and cats 2. identify and interpret the normal and comparative radiographic anatomy of the thorax of dogs and cats 3. demonstrate an understanding of radiographic technique relevant to the small animal thorax 4. demonstrate an understanding of the principles of radiation safety

Week 6 Week of Sept. 20, 2021	Quiz	Quiz is based on Lectures 1 and 2 ,and lab 1 10 MCQ questions with/without images Total points 10 Given in Sakai Test/Quizzes
Week 7 Sept. 28, 2021	Lecture 4 Small Animal Abdomen	1. list and identify the standard projections & positioning for radiographing the abdomen of dogs and cats 2. identify and interpret the normal and comparative radiographic anatomy of the abdomen of dogs and cats 3. demonstrate an understanding of radiographic technique relevant to the small animal abdomen 4. demonstrate an understanding of the principles of radiation safety
Week 8 Week of Oct 4, 2021	MIDTERM WEEK	No radiology Mid-term
Week 9 Oct. 12, 2021	Lecture 5 Small Animal Thoracic Limb	1. list and identify the standard projections & positioning for radiographing the thoracic limb of dogs and cats 2. identify and interpret the normal and comparative radiographic anatomy of the thoracic limb of dogs and cats 3. demonstrate an understanding of radiographic technique relevant to the small animal thoracic limb 4. demonstrate an understanding of the principles of radiation safety
Week 10 Oct. 19, 2021	Lecture 6 Small Animal Pelvis & Pelvic Limb	1. list and identify the standard projections & positioning for radiographing the pelvis & pelvic limb of dogs and cats 2. identify and interpret the normal and comparative radiographic anatomy of the pelvis & pelvic limb of dogs and cats 3. demonstrate an understanding of radiographic technique relevant to the small animal pelvis & pelvic limb 4. demonstrate an understanding of the principles of radiation safety
Week 11 Week of Oct. 25, 2021	No Radiology I	

Week 12 Nov. 2, 2021	Lecture 7 Small Animal Vertebral Column	<ol style="list-style-type: none"> 1. list and identify the standard projections & positioning for radiographing the vertebral column of dogs and cats 2. identify and interpret the normal and comparative radiographic anatomy of the vertebral column of dogs and cats 3. demonstrate an understanding of radiographic technique relevant to the small animal vertebral column 4. demonstrate an understanding of the principles of radiation safety
Week 13 Nov. 9, 2021	Lecture 8 Small Animal Skull	<ol style="list-style-type: none"> 1. list and identify the standard projections & positioning for radiographing the skull of dogs and cats 2. identify and interpret the normal and comparative radiographic anatomy of the skull of dogs and cats 3. demonstrate an understanding of radiographic technique relevant to the small animal skull 4. demonstrate an understanding of the principles of radiation safety
Weeks 14-15	Review for final exam	Review lectures 3-8 AND labs 2-7
Week 16	Final exam	Dec. 1, 2021

XXII. Radiology Labs:

Week number	Lab No & content	Lab learning outcome
Week 4 Sept. 8, 2021	Lab 1 Physics of radiology/ Artifacts/ Radiation safety/ Radiographic technique	<ol style="list-style-type: none"> 1 explain how an x-ray generator works and identify the individual parts and their function 2 explain the generation of x-rays 3 explain scatter formation, prevention and the function and use of grids 4 explain radiographic image quality: film blackening, image contrast 5 identify examples of artifacts and their prevention 6 explain causes, advantages and disadvantages of image distortion and magnification

		7 explain the sources of radiation hazards in using X-rays in veterinary medicine and list how radiation hazards can be controlled
Week 5 Sept. 15, 2021	Lab 2 Small Animal Thorax	-research, development and presentation on the aspects of imaging of the normal small animal thorax -patient positioning -normal anatomy -image quality/critique -comparative anatomy
Week 6 Week of Sept. 20, 2021	QUIZ	Lectures 1-2, Lab 1
Week 7 Sept. 29, 2021	Lab 3 Small Animal Abdomen	-research, development and presentation on the aspects of imaging of the normal small animal abdomen -patient positioning -normal anatomy -image quality/critique -comparative anatomy
Week 8 Week of Oct. 4, 2021	Midterm week	No radiology midterm
Week 9 Oct. 13, 2021	Lab 4 Small Animal Thoracic Limb,	-research, development and presentation on the aspects of imaging of the normal small animal thoracic limb -patient positioning -normal anatomy -image quality/critique -comparative anatomy
Week 10 Oct. 20, 2021	Lab 5 Small Animal Pelvis and Pelvic Limb	-research, development and presentation on the aspects of imaging of the normal small animal pelvis & pelvic limb -patient positioning -normal anatomy -image quality/critique -comparative anatomy

Week 11 Week of Oct 25, 2021	No Radiology I	
Week 12 Nov. 3, 2021	Lab 6 Small Animal Vertebral Column	-research, development and presentation on the aspects of imaging of the normal small animal vertebral column -patient positioning -normal anatomy -image quality/critique -comparative anatomy
Week 13 Nov. 10, 2021	Lab 7 Small Animal Skull	-research, development and presentation on the aspects of imaging of the normal small animal skull -patient positioning -normal anatomy -image quality/critique -comparative anatomy
Weeks 14-15	REVIEW	Lectures 2-8, Labs 2-7
Week 16 Wednesday Dec. 1, 2021 @ NOON	Final Exam	



ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT

RADIOLOGY II SYLLABUS (1 credit)

SAMS 502, TERM II

Fall 2021

I. Course Faculty and Staff Information

Course Director: Thomas M. Hanson DVM, MS

Professor Diagnostic Imaging, SAMS, SVM, SGU

Email Address: thanson3@sgu.edu

Office Location: Cassia building, True Blue Campus, Lower floor

Office Hours: by appointment via e-mail for zoom session

Administration:

Ms Ruth Thornhill

SAMS, Cassia building, lower floor, True Blue Campus

Email Address: rthornhill@sgu.edu

II. Course Location-In Person

Lectures: Provided in My Courses as powerpoints and panopto recordings

Labs; lab keys, self study questions, answer keys and Panopto recordings of lab answers are provided in My Courses as powerpoints and panopto recordings

Examination- One quiz delivered within My courses Test and quizzes

Final examination will be delivered by examsoft

III. Prerequisite and/or co-requisite courses

Prerequisites: Radiology I and Veterinary Anatomy I

Co-requisite: Veterinary Anatomy II

Physics of radiology as taught in Term I

IV. Required reading resources (texts, journal articles, course notes, laptop specs, etc.)

Radiology I course notes

Anatomy I and II for reference

V. Recommended resources (texts, journal articles, course notes, laptop specs, etc.)

Students are NOT required to acquire a textbook, the recommended textbooks are listed below:

Main recommended textbook: Thrall, D.E. **Textbook of Veterinary Diagnostic Radiology**, 7th

Edition, Elsevier/ Saunders 2018. Includes chapters on physics of radiology and normal radiographic anatomy of Canine, Feline and Equine species. This is a very good reference for more in-depth reading. It covers all the material that will be discussed in lectures and labs.

Available at the library.

Additional recommended textbooks:

Butler, J.A., Colles, C.M., Dyson, S.J., Kold, S.J. and Poulos, P.W., **Clinical Radiology of the Horse**, 4th Edition. Wiley-Blackwell 2017. Kindle edition available.

'**Handbook of Equine Radiography**' by Martin Weaver and Safia Barakzai, Saunders and Elsevier, 2010

Websites: These are definitively worth looking at:

Radiology website with normal radiographic anatomy of main domestic species of the University of Illinois: http://vetmed.illinois.edu/courses/imaging_anatomy/index.html

London Royal Veterinary College website on normal radiographic anatomy:

<http://www.onlineveterinaryanatomy.net/>

VI. Accommodation

Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

For the lab sessions, writing material of your choice is required to write responses for the cases provided during the labs.

VIII. Course rationale

The student should at the end of the course be able to competently recognize the normal radiographic anatomy of the equine and bovine. The basic principles of how the image formation and interpretation are reapplied building on Term 1/ SAMS 501 knowledge. Students should be familiar with the standard projections, how they are obtained and the anatomy shown. The course offers the theoretical and practical basis for learning and understanding radiological anatomy of the equine and bovine species. The course serves as a basis for clinical radiology taught in terms 5 and 6.

Lectures are available on the online in PDF format The course contains 7 lectures. Lectures will be provided on normal bovine and equine radiographic anatomy, standard projections, examples of the juvenile and adult skeleton of both species and species differences. The lectures will cover the distal and proximal fore and hindlimbs, thorax, vertebral column and the skull. One lecture is dedicated to basic radiographic technique and anatomy of the avian species.

Labs are provided according to the schedule. The individual labs are dedicated to different anatomical regions as listed in the schedule. There will be **6 Labs**. Each lab covers one or several anatomic region(s)

- Students will work within groups to prepare a series of review questions pertaining to the lectur material.
- Groups will have 1 hours of lab time to prepare, with a review of the previous lecture also included
- Groups will be divided into positioning, images/image quality, normal anatomy, comparative anatomy

Office hours available by appointment.

IX. Course level outcomes

Upon successful completion of this course, the student will be able to...

- Have knowledge of the basic principles of radiographic technique, sources of potential artifacts and their prevention as taught in Radiology I
- Recognize the standard *projections* used in equine and bovine radiology
- Recognize the function of the different projections, i.e. what anatomic structures are highlighted in which projection
- Identify and explain the normal radiographic anatomy of the skeletal and thoracic systems of the equine, bovine and body systems of avian species, juvenile specimens and variations thereof
- Explain how to obtain and label equine and bovine radiographs correctly

- Apply the correct radiographic terms used in describing radiographs
- Acquire skills in verbally describing radiographs
- Be aware of the potential radiation hazards to personnel, patients and the public when performing equine/bovine and avian radiographs in order to ensure its safe use in clinical practice

X. Lesson level outcomes

Lessons include the lectures and Laboratory Sessions and together with the Course Level Outcomes are appended as a table at the end of the syllabus as part of the course schedule under *Appendices*.

XI. Alignment of Course Level Outcomes with Program Level Outcomes

Course level outcome (CLO)	SVM program level outcome (PLO)
Identify and explain the normal radiological anatomy of the skeletal system and thorax of the juvenile and adult equine and bovine and the body systems of the avian species and variations thereof.	PLO 1 Recall, understand and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.
Identify, list and explain the commonly used radiographic projections in equine, bovine and avian species to radiograph the axial and appendicular skeleton, skull and thorax of equine and bovine species and all the body systems of the avian species	PLO 1 Recall, understand and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.
Apply the principles of image interpretation and discuss image quality, radiographic technique, sources of potential artefacts and their prevention.	PLO 1 Recall, understand and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.
Integrate and explain the principles of radiation safety and awareness of the risks	PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and

of the use of ionizing radiation in veterinary medicine to the patient, staff, the public and the environment.	understand evidence-based veterinary medicine PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.
Apply imaging terminology correctly when writing or verbally describing and reporting diagnostic radiographic studies of horses, cattle and birds.	PLO 1 Recall, understand and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine PLO 12 Demonstrate, evaluate and model effective communication with clients, the general public, professional colleagues and responsible authorities.

XII. Course Schedule

Appended as a table under ‘*Appendices*’.

XIII. Grading and assessment policy

Types of assessment: There will one quiz during the course and will be available in My Courses: Tests and quizzes tab. The examination will consist of MC question type questions and a considerable number of the questions will include images. It will account for 9% of the overall points. The final examination will be available via Examsoft and will be cumulative and cover course material since the quiz and will account for 91% of the overall points. Students need to be familiar with the use of the test and quizzes software and Examsoft prior to the examinations. Make-up and Completion exams may include question types other than MC. Students need to be familiar with the use of the test and quizzes in My Courses and the ExamSoft/ *Exemplify* software. A ‘practice examination’ can be downloaded in ExamSoft to practice image manipulation.

Examination material will be all information provided on My Courses including lectures, radiology labs, self study questions, lab and self study keys and panopto recordings and all the material made available for Radiology II/ SAMS 502 on ‘My Courses’.

Exam- type questions will be supplied to become familiar with the type of questions asked and *no breakdown of the questions prior to the exam will be provided*. The exam is sequestered. The only time when questions can be viewed is during the exam.

In all exams, a maximum of 1 point is awarded per question answered correctly. Questions may be complex and correct answers must be given to obtain the point.

If there are queries regarding exam content after the exam, these should be submitted in writing via the class representative(s) to the course director/ instructors. The content of such queries must be worded professionally and reviewed and edited by the class representative prior to submission.

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

The SGU SVM grading

84.5-89.49	B+
79.5-84.49	B
74.5-79.49	C+
69.5-74.49	C
64.5-69.49	D+
59.5-64.49	D
<59.49	F

scale applies:

Examination/Quiz details: SAMS 502 / Radiology II

Examination	Fall 2021	MCQs	Total points	Content
Quiz 1				
Via My courses Test and Quizzes tab	Week 11, Week of October 25	10	10 questions @ 1 pt	Lectures 1 & 2 Labs 1 t& 2
Final Examsoft	December 8th	35	35 questions @ 1 pt	Lectures 3-7 Labs 3-6
Total		45		

Grading scale:

A maximum of 1 point is awarded per question answered correctly.
The SGU grading scale (as used in 'My Courses' 'Gradebook') applies:

89.5 -100 %	A
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84.5-89.49 %	B+
79.5-84.49 %	B
74.5-79.49 %	C+
69.5-74.49 %	C
64.5-69.49 %	D+
59.5-64.49 %	D
<59.49 %	F

Grading criteria: Grading is objective. There is a maximum of one point per correct answer, i.e. the number of total points making up the final course grade is the sum of correct answers achieved in the final exam and test quiz.

Note that Lab attendance does **not** incur points towards the final course grade, however unexcused negative lab attendance may negatively influence the final course grade

Student feedback for outcomes assessment evaluation

Students are encouraged to leave constructive comments, suggestions and criticism, at the end of the course, for faculty and instructors to review and consider. Professionalism is expected.

XIV. Recommended study strategies

Students should read all of the material provided in lectures and labs. When studying for the examination, all the material that is provided on MyCourses must be reviewed for the relevant exam. Exam contents are roughly summarized under XIII and will be announced again prior to the exam. Since DI works with images, the images supplied in the lecture and lab material are good examples of the anatomy discussed and must be recognized. The common features and appearance on radiographs of the bovine, equine and avian anatomy discussed must be known. Reviewing images in the listed additional sources will increase confidence in recognition of the radio graphic appearance of normal tissues. If the visual aspect of DI is a challenge, drawing the structures may be of help to be able to visualize it.

XV. Instructor’s expectations of the student

Course goals (Instructor’s point of view)

The student should at the end of the course be able to competently recognize the radio graphic anatomy of the equine and bovine species including some examples/ comparisons of these

species, know the basic principles of how the images are created, the standard projections for each anatomic region and the radiographic appearance of the anatomy in the various projections, know the basics of image interpretation and follow good radiographic practice (including technique and radiation safety principles). Students are expected to read the supplied documentation. Reviewing of corresponding material from Anatomy II prior to the lectures and review of the lecture prior to radiology labs is recommended. The material is provided on *My Courses*. The radiology labs cover the preceding lecture material unless the timetable does not allow it, and students are expected to be familiar with the material taught in lectures, so it can be applied during the lab classes.

The course does offer the theoretical and practical basis for learning and understanding radiological anatomy of the horse, the limbs of the bovine and examples of the avian species. The course builds on Radiology I and serves as a basis for Diagnostic Imaging in Terms 5 and 6. Knowledge of the basic principles of Physics of radiology as taught in Term 1 is expected.

XVI. Professionalism statement

Students are expected to behave professionally, courteous and respectful towards their peers, staff and faculty at all times. Cell phones should be turned off or set on silent during lectures and labs. The use of computers, tablets or phones for different purposes other than for following the lecture or Lab being given (i.e. Twitter, facebook, blogs et al) is unprofessional and should not occur. Personal video and audio recording of lectures or labs are not allowed, *panopto* recordings are created for each lecture and uploaded on MyCourses.

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Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Lecture attendance policy: Students are expected to attend all of the lectures.

Laboratory session policy: Radiology II Lab sessions require mandatory completion.

-> *Note* that Lab completion does **not** incur points towards the final course grade, however unexcused non-completion from lab sessions may negatively influence the final course grade.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination **MUST** inform the Course Director Dr Hanson on thanson3@sgu.edu and IT (tellexaminationsservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination.

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 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. [Examsoft information page](#)
 - e. [The general Reminders/Guidelines](#)

On Exam Day

1. All examinees scheduled to sit a computer-based exam are required to bring their laptops and all necessary accessories, (mouse, Ethernet cable and power cord/battery charger), for use on exam day.
2. Examinees must reset the clock on their laptops to the correct local time and time zone (Atlantic Standard Time - AST).
3. An examinee who is experiencing a **computer problem** should **notify the course director** Dr Hanson immediately:- email address Thanson3@sgu.edu AND IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of "0" points for the examination.
4. **No communication of any kind is permitted between examinees once the exam has started.**
5. Examinees are not allowed to use a telephone or other communication device at any point during the examination.

6. Examinees found violating any of the Examination Policies and Procedures including attempting to disable or tamper with Exam’s security features will be subject to academic disciplinary action.
7. Permitted Items—only the following items will be allowed for the exam:
 - Laptop and accessories
 - SGU ID
 - Completely clear (see-through) bottle of plain water
 - Items specified by Course Director or permitted by Dean of Students (DOS) office

If there are queries regarding exam content after the exam, these should be submitted in writing via the class representative(s) to the course director/ instructors. The content of any such query must be worded professionally and if necessary edited by the class representative prior to submission. Students are encouraged to not send questions that may be answered by reviewing the teaching material provided.

Note: For Diagnostic imaging examinations students should familiarize themselves with the use of image manipulation in *Exemplify*, such as magnifying images and panning (using the cursor to ‘move’ the image which is larger than the actual display) the images, which will be needed to assess images, especially when small screens are used.

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George’s University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited. This includes publication on public pages on the internet, e.g. *Facebook*.

XXI Appendices:

Appended are the lecture and radiology lab schedules, lecture learning outcomes

SAMS 502 Radiology II Lecture and Lab schedule

Week	Lecture content	Lecture learning outcome
Week 9 Tuesday, Oct. 12 Lecture 1	Bovine Radiography	<p>Explain how the bovine limbs are radiographed</p> <p>List and identify the standard projections, identify the normal radiographic anatomy of the juvenile and adult bovine limbs</p>
Week 10 Tuesday, Oct. 19 Lecture 2	Equine and Bovine Thorax/Spine	<p>Explain how the equine and bovine thorax is radiographed.</p> <p>List and identify the standard radiographic projections for the thorax.</p> <p>Identify the normal radiographic anatomy of the adult and juvenile equine and bovine thorax.</p> <p>List and identify the standard radiographic projections for the bovine and equine thoracic vertebral column- adult and juvenile.</p> <p>Identify the normal radiographic anatomy of the adult and juvenile equine and bovine vertebral column and the anatomical variations</p>
Week 11 Wednesday, Oct. 27 Lecture 3	Equine Foot/Fetlock	<p>Explain how the equine foot, phalanges and fetlock are radiographed.</p> <p>List and identify the standard and common oblique radiographic projections, using correct descriptive terminology, for the equine foot and phalanges and metacarpal/metatarsal joints.</p> <p>Be aware of the reasons for the use of standard oblique projections.</p> <p>Identify the normal radiographic anatomy of the adult and juvenile equine foot, phalanges and fetlock joint and the anatomical variations.</p>

<p>Week 12</p> <p>Tuesday, Nov. 2</p> <p>Lecture 4</p>	<p>Equine Carpus, Thoracic Limb</p>	<p>Explain how the equine shoulder, elbow, carpus and metacarpus are radiographed.</p> <p>List and identify the standard radiographic projections, using correct descriptive terminology, for each of these joints and the metacarpus.</p> <p>List and identify the common oblique radiographic projections of the equine carpus and metacarpus and be aware of the reasons for their use.</p> <p>Identify the normal radiographic anatomy of the adult and juvenile equine carpus, metacarpus, elbow and shoulder and the anatomical variations.</p>
<p>Week 13</p> <p>TBD</p> <p>Lecture 5</p>	<p>Equine Tarsus and Stifle</p>	<p>Explain how the equine stifle, tarsus and metatarsus, are radiographed.</p> <p>List and identify the standard radiographic projections, using correct descriptive terminology, for each of these joints and the metatarsus.</p> <p>List and identify the common oblique radiographic projections of the equine tarsus, metatarsus and stifle and be aware of the reasons for their use.</p> <p>Identify the normal radiographic anatomy of the adult and juvenile equine tarsus, metatarsus and stifle</p>

<p>Week 14</p> <p>Wednesday, Nov. 17</p> <p>Lecture 6</p>	<p>Equine Skull</p>	<p>Explain how the equine skull is radiographed</p> <p>List and identify the standard radiographic projections, using correct descriptive terminology for the teeth, paranasal sinuses and pharynx.</p> <p>List and identify the common oblique radiographic projections of the equine skull and be aware of the reasons for their use.</p> <p>Identify the normal radiographic anatomy of the adult and juvenile equine skull and the anatomical variations.</p>
<p>Week 15</p> <p>Wednesday, Nov. 24</p> <p>Lecture 7</p>	<p>Avian</p>	<p>Explain the practical aspects of avian radiography including positioning and the standard projections and radiation safety issues.</p> <p>Identify the normal radiographic anatomy of the avian species</p>
<p align="center">Week 17, Wednesday Dec. 8 FINAL EXAM</p> <p align="center">Material from Lectures 3-7, Labs 3-6</p>		

Radiology II Lab Contents and Learning Outcomes:

Lab location: Charter Hall

Date	Lab	Lab learning outcome
<p>Week 9 Week of Oct. 11</p>	<p>Lab 1 Bovine radiography</p>	<p>Explain how the bovine limbs are radiographed, list and identify the standard (including oblique) projections.</p> <p>Identify the normal radiographic anatomy of the juvenile and adult bovine limbs</p>
<p>Week 10 Week of Oct. 18</p>	<p>Lab 2 Equine/Bovine Thorax</p>	<p>Explain how the equine and bovine thorax is radiographed. List and identify the standard radiographic projections for the thorax</p> <p>Identify the normal radiographic anatomy of the adult and juvenile equine and bovine thorax</p>
<p>Week 11 Week of Oct. 25</p>	<p>Lab 3 Equine Foot and Fetlock</p>	<p>Explain how the equine foot, phalanges and fetlock radiographed. List and identify the standard and oblique projections of the foot, phalanges and fetlock</p> <p>Identify the normal radiographic anatomy of the equine foot and fetlock; juvenile and adult</p>
<p>Week 12 Week of Nov. 1</p>	<p>Lab 4 Equine Thoracic Limb</p>	<p>Explain how the equine forelimb (including shoulder, elbow, carpus and metacarpus) is radiographed. List and identify the use of oblique projections of carpus and metacarpus.</p> <p>List and identify the standard projections</p> <p>Identify the normal radiographic anatomy of the equine forelimb</p>

<p>Week 13</p> <p>Week of Nov. 8</p>	<p>Lab 5</p> <p>Equine Tarsus and Stifle</p>	<p>Explain how the equine hindlimb (including stifle, tarsus and metatarsus) is radiographed.</p> <p>List and identify the standard and oblique projections.</p> <p>Identify the normal radiographic anatomy of the equine hindlimb (including stifle, tarsus and metatarsus)</p>
<p>Week 14</p> <p>Week of Nov. 15</p>	<p>Lab 6</p> <p>Equine Skull</p>	<p>Explain how the equine skull is radiographed, including sinuses, teeth</p> <p>List, identify and explain the standard projections.</p> <p>Identify the normal radiographic anatomy of the equine skull</p>
<p align="center">Week 17, Wednesday Dec. 8 FINAL EXAM</p> <p align="center">Material from Lectures 3-7, Labs 3-6</p>		



ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT of Small Animal Medicine and Surgery (SAMS)
DIAGNOSTIC IMAGING SYLLABUS (3 credits)
SAMS 513, TERM 5
Fall 2021

Course Director

Thomas Hanson, DVM, MS

Professor Diagnostic Imaging, SAMS, SVM, SGU

Cassia building ground floor

Office hours by appointment via email for zoom

Thanson3@sgu.edu

I. Course Faculty and Staff Information

Administration: Ms Ruth Thornhill

SAMS, Cassia building, lower floor, True Blue Campus

Email Address: rthornhill@sgu.edu

II. Course location – (see XII for schedules)

Lectures: Sis Lecture Hall

Labs: Charter Hall

Examinations/quiz/tests-

Midterm will be delivered by examsoft

One quiz delivered within My Courses Test and quizzes

Final examination will be delivered by examsoft

III. Prerequisite and/or co-requisite courses

Radiology I and II
Veterinary Anatomy I and II

Knowledge of normal radiographic anatomy is expected and is not taught in this course. Updated Radiology I and II lectures (as taught in terms 1 and 2) are available on *MyCourses* for reference and as a basis for study.

As a reference for physics of radiology, Chapter 1: Radiation Protection and Physics of Diagnostic Radiology, pages 2 to 21 of the Textbook **Thrall, D.E. Textbook of Veterinary Diagnostic Radiology**, 6th Edition, Elsevier/ Saunders, 2013 are supplied on *MyCourses*. See below for printed resources.

IV. Required reading resources

All material supplied on MyCourses/ 2021-01-SAMS513-V-0- Diagnostic Imaging-(21139)

V. Recommended resources (texts, journal articles etc.)

Students are NOT required to acquire a textbook.

Main recommended textbook: Thrall, D.E. **Textbook of Veterinary Diagnostic Radiology**, 7th Edition, Elsevier/ Saunders 2018. Includes chapters on physics of radiology and normal radiographic anatomy of Canine and Equine species. This is a very good reference for more in-depth reading. It covers all the material that will be discussed in lectures and labs. Available at the library and online versions can be purchased.

Additional resources: Supplied on *My courses*:

This material contains additional background information which is *not* material that will be examined. Resource on Digital Radiography: **Thrall, D.E. Textbook of Veterinary Diagnostic Radiology**, 6th Edition, Elsevier/ Saunders, 2013: Chapter 2: Digital Radiographic Imaging, pages 22 to 37.

Additional recommended textbooks:

Kealy K., McAllister H. and Graham J.P. **Diagnostic Radiology and Ultrasonography of the Dog and Cat**, 5th edition. Saunders/ Elsevier 2011.

Holloway A. and McConnel F. **BSAVA Manual of Canine and Feline Radiography and Radiology; A Foundation Manual**, 1st edition. BSAVA 2014.

Kirberger R.M., McEvoy F. J. **BSAVA Manual of Canine and Feline Musculoskeletal Imaging**, 2nd edition. BSAVA 2016.

Schwarz T. and Johnson V. **BSAVA Manual of Canine and Feline Thoracic imaging**, 1st edition. BSAVA 2008

O'Brien, R. and Barr F. **BSAVA Manual of Canine and Feline Abdominal imaging**, 1st edition. BSAVA 2009.

Butler, J.A., Colles, C.M., Dyson, S.J., Kold, S.J. and Poulos, P.W., **Clinical Radiology of the Horse**, 4th Edition. Wiley-Blackwell 2017. Kindle edition available.

Mattoon J.S. and Nyland T.G. **Small Animal Diagnostic Ultrasound**. 3rd edition, Elsevier/Saunders, 2015. Kindle edition available.

Penninck D. and d'Anjou M.A. **Small Animal Ultrasonography**, 2nd edition. Wiley/Blackwell, 2015. Kindle edition available.

Barr F. and Gaschen L. **BSAVA Manual of Canine and Feline Ultrasonography**, 1st edition. BSAVA 2011.

Dennis R., Kirberger R.M., Barr F., Wrigley R.H. **Handbook of Small Animal Radiology and Ultrasound. Techniques and Differential Diagnoses**. 2nd Edition, Elsevier 2010.

Ayers Susie. **Small Animal Radiographic Techniques and Positioning**, Wiley& Blackwell, 2012.

Handbook of Equine Radiography by Martin Weaver and Safia Barakzai, Saunders and Elsevier, 2010.

Websites: These are definitively worth looking at:

Radiology website with normal radiographic anatomy of main domestic species of the University of Illinois:

http://vetmed.illinois.edu/courses/imaging_anatomy/index.html

London Royal Veterinary College website on normal radiographic anatomy:

<http://www.onlineveterinaryanatomy.net/>

VI. Accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII Other requirements

For the lab sessions, writing material of your choice is required to write responses for the cases provided during the labs.

VIII Course Rationale

At the end of the course the student should be able to competently interpret and comment on common radiographic presentations of clinical disorders that she or he will encounter on the first day in clinical practice. The basic principles of how the image formation and interpretation are reapplied building on SAMS 501 and SAMS 502 knowledge. Students should be familiar with the standard projections, the anatomy they demonstrate and how they are obtained. The course does offer the theoretical and practical basis for learning and understanding the basics of diagnostic imaging that is applied in daily veterinary practice.

Lectures will be available according to the schedule provided under *Appendices*. **Lectures** are scheduled ahead of the lab classes. Lectures are available as **Powerpoint pdf files** on *MyCourses* and as ZOOM recordings at the completion of each presentation. Lecture content is indicated in the appendices. The course covers the basic principles of image interpretation in the current clinically used modalities and basic general clinical radiology in dogs, cats, horses and bovines. The course should prepare the student to be competent in diagnosing common pathologies using diagnostic radiology and be able to recommend the appropriate advanced imaging modalities as may be required on the first day of clinical practice.

Lab Classes will be made available according to the schedule (see under *Appendices* for dates and content. Content will consist of clinical imaging cases that students will practice interpretation skills.

- Students will be expected to evaluate radiographs and give answers to formative questions during discussion.
- Lab content will be examined in the examinations (Midterm, Quiz, Final).
-

IX. Course Level Outcomes

Note: Each lecture/lab learning outcome may relate to several Course Learning Outcomes (CL).

Upon successful completion of this course, the student will be able to...

- understand the basic principles of image formation and interpretation in radiology and ultrasound (image formation in radiology was covered mainly in term 1)
- understand the basic principles of image formation and interpretation in CT, MRI and Scintigraphy including the correct terminology to describe images.
- recognize the normal anatomic features and anatomic variations in the canine and feline species in radiographic and ultrasonographic modalities
- recognize the normal anatomical features and anatomical variations in the equine and bovine species in radiographic and ultrasonographic modalities

- identify radiographic and ultrasonographic abnormalities of common clinical conditions in small animals; and some examples of typical appearances of common lesions as seen in CT, MRI and Scintigraphy modalities
- identify radiographic and ultrasonographic abnormalities of common clinical conditions in large animals
- develop the ability to use correct radiographic terms and descriptors in formulating an imaging report for small and large animals focusing on radiology and ultrasonography.
- acquire skills in describing abnormalities seen in the images of various modalities and compile structured reports using correct terms and descriptors.
- learn how to select appropriate diagnostic tests and imaging modalities and be familiar with their technique
- be aware of the potential radiation hazards to personnel when using ionizing radiation and the hazards of working with MR equipment in order to ensure its safe use in clinical practice
-

X. Lesson Learning Outcomes

Lesson- level/ learning outcomes (LLOs) are appended as a table at the end of the Syllabus as part of the Course Schedule under *Appendices*.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Learning Outcome	SVM Program Level Outcome
Recognize and explain the normal radiographic anatomy of the body systems of the common domestic species (equine, canine, feline, bovine) and variations thereof.	PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
List, explain and apply the commonly used radiographic projections in dogs and cats and horses and bovines to image the body systems including axial and appendicular skeleton, skull, thorax and abdomen.	PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
Recognize and correctly interpret radiographic signs associated with commonly recognized pathology of the body systems of the common	PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.

<p>domestic species (equine, canine, feline and some bovine).</p>	<p>PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>Recognize and correctly interpret radiographic signs associated with commonly recognized pathology of the abdominal parenchymal organs detected by abdominal ultrasound.</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>Appraise the normal heart and great vessels and the common abnormalities/ pathologies thereof on both radiographic and, basically, on echocardiograms.</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 20 Execute a comprehensive patient diagnostic</p>

	<p>plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>Explain the basic principles of image formation in radiology, ultrasound, CT, MRI and Scintigraphy.</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 11 Understand and apply basic principles of research, and recognize the contribution of research to all aspects of veterinary medicine.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>Recognize the best use of advanced diagnostic imaging modalities (CT, MRI, Scintigraphy) and in which cases to recommend what modality.</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>List the commonly used types of contrast media used in diagnostic imaging, the method of administration the most common types of studies performed and the risks and contraindications of their use.</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p>

	<p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>Integrate, explain and apply the principles of radiation safety and awareness of the risks of the medical use of ionizing radiation to the patient, staff, the public and the environment.</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
<p>Demonstrate proficiency in the correct use of medical imaging terminology when verbally describing and reporting diagnostic imaging studies and can communicate a radiographic diagnosis and differential diagnoses to teachers/ colleagues/ co-workers / owners.</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>

<p>Explain and recommend the use of ultrasound to perform interventional studies such as fluid/tissue sampling and the standard practice of such.</p>	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
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XII. Lecture and Lab Schedules

Appended as a table at the end of the Syllabus under *Appendices*

XIII. Grading and assessment policy, and grading rubrics

There will be **1 Midterm exam**, **1 Quiz**, and **1 Final exam**. All examinations will consist of MC question type and a considerable number of the questions will include images. The mid-term and final examinations will be in *ExamSoft*. Resit (Make-up) and Completion exams will take place using *ExamSoft*. The Quiz will be in the **Tests & Quizzes** tab in *My Courses*. Completion and Resit exams may include question types other than MC. The student has to be familiar with the use of *ExamSoft/ Exemplify* software as well as the *Tests & Quizzes* software in *My Courses* prior to the examinations.

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

Examination material will be based on all of the information provided on *MyCourses*, during lectures and Question and Answer zoom discussions including lecture notes, lecture and lab Powerpoint pdfs, Panopto recordings and any additional material as indicated and provided on *MyCourses*.

The Quiz, Midterm and Final exams will assess the material taught prior to these exams and thus be non- cumulative. Exam details will be communicated prior to the examinations via *MyCourses*. *There will be no detailed breakdown of questions published prior to the individual exams.* Exams and the Quiz are sequestered. The only time when questions can be viewed is during the exam. **NOTE:** Images presented on quizzes and exams may be from sources other than the lecture slides and those cases used in labs.

Grading scale:

In all exams, a maximum of 1 point is awarded per question answered correctly.

The SGU SVM grading scale applies:

>89.5%	A
84.5-89.49	B+
79.5-84.49	B
74.5-79.49	C+
69.5-74.49	C
64.5-69.49	D+
59.5-64.49	D
<59.49	F

Examination details:

Examination	Fall 2021	Number of MCQs	Maximum points	Lecture content	Lab content
Midterm Examsoft	October 8th 12-1.30pm	69	69	Lectures 1 - 17	Labs 1+2+3
Quiz On MyCourses	Week of October 25	14	14	Lectures 18- 22	Lab 4
Final exam Examsoft	December 10 12-1:30pm	55	55	Lectures 23 -33	Labs 5 and 6
Total		138	138		

Please note that the content of the individual exams may change if changes are applied to the schedule.

Grading criteria: Grading is objective. There is a maximum of one point per correct answer, i.e. the number of total points making up the final course grade is the sum of correct answers achieved in the Midterm, Quiz and Final exam.

Student feedback for outcomes assessment evaluation

Students are encouraged to leave constructive comments, suggestions and criticism, at the end of the course, for faculty and instructors to review and consider. **Professionalism is expected.**

XIV. Recommended study strategies

Students should read the material provided prior to working through the labs. When studying for examinations, all the material relating to an exam that is provided on *MyCourses* must be reviewed; this includes lecture powerpoint pdf files and Zoom recordings. Exam contents are roughly summarised under XIII and will be announced prior to each exam. Since DI works with images, the images supplied in the lecture and lab material are good examples of the pathologies discussed and must be recognized. The common features and appearance on radiographs (or other modalities in some cases) of the pathologies discussed must be known. Reviewing images in the listed additional sources will increase confidence in recognition of the radiographic appearance of normal and abnormal tissues. If the visual aspect of DI is a challenge, drawing the lesions may be of help to be able to visualize it. Review of the material provided in the SMS 501 and SAMS 502 is advisable to refresh your knowledge of the normal radiographic features. Students are requested to ask for support if needed (request office hours,

make use of DES) in a timely and professional manner, i.e. prior to the exam, so support can be given and potential problems can hopefully be solved.

XV. Instructor's expectations of the student

Review of corresponding material from Radiology I and II and radiographic normal anatomy prior to the lectures/ radiology labs is strongly recommended. This material is provided on *My Courses 2021-01-SAMS513-V-0- Diagnostic Imaging; Resources*.

The radiology labs cover the preceding/concurrent lecture material and students are expected to be familiar with the material taught in lectures, as it is applied during the lab classes.

XVI. Professionalism statement

Students are expected to behave professionally, be courteous and respectful towards their peers, staff and faculty at all times. Cell phones should be turned off or set on silent during zoom sessions. The use of computers, tablets or phones for different purposes other than for following the lecture (i.e. Twitter, facebook, blogs et al) is unprofessional and should not occur.

XVII. Attendance policy

Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

IX. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination. Students who have technical issues during the examination MUST inform the Course Director – Dr. Thomas Hanson at Thanson3@sgu.edu and IT (talexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School. *Carenage/ Medical Excuse Submissions/ SVM Examinations* will be accepted. If you don’t think you are healthy enough to take an exam, please inform the course director Dr Thomas Hanson at Thanson3@sgu.edu PRIOR to the time of the exam. Excuses that are issued **after** the examination has started/ been given will not be accepted. If an extended absence is required, a **leave of absence** form from the Dean of Students office must be submitted. University protocol limits you to 2 medical excuses per year only, and then you need a medical leave of absence. Students who fail to appear for an examination without a valid reason (see student manual: SGU SVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct. Examsoft policy applies for the online version of the course also.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).

5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to contact/visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. [Examsoft information page](#)
 - e. [The general Reminders/Guidelines](#)

On Exam Day

1. All examinees scheduled to sit a computer-based exam are required to bring their laptops and all necessary accessories, (mouse, Ethernet cable and power cord/battery charger), for use on exam day.
2. Examinees must reset the clock on their laptops to the correct local time and time zone (Atlantic Standard Time - AST).
3. An examinee who is experiencing a **computer problem** should **notify the course director Dr Hanson; thanson3@sgu.edu AND IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu)** during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination
4. **No communication of any kind is permitted between examinees once the exam period has started.**
5. Examinees are not allowed to use a telephone or other communication device at any point during the examination.
6. Examinees found violating any of the Examination Policies and Procedures including attempting to disable or tamper with Exam’s security features will be subject to academic disciplinary action.
7. Permitted Items—only the following items will be allowed for the exam:
 - Laptop and accessories
 - SGU ID
 - Completely clear (see-through) bottle of plain water
 - Items specified by Course Director or permitted by Dean of Students (DOS) office

Note: For Diagnostic imaging examinations students should familiarize themselves with the use of image manipulation in *Exemplify*, such as magnifying images and panning (using the cursor to ‘move’ the image which is larger than the actual display) the images, which will be needed to assess images, especially when small screens are used. Similarly, students should familiarise themselves with the Test and Quizzes software in My Courses I order to take the quiz

After the exam

If there are queries regarding exam content after the exam, these should be collected and submitted in writing via the class representative(s) to the course director/ instructor. The content of any such query must be worded professionally and if necessary edited by the class representative prior to submission. Students are encouraged to not send questions that may be answered by reviewing the teaching material provided. Answers to queries will be supplied on MyCourses for all students to see.

XX. Copyright policy

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XXI Appendices:

SAMS 513 DIAGNOSTIC IMAGING FALL 2021 LECTURE SCHEDULE

Date	Lecture	Content	LLOs	Hours
Week 1 8/17	Abdomen	-course intro -overview of DI/image interpretation -positioning/anatomy review -extra-abdominal & osseous structures -serosal definition	To recognize common normal and abnormal radiographic findings of the extra-abdominal structures and peritoneal cavity	1
8/19	Abdomen	-extra-abdominal & osseous structures -serosal definition -gastrointestinal tract	To recognize common normal and abnormal radiographic findings of the gastrointestinal tract	1

8/20	Abdomen	-gastrointestinal tract	To recognize common normal and abnormal radiographic findings of the gastrointestinal tract	1
Week 2 8/23	Abdomen	-gastrointestinal tract	To recognize common normal and abnormal radiographic findings of the gastrointestinal tract	1
8/25	Abdomen	-kidneys -urinary bladder	To recognize common normal and abnormal radiographic findings of the kidneys & urinary bladder	1
8/27	Abdomen	-reproductive tract -caudal thorax	To recognize common normal and abnormal radiographic findings of the reproductive tract	1
Week 3 8/31	Contrast studies	-GI/GU contrast studies	To recognize the indication for, and limitations of, contrast studies of the GI and GU tract	1
9/1	Ultrasound	-physics overview	To understand ultrasound generation and its clinical indications, limitations and application	1
9/3	Ultrasound	-abdominal applications	To recognize the normal features of the canine and feline abdomen using radiology and ultrasound To recognise common normal and abnormal sonographic findings of the peritoneal cavity and abdominal organs	1
Week4 9/7	Thorax	-positioning/anatomy review -extra-thoracic/osseous structures -pleural space	Review of the projections and various anatomical components of thoracic radiology and breed variations. Acquire basic concepts of radiology of pleural and mediastinal diseases Acquire the basic concepts of the radiology and disorders of the diaphragm and ribs.	1
9/8	Thorax	-pleural space -mediastinum, trachea -esophagus	To understand the principles of trachea and esophagus radiology and the indications for contrast studies	1
Week 5 9/13	Thorax	-cardiac silhouette -congenital heart disease -acquired heart disease	To recognize the radiographic changes associated with congenital and acquired heart disease	1
9/15	Thorax	-pulmonary parenchyma -cranial abdomen	To learn the classic features of pulmonary patterns and their typical distribution in various diseases.	1
9/17	Echo	-principals, normal anatomy	To understand ultrasound generation and its clinical indications, limitations and applications	1

Week 6 9/20	Echo	-congenital cardiac disease -acquired cardiac disease	To recognize and describe the common abnormalities seen on ultrasonography of patients with heart disease	1
9/21	MSK 1		Understand technique and interpretation of radiology of bone, bone structure, morphology, opacity, development, periosteal reactions, loss of bone vs bone production, associated soft tissue changes	1
9/22	MSK 2		Understand the radiographic patterns of bone destruction and classification of bone lesions into aggressive / non-aggressive lesions, typical behaviour of aggressive/ non- aggressive bone lesions, lytic vs proliferative lesions, patterns of bone destruction; which type of periosteal reaction goes with which class of bone lesion; progression of bone lesions.	1
9/23	MSK 3		Explain, list and interpret radiology of fractures (fx) including fx classification (location, morphology), age of fx, fx healing, complications of fx healing and complications of fx to growth plates and joint involvement.	1
Week 7 9/27	MSK 4		Understand the radiology of congenital and developmental bone/ skeletal/ joint lesions and be able to recognise typical radiological changes of specific (common)pathologies; monostotic, polyostotic and generalised presentations, disorders affecting bone and/ or joints, dysplasias, developmental joint disease: OC/ OCD; Legg-Calvé-Perthes disease	1
9/28	MSK 5		Understand the radiology of congenital and developmental lesions affecting joints. Be able to recognise and interpret typical radiographic changes of specific (common) pathologies and dysplasias affecting joints.	1
Week 8 10/8 @ Noon	MID-TERM EXAM			
Week 9 10/11	MSK 6		Explain and understand radiography of joints, techniques, projections, stressed projections and radiology of the joint and its components, ST swelling at the joint level/ joint effusion, joint congruency; subluxation vs luxation, osteophytes vs	1

			enthesiophytes; septic arthritis; osteoarthritis / osteo-arthritis/ degenerative joint disease; developmental joint disease: OC/ OCD, elbow dysplasia, hip dysplasia; patella luxation, immune mediated joint disease, polyarthropathies.	
10/13	Equine 1	Equine foot	Explain how and be able to recognise equine foot projections and radiological technique with particular consideration of personnel safety. Be able to identify/ recognise common radiological abnormalities of the distal phalanx, navicular bone and phalange	1
10/15	Equine 2	Equine fetlock/metacarpus(tarsus)	Explain how and be able to recognise equine projections and radiographic technique of the equine metacarpo/ metatarso-phalangeal joints with particular consideration of personnel safety. Be able to identify and recognize common radiographic abnormalities of the metacarpo/ metatarso-phalangeal joints	1
Week 10 10/18	Equine 3	Equine carpus, elbow, shoulder	Explain how and be able to recognise equine projections and radiographic technique with particular consideration of personnel safety of the equine carpus. Be able to identify/ recognize common radiographic abnormalities of the equine carpus, elbow and shoulder	1
10/19	Equine 4	Equine tarsus and stifle	Explain how and be able to recognize equine projections and radiographic technique with particular consideration of personnel safety of the equine tarsus. Be able to identify/ recognize common radiographic abnormalities of the equine tarsus and stifle.	1
Week 11	Quiz			
10/27	Equine 5	Equine spine and thorax	Explain how and be able to recognize equine projections and radiographic technique with particular consideration of personnel safety of the equine spine and thorax. Be able to identify/ recognize common radiographic abnormalities of the equine	1
10/28	Equine Skull		Explain and interpret radiographic projections of the equine skull including the nasal cavities, sinus, teeth, mandible, TMJ, orbit, ear, guttural pouches, pharynx and larynx.	1

10/29	Advanced Imaging	Principles of CT, MRI and Nuclear medicine – a brief outline of image formation, interpretation and application	Understand the basic concept of how the image is created, know terminology used to describe images, technique of image acquisition and applications of CT, MRI and Nuclear imaging	1
Week 12 11/1	Small animal skull	Imaging of the canine and feline skull	Recognise and interpret radiology of the normal and abnormal skull including the nose, sinuses, teeth and ears. Understand imaging of the eyes, retrobulbar space and orbit, recommend appropriate modality; ultrasound of the eye and common conditions, imaging hydrocephalus; examples of cross-sectional imaging of the skull and brain.	1
11/3	Vertebral column 1	Radiology of the small animal vertebral column	Recognise normal and variant skeletal morphology, anomalies, inflammatory, traumatic, metabolic, degenerative and neoplastic diseases of the vertebral column and the techniques to demonstrate them	1
11/5	Vertebral column 2	Radiology of the small animal vertebral column	Understand the technique, application and interpretation of basic myelographic patterns. Examples of advanced (cross sectional) imaging of the small animal vertebral column	1
Week 13 11/8	Miscellaneous imaging	Endocrine and small parts imaging	Understand radiographic and sonographic imaging of the endocrine organs, eye and MSK structures	1
Week 14 11/15-11/19	REVIEW WEEK			
Week 15 11/22 – 11/26	REVIEW WEEK			
Week 16 12/1	FINAL EXAM @ Noon			

Lab Schedule SAMS 513 Fall 2021

Lab groups are appended after the Lab Schedule.

DATE	Lab No./Content	Lab Learning Objectives	Instructor
Week 2-3 Aug 23 & Aug 30	Lab 1 Abdomen: extra-abdominal structures, serosal contrast, liver, spleen, GIT	Identify and interpret of examples of common radiographic conditions of the abdomen including the organs, GIT and urinary system of small animals and the use of ultrasound using case examples with question and answer discussions with instructors.	TH
Week 4-5 Sep 6 & Sep 13	Lab 2 Abdomen: GIT, kidneys, bladder, caudal thorax	Identify and interpret of examples of common radiographic conditions of the abdomen including the organs, GIT and urinary system of small animals and the use of ultrasound using case examples with question and answer discussions with instructors.	TH
Week 6-7 Sep 20 & Sep 27	Lab 3 Thorax	Review normal thoracic radiographic anatomy and interpretational pitfalls. Identify and interpret the common radiographic conditions of the thoracic cavity of small animals including the pleura and mediastinum	TH
Week 9-10 Oct 11 & Oct 18 Lab 4	Lab 4 MSK Aggr vs non-aggr Fractures, Developmental skeletal lesions, joints	Identify and interpret the common radiographic appearance of developmental skeletal and joint conditions in small animals using case examples with instructor discussions Identify and differentiate aggressive vs non-aggressive bone lesions. Identify, characterize and classify case examples of fractures and assess fracture healing. Practice review of case examples with question and answer discussions with instructors.	TH
Week 12-13 Nov 1 & Nov 8	Lab 5 Equine radiology Limbs and Skull	Identify and interpret the common radiographic conditions of the appendicular skeleton of the horse Identify and interpret the common radio-logical conditions of the equine skull. Practice review of case examples with question and answer discussions with instructors	TH
Week 14-15 Nov 15 & Nov 22	Lab 6	Review the orientation principles and terminology of CT/ MR. Identify and	TH

	CT, MRI Endocrine Vertebral column Myelography Skull	interpret the common radiographic conditions of the spine of small animals and the use of myelography . Identify and interpret the common radiographic conditions of the skull including the nasal cavities, ears and teeth in small animals using case examples with question and answer discussions with instructors.	
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St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

SMALL ANIMAL MEDICINE & SURGERY DEPARTMENT

INTRODUCTION TO SURGICAL SKILLS SYLLABUS (1 credit)

SAMS 514 (Term 4)

FALL2021

I. Course Faculty and Staff Information

Course Director: Tara Paterson, DVM, MSc, Associate Professor

Email: tpaterson@sgu.edu

Office: Cassia building, 2nd floor

Instructors: Marta Lanza Perea, DVM, MRCVS, MSc, Associate Professor

Email: mperea@sgu.edu

Emily Turitto, DVM, Assistant Professor

Email: eturitt1@sgu.edu

Keith Kalasi, DVM, Assistant Professor

Email: tpaterson@sgu.edu

Visiting Professors: Merel Blonk, DVM

VSL Technical Staff: Elizabeth Peach, RVT epeach@sgu.edu

Jakobus Louw, VSL Technician jlouw@sgu.edu

Quacy Matthew, VSL Technician QMatthew@sgu.edu

Jude Modeste, VSL Technician jmodeste@sgu.edu

Office Hours for remote students: Mondays noon-1pm AST (via Zoom)

Office Hours for on-island students: By appointment only

II. Course location

SAMS514 labs will take place in the Junior Surgery & Anesthesia Lab (JSAL, ground floor of Sis hall). Lectures will take place in xxx. All course material will be available on Sakai. Sakai Lessons will be used for weekly organization of tasks with direct links to resources as needed.

III. Prerequisite and/or co-requisite courses

None.

IV. Required resources

- Veterinary Surgery: Small Animal (2nd ed)(Johnston & Tobias, 2018)

Other than the required & recommended textbooks, all other course resource material will be available on Sakai and include:

SAMS514 Suture Pattern Guide

Lecture pdfs & recordings

Demonstration videos

For remote students: a laptop or other electronic device will be required to enable access to lectures & videos as well as participate in live, interactive sessions on Zoom (functional camera and microphone required).

V. Recommended resources

- Veterinary Surgical Preparation and Protocol (Pasquini, 2011)
- Fundamentals of Small Animal Surgery (Mann, Constantinescu & Yoon, 2011)

VI. Accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

All students will require the following supplies for learning the surgical skills taught in this course:

- Suture pad model
- Intestinal suture model (max 6" in length)
- Needle holder (Crile-Wood or Mayo-Hager)
- Thumb forceps (Brown-Adson or Adson)
- Doyen suture scissors
- Suture material (silk or synthetic monofilament/multifilament recommended, size 2-0 or 3-0)
- OPTIONAL: 3 X Halsted hemostatic forceps (or similar)

VIII. Course rationale

This course is an introductory surgery course and is designed to lay the foundation for advanced 3rd year courses in surgery including both Small Animal Surgery (SAMS518) & Large Animal Surgery (LAMS516) as well as clinical surgical courses including Junior Surgery and Anesthesia lab (SAMS527) and Small Animal Clinical Services (SAMS528).

IX. Course Learning Outcomes

See Appendix 1.

X. Lesson Learning Outcomes

Appendix 2.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Appendix 3.

XII. Course Schedule

See Appendix 4.

XIII. Grading and assessment policy, and grading rubrics

SVM Grading scale:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Student assessment will be based on homework, surgical skills assessments, and one final written examination.

Homework assignments:

Students will be required to complete one homework assignment during the term.

Surgical skills assessments:

Students will be required to demonstrate proficiency in all surgical skills taught during the course (see Appendix 2 for full list of skills). Two surgical skills assessments will be administered during the term. **Any skill that is scored <70% is deemed to be unsatisfactory.** To ensure adequate proficiency, the student will be

asked to meet with a course instructor to repeat the demonstration of the surgical skill(s) in question. However, there will be no change in the original grade assigned.

Final written examination:

The final written examination is comprehensive and will cover **all** topics and surgical concepts discussed in the course.

Bonus Exam question assignment:

Each student will have the opportunity to submit one multiple-choice style examination question during the term based on an assigned topic. A bonus of 1% will be applied to the *final course grade* for students who complete the assignment satisfactorily. This assignment is *optional*.

Summary of course grade:

Homework assignments	5%
Surgical skills assessments	60%
Final written examination	<u>35%</u>
	100%
Bonus assignment	+ 1%

The course has been designed as a **mastery course**. **The importance of clinical skills in this course must be emphasized and recognized.** Any student who fails to demonstrate adequate clinical proficiency and/or fails to remediate any skill(s) that was/were deemed unsatisfactory in a skills assessment will result in failure of the course (F Grade).

With regards to ExamSoft examinations, a grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

Surgical skills: Routine & frequent practice of the surgical skills taught in this course is essential for skill acquisition and long-term skill retention. This strategy will also minimize the last-minute panic before surgical skills assessments and will help the student to identify those skills they may be struggling with. These difficulties can then be addressed during the regularly scheduled lab hours (or during weekly Zoom Office hours for remote students). Any student requiring additional assistance should

email the course director (tpaterson@sgu.edu) to arrange a mutually convenient time to meet. Please note: when seeking additional assistance for practical skills, *please ensure that you have practiced before the meeting and have identified the problems you are having. Do not schedule such meetings and expect all skills to be re-taught to you.*

Didactic material: The student is encouraged to utilize the Lesson Learning Outcomes (Appendix 2) to guide their preparations for the final written examination.

XV. Instructor's expectations of the student

1. The student is expected to attend lectures in real-time wherever possible.
2. Assignments will be completed within the given time frame and students will reach out to the course director in the event that a deadline cannot be met.
3. The student is expected to prepare for each laboratory session by reviewing all pertinent instructional videos *prior to* each laboratory session. If no videos are available, the student should review the step-by-step instructions in the SAMS514 Suture Pattern guide.
4. The student is expected to practice the surgical skills on a regular basis outside of laboratory hours.
5. The student is expected to arrive to their scheduled laboratory session on time and remain in lab for the full 90 minutes.
6. The student is asked to assist in the clean-up of the laboratory facility at the end of their lab session. This includes:

Clean-up: At the end of each laboratory session, please ensure that the workstation is clean. Please dispose of all materials as described below. The second group of the afternoon is asked to please clean table tops with the disinfectants provided in the Surgical suite and wipe dry. If the overhead surgical lights were used, please ensure that they are turned off.

Waste disposal: Please ensure that materials used during each lab session are disposed of appropriately. Surgical needles and scalpel blades must be disposed in the appropriate red sharps containers located at each end of the Surgical suite. Non-biohazard material (paper, suture material *without* needle, suture packaging) should be disposed of in the grey waste bin. Exam or surgical gloves should also be disposed of in the appropriate waste bins.

7. Upon completion of this course, it would be appreciated if the student would take the time to complete the course evaluations since your thoughts, comments and constructive criticisms are extremely important and valuable to us as we continue to develop and improve this course.

XVI. Professionalism statement

Professional behavior in the classroom and laboratory is expected at all times. The use of cellphones, social media or other entertainment media is **strictly prohibited** during lectures, laboratories or other live interactions. Further, the student is expected to approach all assessments and assignments in a professional and honest manner.

XVII. Attendance/Participation Policy

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

SAMS514 lecture attendance policy: Attendance to lectures is expected. There is often discussion in lecture pertaining to the laboratory session for that week. Therefore, if the student fails to attend lecture, it is expected that they will review the entire lecture via Panopto *prior to* the follow day's laboratory session in order to be fully prepared for the lab. Should the online recording of the lecture fail, it is the student's responsibility to obtain information from the missed lecture from a colleague.

SAMS514 laboratory session attendance policy: Attendance to labs are mandatory and will be taken during each laboratory session. As per the 2016-2017 Student Manual, laboratory sessions are considered required educational activities (along with quizzes & exams). The Student Manual (ref page 101-102) clearly states that students are allowed only two medical excuses and one non-medical excuse per year. This pertains to all required educational activities. Students are expected to complete the appropriate online procedures for these absences. For further details and procedures, please refer to the Student Manual. Students failing to attend a laboratory session without completing the appropriate procedures will be contacted. In addition, the SVM Assistant Dean of Students will be notified and the appropriate actions taken.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) (tpaterson@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

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Prior to Exam Day

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2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
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6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.

7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
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APPENDICES

Appendix 1. Course Learning Outcomes (CLOs)

Upon successful completion of this course, the student will be able to:

CLO1: Demonstrate proficiency in a variety of basic surgical skills including knot tying, suture patterns, ligation, finger trap, instrument handling.

CLO2: Describe the various classifications of suture material and differentiate between types of suture material. Apply knowledge of suture material and surgical needles to the selection of an appropriate suture material + needle combination for a given surgical procedure.

CLO3: Describe in detail the appropriate procedures for surgical preparation of both the surgeon & patient.

CLO4: Explain the importance of asepsis and describe the various aspects of aseptic technique used to minimize the risk of surgical infection.

CLO5: Describe the stages of wound healing & principles of wound management and apply these to the management of wounds.

CLO6: Discuss principles of bandaging and apply this knowledge in the selection and application of commonly used bandages & slings.

CLO7: Identify surgical instrumentation and describe the application of each.

Appendix 2. Lesson Learning Outcomes (LLOs)

Lecture/Surgical Skills Learning Outcomes
LECTURE: Surgical Preparation
Explain the difference between sterilization, disinfection & antisepsis
List the common forms of sterilization used in veterinary medicine and their applications/limitations: steam, ethylene oxide, ionizing radiation, gas plasma, paracetic acid, cold chemical sterilization
Discuss cold sterilization and list the appropriate chemical agents used for this method of sterilization
Explain the difference between antiseptic & disinfectant
Cite the spectrum of activity for the following antiseptics: povidone iodine, chlorhexidine, hydrogen peroxide, alcohol-based combination antiseptic preparations
Define asepsis
Describe the various procedures used in aseptic technique performed by the surgical team
Describe the ways to decrease a surgical patient risk for SSI
Cite Halsted's surgical principles
Describe the steps taken by the surgical team when preparing a patient for surgery
Describe the procedures for surgical site preparation
Describe the proper technique for quarter drape application
List the surgical apparel worn by the surgical team and describe their function
Describe the following processes involved with pre-surgical preparation of the surgeon: aseptic hand scrub, application of surgical gown, open & closed gloving techniques
LECTURE: Suture material & surgical needles
Describe the properties of each of the following types of suture material: Surgical gut, polyglactin 910 (Vicryl – plain, Rapide, Plus), polydioxanone (PDS), polyglecaprone 25 (Monocryl), silk, nylon, polyester, polypropylene, stainless steel, barbed suture
Classify the suture materials above based on the following characteristics: absorbable versus non-absorbable, strand type (mono- versus multifilament), origin of fibers
Discuss the inherent characteristics of suture material: size, flexibility, memory, surface friction, knot security, tensile strength & tissue reactivity
Describe the systems of suture material sizing
Discuss the purpose of suture material coatings and cite the benefits of triclosan
Explain the difference in the process of absorption between natural and synthetic suture materials
Discuss the factors to consider when selecting a suture material for a given procedure
List the potential complications of suturing
Discuss the biomaterial alternatives to suture & list their applications: tissue adhesive, surgical staples & hemoclips
Identify the parts of a surgical needle
Discuss the factors to be considered when selecting a surgical needle
List the various types of surgical needle point and pair these with the appropriate tissue

LECTURE: Wounds
Describe the different types of wounds
Describe the phases of wound healing and cite the predominant cell type(s) (where applicable) involved in each phase; explain the impact of each phase on a healing wound
Discuss the degrees of contamination and how it relates to the relative risk of surgical infection; give examples of each
Explain the degrees of contamination as it relates to traumatic wounds
Describe methods used for initial management of a traumatic wound: wound cleansing, lavage/irrigation and wound debridement
Cite the applications of various topical medications commonly used in wound management [including spectrum of activity (where applicable) and effect on wound healing]
List the types of wound healing and their associated types of surgical closure (where applicable)
Discuss important aspects of managing degloving wounds
List the benefits of honey/sugar in wound healing
List the functions of drains and indications for their use
Compare the Penrose & Jackson-Pratt drains
Discuss the key principles of drain placement
LECTURE: Principles of bandaging
List the functions of bandages
Cite the three layers of a bandage and their function(s)
Differentiate between adherent & non-adherent dressings and discuss the applications for each type of dressing
Discuss the basic principles of bandage application
Describe how to apply the following types of bandages and list their function(s): Robert Jones, modified Robert Jones (+/- reinforcement), Spica splint, cast
Describe how to apply the following types of orthopedic slings and list their function(s): Velpeau, Ehmer
List the potential complications of a bandage
LECTURE: Surgical instrumentation & techniques
Identify, name & describe the function of the basic surgical instruments
Demonstrate the proper handling of these instruments
List the parts of a ringed instrument
Describe the different methods of making incisions and their applications
Explain the difference between blunt and sharp dissection
SURGICAL SKILLS: Knots & hand ties
Perform a square knot & surgeons knot using the 2-hand tie technique
Perform a square knot & surgeons knot using the 1-hand tie technique

SURGICAL SKILLS: Skin suture patterns - Interrupted patterns
Perform a square knot & surgeons knot using an instrument tie
Demonstrate proficiency in the following interrupted suture patterns & state when each would be appropriately used: simple interrupted, cruciate, vertical mattress, interrupted horizontal mattress, Surgeon's stitch
SURGICAL SKILLS: Skin suture patterns – Continuous patterns
Demonstrate proficiency in performing the intradermal skin pattern using either a buried knot or the Aberdeen knot as the final knot
Demonstrate proficiency in the following continuous suture patterns & state when each would be appropriately used: Simple continuous, Ford interlocking, Continuous horizontal mattress
SURGICAL SKILLS: Ligatures & 3-clamp technique
Demonstrate proficiency in the following ligatures: Circumferential, transfixing, modified Miller's knot, strangle knot
Demonstrate proficiency in the 3-clamp technique for pedicle ligation
SURGICAL SKILLS: Hollow organ suture patterns
Demonstrate proficiency in the following hollow organ suture patterns: appositional (simple interrupted & simple continuous), Lembert (interrupted & continuous), Cushing & Connell
Demonstrate proficiency in performing a Finger trap

Appendix 3. Alignment of Course Learning Outcomes (CLOs) to Program Learning Outcomes (PLOs)

COURSE LEARNING OUTCOME		SVM COMPETENCY
1	Demonstrate proficiency in a variety of basic surgical skills including knot tying, suture patterns, ligation, finger trap, instrument handling	23
2	Describe the various classifications of suture material and differentiate between types of suture material. Apply knowledge of suture material and surgical needles to the selection of an appropriate suture material + needle combination for a given surgical procedure.	23
3	Describe in detail the appropriate procedures for surgical preparation of both the surgeon & patient	5, 23
4	Explain the importance of asepsis and describe the various aspects of aseptic technique used to minimize the risk of surgical infection	3, 5, 23
5	Describe the stages of wound healing & principles of wound management and apply these to the management of wounds	2, 3, 5, 6, 23, 24, 25
6	Discuss the principles of bandaging and apply this knowledge in the selection and application of commonly used bandages & slings	23, 24, 25
7	Identify surgical instrumentation and describe the application of each	23

Appendix 4. Course Schedule

Week	Date	Group	Lecture topic / Surgical skills
WEEK #1	Aug 17		LECTURE: Surgical preparation
	Aug 18	A, B	LAB: Hand ties
WEEK #2	Aug 24		LECTURE: Suture material & Surgical needles
	Aug 25	B, A	LAB: Skin suture patterns I (Interrupted patterns)
WEEK #3	Aug 31		No lecture
	Sept 1	A, B	LAB: Skin suture patterns II (Intradermal)
WEEK #4	Sept 7		No lecture
	Sept 8	B, A	LAB: Skin suture patterns III (Continuous patterns)
WEEK #5	Sept 14		HOMEWORK: Surgical instruments (online module)
	Sept 15		LAB: Assessment #1 preparation (optional)
WEEK #6	Sept 21	A	SURGICAL SKILLS ASSESSMENT #1
	Sept 22	B	
WEEK #7	Sept 28		LECTURE: Wounds (part 1)
	Sept 29		No lab
WEEK #8	MID-TERM EXAM WEEK		
WEEK #9	Oct 12		LECTURE: Wounds (part 2)
	Oct 13	B, A	LAB: 3-clamp technique & ligatures
WEEK #10	Oct 19		No lecture
	Oct 20	A, B	LAB: Surgical draping, gowning & gloving
WEEK #11	Oct 26		No lecture
	Oct 27	B, A	LAB: Hollow organ patterns & finger trap
WEEK #12	Nov 2		LECTURE: Principles of bandaging
	Nov 3	A, B	LAB: Bandaging (bring your pets to lab!!!)
WEEK #13	Nov 9		LECTURE: Surgical cases
	Nov 10	B, A	LAB: Assessment #2 preparation (optional)
WEEK #14	Nov 16	B	SURGICAL SKILLS ASSESSMENT #2
	Nov 17	A	
WEEK #15	Nov 23		LECTURE: Final exam review (optional) *Date TBC
WEEK #16	Dec 1	Noon	FINAL EXAM

*** Zoom office hours for remote students:**

Mondays noon-1pm AST → for live assistance with surgical skills

Wednesday LABS:

1st group = 1:30-3:00p

2nd group = 3:00-4:30p



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

SMALL ANIMAL MEDICINE AND SURGERY DEPARTMENT

PHYSICAL DIAGNOSIS I SYLLABUS (1 credit)

SAMS 515 TERM 2

Fall 2020

I. Course Faculty and Staff Information

Course Director

Francesca Ivaldi, MSc DVM, Associate Professor

E-mail Address: Fivaldi@sgu.edu

Office Location: Small Animal Clinic

Office Hours: Zoom office hours will be arranged to fit with the class schedule. Additional office hours can be made by appointment. I will respond as soon as I can to any office hours requests, but feel free to remind me of your email if I have not responded within 2 days.

Other Faculty

Anne Corrigan MS DVM MS DACVIM (SAIM), Professor; acorrigan@sgu.edu

Tomas Guerrero, PD, Dr. Med. Vet., DECVS (Orthopedic), Professor; tguerrero@sgu.edu

Maria M Miccio DVM, Assistant Professor; mmiccio@sgu.edu

Tara Paterson DVM MSc, Associate Professor; tpaterson@sgu.edu

Lucian Peters DVM MSc, Assistant Professor; lpeters2@sgu.edu

Katherine Moreton RVN, Demonstrator IV; kmoreton@sgu.edu

Visiting Professor

Melissa Bain DVM, DACVB, MS, DACAW-AVSAB (Behavior)

Jill Narak DVM, MS, DACVIM (Neurology)

II. Course location

Dual Delivery Online- **Zoom link: <https://mycourses.sgu.edu/x/hMh8yX>**

David Brown Hall, VSL Prep, SIM Lab both High and Low Fidelity

Resources folder will be used for lesson content

Quiz component will be used for submission of weekly quizzes

Forums section will be used for class discussion and participation

We will be utilizing Panopto for lecture recordings and clinical skills instructional videos.

Zoom will be used for interactive sessions, office hours,

OSCE examination will be recorded via distance and submitted electronically

Videos of lectures will be made available for review

III. Prerequisite and/or co-requisite courses

- a. Completion of Term 1 Small Animal related courses
- b. Current Term 2 SGU SVM student

IV. Required resources

- a. Lecture and lab resources provided on SAKAI
- b. Video resources provided on Panopto

V. Recommended resources

- a. Any physiology text, e.g. Guyton, Sjaastad, Eckert, Cunningham
- b. Anatomy text, e.g. Dyce, Sack & Wensig, Pasquini
- c. Resources provided in Panopto and SAKAI
- d. Laptop or computer with functional camera, microphone and internet connection

VI. Special accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

- a. Stethoscope
- b. The skills you will be exposed to require repetition on a live animal (cat or dog) or life-like model, like a stuffed animal
- c. The OSCE requires you to DEMONSTRATE the clinical skills you have learned on a live animal (cat or dog) or life-like model, such as a stuffed animal

VIII. Course rationale

This course is a follow-up to Veterinary Clinical Orientation LAMS 502 and consists of a combination of didactic, hands-on and problem-based learning sessions focusing on small animal patients. This course expands the basic physical examination to include specialty examinations including orthopedic, neurologic, dermatologic, cardiovascular, respiratory, gastrointestinal, urogenital, and ophthalmologic exams. The course reinforces skills such as restraint and handling, basic behavior, and also introduces topics such as injection skills, medical record skills, clinical reasoning, and literature review. The video library of clinical skill demonstrations are tailored to provide the veterinary student with visual guidance on how to perform and practice medical exams that are commonly performed in the everyday clinical setting. Not only are the skills acquired in this course useful as a foundation for additional clinical skills and pre-clinical rotations at SGU, but integral to their successful completion of the 4th year clinical rotations abroad and for eventual careers in veterinary practice.

Course Goals:

- To prepare the students for the second year veterinary curriculum. To familiarize the student with the essentials for performing a thorough and proper physical examination of small animals with particular focus on the following systems: gastrointestinal, urogenital, cardiovascular, respiratory, ophthalmological, neurological, musculoskeletal, dermatological.
- To encourage students to become comfortable with the basics of physical examination and animal handling / restraint.
- To introduce students to clinical reasoning, and the problem-based approach to veterinary medicine
- To introduce students to proper injection sites and protocol, namely SQ, IM, and IV
- To strengthen record keeping skills
- To build upon basic dog and cat behavior knowledge

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to...

CLO 1: Demonstrate general physical examination, using the dog as the model
CLO 2: Demonstrate proper restraint techniques for small animals, using the dog as the model
CLO 3: Apply the basics of proper medical record keeping
CLO 4: Apply clinical reasoning to basic veterinary cases
CLO 5: Identify appropriate injection site protocol and technique
CLO 6: Identify and manage basic behavioral cues of the dog and cat in the clinical setting

X. Lesson Learning Outcomes

Lecture /lab	Lecture/Lab Learning Outcome	Course Learning Objective
Physical exam, Handling and restraint	Observe proper restraint technique for holding a dog in the following positions: Standing, Sitting and for jugular phlebotomy, Sternal recumbency and for cephalic vein phlebotomy, Lateral recumbency and for lateral saphenous vein phlebotomy Observe application of a gauze and a commercial muzzle Observe proper technique in lifting small animal patients from floor to examination table and back to floor Observe a complete general physical examination, including distant and near examinations Practice proper use of physical examination form Understand temperature measurement techniques for dog or cat	1,2

	Identify signs of dehydration in small animal patient	
Ophthalmology examination	<p>Observe physical examination of the eye</p> <p>Discuss clinical signs of ocular disease</p> <p>Evaluate ocular structures and adnexa for abnormalities, including eyelashes, conjunctiva, nictitating membrane, cornea, anterior chamber, iris, pupil</p> <p>Evaluate cranial nerve function by examining cranial nerve reflexes and responses, including palpebral, and pupillary light reflex, and menace response</p> <p>Evaluate vision</p> <p>Understand anatomical location of lacrimal glands, evaluate patency of nasolacrimal duct</p> <p>Observe ocular minimum database, including Schirmer tear test, fluoresceine stain</p> <p>Understand intraocular pressure and how to obtain</p> <p>Discuss and describe the examination of the retina</p> <p>Observe direct and indirect ophthalmologic exam</p>	1
Musculoskeletal examination	<p>Observe complete musculoskeletal examination in distant and near evaluation including postural reaction tests (proprioceptive tests), cutaneous trunci and perineal reflexes</p> <p>Observe spinal palpation and neck range of motion</p> <p>Observe proper musculoskeletal exam of a standing dog</p> <p>Observe proper musculoskeletal exam of a recumbent dog</p> <p>Evaluate muscle tone and symmetry</p> <p>Observe Campbell test technique for elbow stability</p> <p>Observe examination for patellar luxation</p> <p>Observe techniques for evaluation of stifle for ruptured cranial cruciate ligament, cranial drawer evaluation and tibial compression test.</p> <p>Observe techniques to evaluate stability of the hip joint, Ortolani technique to diagnose hip dysplasia and palpation of landmarks for evaluation of hip luxation</p>	1
Dermatological examination	<p>List the basic structures of the skin & cite the functions of the skin</p> <p>List the anatomic sites that should be examined during a dermatologic examination</p> <p>Describe the following dermatologic lesions: macule, patch, hyperpigmentation, hypopigmentation, papule, pustule, nodule, wheal, abscess, vesicle, bulla, erosion, ulcer, excoriation, lichenification, epidermal collarette, comedo, alopecia, crust, scale</p> <p>Identify dermatologic lesions using images of actual derm cases</p> <p>For each of the following dermatological diagnostic tests, cite the indication(s) of the test, describe how to perform the test and explain how to prepare the samples for evaluation: skin scraping (deep & superficial), impression smear, tape cytology, ear cytology</p> <p>Identify the following microbes: cocci bacteria, rod-shaped bacteria, yeast</p>	1

	Describe how to perform an otoscopic exam	
Respiratory examination	<p>Determine the respiratory rate in the dog and discuss normal values</p> <p>Perform percussion of the thorax</p> <p>Perform palpation of the trachea</p> <p>Observe proper use of stethoscope, and discuss parts of stethoscope</p> <p>Perform auscultation of the lungs and trachea</p> <p>Identify and discuss breathing patterns</p> <p>Discuss difference between stridor and stertor</p> <p>Evaluate patency of the external nares</p> <p>Identify common clinical signs associated with nasal cavity disease</p> <p>Discuss significance of “crackles” when ausculted in the lungs</p> <p>Discuss possible causes for decreased/absent bronchovesicular sounds</p>	1
Cardiovascular examination	<p>Determine the heart rate in the dog and discuss normal values</p> <p>Discuss sites of pulse evaluation in dogs and cats</p> <p>Explain what a “pulse deficit” is</p> <p>Identify Apex beat</p> <p>Perform auscultation of the heart, including all valve areas</p> <p>Explain heart sounds (S1, S2, S3, S4)</p> <p>Discuss what a murmur is, and what lesions can be associated with murmurs</p>	1
Oral and Gastrointestinal examination	<p>Observe how to perform an examination of the oral cavity, including evaluation of the mucous membranes, tongue, hard palate, pharyngeal region</p> <p>Identify and describe dental and gingival abnormalities, recall timing or eruption of deciduous and adult teeth in dogs and cats</p> <p>Observe and discuss abdominal palpation technique and findings</p>	1
Urogenital examination	<p>Discuss rectal examination, including normal findings and possible abnormalities</p> <p>Evaluate and discuss male and female external urogenital system</p>	1
Neurological examination	<p>Perform a thorough neurologic examination, including distant and near exams</p> <p>Observe evaluation of the cranial nerves</p> <p>Observe postural reaction tests (proprioceptive tests), including hopping, hemi-walking, wheelbarrowing, proprioceptive positioning, extensor postural thrust, placing, both tactile and visual, and righting.</p> <p>Observe evaluation of spinal reflexes</p> <p>Observe cutaneous trunci and perineal reflex</p> <p>Observe gentle spinal palpation and neck range of motion</p>	1
Medical Records	Identify and institute appropriate medical record keeping skills	3
Clinical Reasoning Skills	Observe clinical reasoning to basic veterinary cases	4

Injection Guidelines	Identify important factors in the decision of route of administration of injectable medications Understand technique and possible complications of different routes of administration of injectable medications, including subcutaneous, intramuscular, intravenous Observe technique of withdrawing injectable medications from vial Observe technique of injecting medications	6
Literature review assignment	Perform literature review corresponding to course topic	5
Behavior	Understand basic dog and cat behavior and management techniques within the clinical setting	7

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	SVM PLO
CLO 1: Demonstrate general physical examination, using the dog as the model	PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.
	PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.
CLO 2: Demonstrate proper restraint techniques for small animals, using the dog as the model	PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.
CLO 3: Understand the basics of proper medical record keeping	PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.
	PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.
	PLO 27 Demonstrate and model effective client communication and ethical conduct.
CLO 4: Apply clinical reasoning to basic veterinary cases	PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.
CLO 5: Identify appropriate injection site protocol and technique	PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic

	agents and their application, including relevant legislation and guidelines on the use of medicines.
CLO 6: Identify and manage basic behavioral cues of the dog and cat in the clinical setting	PLO 7 Evaluate and analyze normal versus abnormal animal behavior.

XII. Course Schedule
See Appendix

XIII. Grading and assessment policy, and grading rubrics

The grade for this one-credit course will be as follows:

- Forums (SAKAI) interactions 10 points
- Quizzes (SAKAI) 45 points
- OSCE examination 30 points (requirement for advancement)

Forums: You will be required to participate in forums discussions for the Clinical Reasoning and Medical Records Workshops.

Quizzes: After each lecture, you will take an online quiz consisting of 5 multiple choice questions. You will be given 9 quizzes. Ensure that you look at the due date and time of the quizzes, and that you receive a confirmation message that your grade has been submitted. Quizzes that are not submitted ARE NOT GRADED AND COUNT AS A ZERO.

OSCE: Will consist of stations covering: Handling/restraint/Lymph Nodes, Ophthalmology, Dermatology, Musculoskeletal, Gastrointestinal/Urogenital, Neurology, Cardiology/Respiratory.
This term the OSCE will be completed via individual recorded sessions. You will have to record yourself performing 7 skills as per a rubric that will be sent to you prior to the evaluation. Your recording will be evaluated by two examiners, please ensure that your skills are
It is very important that you ensure you are confident with all of the listed components of the lab objectives forms and the skills covered in the video sessions, as these are the same skills that you will be asked to perform during the OSCE assessment. If an unsatisfactory grade is achieved during the OSCE, the student will be required to repeat the OSCE before being permitted to advance.

The importance of clinical skills in this course must be emphasized and recognized. Failure to remediate any OSCE before the end of the term will result in failure of the course (F Grade).

Grading Scale

>89.5	A
84.5-89.49	B+
79.5-84.49	B
74.5-79.49	C+
69.5-74.49	C
64.5-69.49	D+
59.5-64.49	D
<59.49	F

All other exam policies are followed according to the SGU Examination Policy and the Student handbook.

The importance of clinical skills in this course must be emphasized and recognized. Failure to remediate any OSCE before the end of the term will result in failure of the course (F Grade).

XIV. Recommended study strategies

This course is dependent on repeated performance of the physical, hands-on skills and knowledge of didactic information relevant to performing and interpreting physical examination on the dog as the model for small animal evaluation. Watch the provided videos and review the lecture materials to guide you as you practice the skills on a live animal model as is available to you. It is not advised to seek external videos or study materials.

XV. Instructor's expectations of the student

The student is expected to be familiar with the required material, including reading the provided literature and watching the provided videos posted on SAKAI. The student is expected to participate actively in their own learning and seek assistance for any concept or component of the lecture or laboratory material with which they are having difficulty. The student is responsible for his or her own learning. If the student has concerns, questions, or requires clarification of any of the concepts presented during the course, the onus rests on the student to seek assistance from either the course director or from the teaching faculty presenting that particular topic.

XVI. Professionalism statement

Students are expected to exhibit professional behavior at all times, not just on campus or in class and laboratory sessions, but also within the community and

abroad.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Students are expected to participate in all workshop associated Forum discussions, quizzes, and OSCE.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) (COURSE DIRECTOR email HERE) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code

statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices: See Attached

SAMS 515 Physical Diagnosis I Fall 2021						
Date	Time	Type	Location	Faculty	Group Order	Hour Eq
Tues 17-Aug-21	11:30-12:20	Lecture 1 Intro PE Handling and Restraint	David Brown Hall	Ivaldi		1
Thursday 19-Aug-21	1:30-4:20	Lab 1 PE Handling and Restraint	VSL Prep		A, B, C	0.3
Friday 20-Aug-21	1:30-2:50 3:00-4:20	Workshop Clinical Reasoning Behavior	Zoom Zoom	Corrigan / Ivaldi Bain		1 1
Tues 24-Aug-21	9:30-10:20	Lecture 2 GI/UG	David Brown Hall	Peters		1
Tues 24-Aug-21	10:30-11:20	Lecture 3 Injection Guidelines	David Brown Hall	Miccio		1
Wed 25-Aug-21	1:30-3:20	Workshop Medical Records	Zoom	Ivaldi / Corrigan		1
Thursday 26-Aug-21	1:30-4:20	Lab 2 GI/UG	VSL Prep SIM Lab Low Fidelity		B, C, A	0.3
Tues 31-Aug-21	8:30-9:20	Lecture 4 Cardio/Resp	David Brown Hall	Corrigan		1
Thurs 02-Sep-21	1:30-4:20	Lab 4 Cardio/Resp	SIM Lab Hi Fidelity		C, A, B	0.3
Tues 07-Sep-21	11:30-12:20	Lecture 5 Ophtho	David Brown Hall	Ivaldi		1
Thurs 09-Sep-21	1:30-4:20	Lab 5 Ophtho	VSL Prep		A, B, C	0.3
Tues 14-Sep-21	10:30-11:20	Lecture 6 Neuro	David Brown Hall	Narak		1
Thurs 16-Sep-21	1:30-4:20	Lab 6 Neuro	VSL Prep		B, C, A	0.3
Tues 21-Sep-21	8:30-9:20	Lecture 7 MSk	David Brown Hall	Guerrero		1
Thurs 23-Sep-21	1:30-4:20	Lab 7 Msk	VSL Prep		C, A, B	0.3
Tues 28-Sep-21	8:30-9:20	Lecture 8 Derm	David Brown Hall	Paterson		1
Wed 29-Sep-21	11:30-12:20	Lecture 9 OSCE PREP	David Brown Hall	Ivaldi		1
Thur 30-Sep-21	1:30-4:20	Lab 8 Derm	VSL Prep		A, B, C	0.3
Thur 11-Nov-21	8:30-12:20	OSCE	ONLINE	Multiple		0.5
					Total	14.6

SAMS 515 Fall 2021 Student Group Assignments

GROUP A	GROUP B	GROUP C
Abrams, Lauren	Andrade Godoy, Julia	Augustine Tillock, Ashika
Badger, Megan	Bargiacchi, Emma	Barrientos, Paola
Becker, Alexis	Benjamin, Janeila	Bernal, Megan
Boshoven, Jacob	Boyd, Alexander	Brannon, Parker
Brown, Treg	Brundage, Kiely	Calderon, Lexi
Campbell, Kaitlin	Capuano, Marie-Benedicte	Casanova Crespo, Fabiola
Casavant Kubwimana, Kayla	Casey, Alexa	Cedarleaf-Pavy, Lily
Coimbatore, Sudarshini	Connelly, Mackenzie	Cooper, WyLee
Coughlin, Jacqueline	Crosbie, Hayley	Cruz Cordova, Paula
Cunningham, Kimberly	Curbelo, Helena	de Haas, Julianna
Dembitsky, Andrew	Dempsey, Jacob	Devitt, Lindsey
Dickey, Elena	Dublinsky, Miriam	Easterling, Ashley
Elford, Emma	Evans, Joel	Flores, Tatiana
Fornengo, Joshua	Fox, Melissa	Frith, Lilly
Geiger, Lindsay	Gigantino, Giana	Gomez Ortiz, Andrea
Gosch, Caitlyn	Graham, Rowan	Hein, Raven
Hogle, Breanna	Howell, Alyssa	Ibarra, Noelly
Jones, Kathryn	Kirkham, Brittany	Kroning, Brianna
Langeness, Alexis	Leanders, Alexandria	Liu, Annie
Liu, Cassie	Luscinski, Jillian	Madden, Anne
Maguire, Jennifer	Mahecha-Diago, Sixto	Marques, Candis
Martin, Bei Li	Martinez, Keila	Martinez, Xavier
McGregor, Natalie	McKim, Ryan	Mendonca, Gynelle
Mendoza, Jose	Michaloski, Lauren	Mitchener, Micalah
Miyamoto, Karrie	Nguyen, Jacqueline Linh My	Nickel, Nina
Nickerson, Stephanie	Norton, Brian	Perdue, Brian
Quarnberg, Shelby	Rijhwani, Simran	Ronccone, Ericah
Rubio, Catherine	Ruiz Anaya, Brenda	Sarver, Madelynn
Schaeffer, Samantha	Schafsteck, Emily	Schaufeld, Haley
Schlette, Sarah	Silva, Autumn	Smith, Nicolette
Solis, Alexis	Suarez-Ahumada, Valeria	Swanson, Katie
Thomas, Britny	Townsend, Joseph	Tucker, Emily
Valle, Roxana	Vasquez, Isis	Verma, Niharika
Villarreal Andrade, Ana	Wahl, Alexandria	Washburn, Lauren
Waylan, Cathryn	Webster, Kathleen	Wellejus, Claire
Widenbaum, Megan	Wilson, Daria	Yarrington, Daniela
Youssef, Joy	Zanley, Beth	



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

ONLINE: REMOTE LEARNERS
Boshoven, Jacob
Capuano, Marie-Benedicte
Curbelo, Helena
Dawson, Jordan
Dempsey, Jacob
Jones, Kathryn
McGregor, Natalie
McKim, Ryan
Schaufeld, Haley
Tucker, Emily
Zanley, Beth

Francesca Ivaldi is inviting you to a scheduled Zoom meeting.

Topic: 2021-08-SAMS515-V-0-Vet
Physical Diagnosis I-(11901)

Time: During SAMS 515 Lecture hours and workshop sessions: See schedule attached

Join Zoom Meeting

<https://sgu.zoom.us/j/95452687789?pwd=R3U2Q1c4Wm1jMXh4QnMwS2xYTU16dz09>

Meeting ID: 954 5268 7789

Passcode: 937152

SAMS 515 Physical Diagnosis I Fall 2021				
Assessment Schedule: All Assessments due at MIDNIGHT				
Day	Due Date	Material	Assessment	Points
Sunday	22-Aug-21	Review Lecture 1: PE, Handling, Restraint	Take Quiz A	5 points
Sunday	29-Aug-21	Review Behavior Workshop	Take Quiz B	5 points
Sunday	29-Aug-21	Review Clinical Reasoning Workshop	Forum participation	5 points
Sunday	29-Aug-21	Review Lecture 2: GI/UG	Take Quiz C	5 points
Sunday	29-Aug-21	Review Lecture 3: Injection Guidelines	Take Quiz D	5 points
Sunday	05-Sep-21	Review Medical Records Workshop	Forum participation	5 points
Sunday	05-Sep-21	Review Lecture 4: Cardio/Resp	Take Quiz E	5 points
Sunday	12-Sep-21	Review Lecture 5: Ophthalmology	Take Quiz F	5 points
Sunday	19-Sep-21	Review Lecture 6: Neurology	Take Quiz G	5 points
Sunday	26-Sep-21	Review Lecture 7: Musculoskeletal	Take Quiz H	5 points
Sunday	03-Oct-21	Review Lecture 8: Dermatology	Take Quiz I	5 points
Thursday	11-Nov-21	Review Lab Information	Submit OSCE video	30 Points
			Total	85 points



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies



**ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
Small Animal Medicine and Surgery
Small Animal Surgery SYLLABUS (4 credits)
SAMS 518 TERM 5
FALL 2021**

I. Course Faculty and Staff Information

Course Director:

Rodolfo Bruhl-Day, DVM (Hons), Ch.D. SAS, D.CLOVE, Ed.D, CPMV
Recognized Specialist SAS (ST), Professor.

E-mail Address : rbruhl-day@sgu.edu

Office Location: Cassia Bldg., top floor.

Office Hours: Office hours will be arranged to fit the class schedule.
Additional office hours can be made by appointment.
Even though I may not respond immediately, I will get back to you
asap. Please contact me again if I do not respond within 2 days.

Other SGU course Faculty members:

Tomas Guerrero, PD, Dr. Med. Vet., DECVS (Orthopedics), Professor;
tguerrero@sgu.edu

Francesca Ivaldi, DVM, MSc, (Dentistry), Associate professor;
fivaldi@sgu.edu

Marta Lanza-Perea, DVM, MSc; Associate professor; mperea@sgu.edu

Tara Peterson, DVM, MSc; Associate professor; tpaterson@sgu.edu

VP's:

Dr. Heidi Featherstone, DVM, MRCVS, DECVO (Ophthalmology);
heidifeatherstone68@gmail.com

Mr. Jim Merritt (Dental Radiology); jim.merritt39@gmail.com

Course professors should be contacted by email, or call ext. 3109 (Mrs.
Emmanuel, SAMS Executive Secretary).

Staff:

Mrs. F. Emmanuel, Executive Secretary, call ext. 3109;

femmanuel@sgu.edu

Ms. R. Thornhill, Secretary, call ext. 3474; rthornhill@sgu.edu

II. Course location

VSL Sis Hall 1.

All lectures will be recorded via Zoom and archived via Panopto.

III. Prerequisite and/or co-requisite courses: Current 5th term SVM student.**IV. Required resources:**

Lecturers will use notes and/or slides. Notes and/or slides will be available on Sakai only, as pdf files. The slides will be accessible for digital notes. For certain classes or subjects, scientific articles, videos, or textbook references may be assigned. These additional materials will be posted on Sakai.

The main references for this course are:

S. A. Surgery

* Tobias et al. Small Animal Surgery; Elsevier 2nd edition, 2017

* Pasquini et al. Veterinary Surgical Preparation and protocol, SUDZ Editor, 2011

Ophthalmology

* Gelatt et al. Veterinary Ophthalmology. Lippincott 4th edition, 2007

* Maggs, D. et al. Severin's Fundamentals of Veterinary Ophthalmology. Elsevier 6th edition, 2018.

Dentistry

* Handout lectures by Dr. Ivaldi

V. Recommended resources:

* Fossum et al. Small Animal Surgery. Mosby 4th edition, 2013

* Fossum et al. Small Animal Surgery. Mosby 5th edition, 2019

VI. Accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

N/A

VIII. Course rationale

This course is a keystone in the veterinary curriculum. It was designed to use a team-teaching approach to tie together the basic science courses in the first 4 terms and prepare the students for the third-year small animal medicine and surgery courses.

The course will present common complaints, history, clinical signs, PE findings and specific diagnostic testing with the goal of students being able to learn about problem lists, make differential diagnoses, and introduce veterinary methods for case work up.

Students will be exposed to the most common surgical procedures to treat different organ systems' surgical diseases. Use of state-of-the-art technology will be included among the different surgical procedures.

Course Goals:

- To prepare the students for 6th term surgery rotation and fourth-year veterinary curriculum.
- To introduce surgical diseases in small animals.
- To introduce the student into the most commonly applied surgical techniques, their monitoring and postop evaluation.
- To help the students develop clinical problem-solving skills, medical record abilities, professional development and experience with case work up.
- To learn how to select appropriate diagnostic tests and surgical procedures.
- To reinforce continuing education and research appreciation.

IX. Course-level outcomes

See Appendix II and Course Schedule

X. Lesson-level outcomes

See Appendix II and Course Schedule

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See appendix II and Course Schedule

XII. Course Schedule

See Appendix 1

XIII. Grading and assessment policy, and grading rubrics

- There will be **2 quizzes** worth **20 points each**, a **midterm** worth **50 points** and a **final examination** worth **50 points**. Quizzes will be on Sakai format. Midterm and final will have an ExamSoft format. The quiz/exam material will come from lectures.
- **Missed examinations:** A make-up exam will be given **ONLY** when documented excuses, via the University Health Clinic, or via the SGU web page (under General/Medical Excuse Submissions), is provided. If you do not think you are healthy enough to take an exam, please visit the clinic **PRIOR** to the time of the test. **Excuses that are issued after the examination has been given will not be accepted.** Do not expect to be excused for weddings or birthdays. Funerals of very close family members are adequate justification, but little else will be accepted. Excuses to attend special meetings will be considered upon the student's performance.
- Exams and quizzes are sequestered. The only time when questions can be viewed is during the exam. Any make-up exams will take place using same form of evaluation.
- Grading Scale

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C

64.5-69.4	D+
59.5-64.4	D
<59.4	F

- All exam guidelines are followed according to the SGU Examination Policy and the Student handbook.

NOTE: ExamSoft and ExamMonitor for assessment:

A grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room, or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

- Prior to class, or after class, reading the corresponding chapters in the recommended textbooks
- Office hours and zoom consultation on demand, or channeled through the class reps.
- After each lecture, summarizing and making an outline of the lecture's most important points
- Working through cases that are provided in lecture on your own by formulating a problem and differential diagnosis list, plus a diagnostic and surgical plan prior to reviewing the lecturer's slides with that information, is encouraged

XV. Instructor's expectations of the student

Students are expected to read textbook chapters prior to lecture, and any additional course related information provided to further understand the area under discussion.

XVI. Professionalism statement

Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of

conduct that defines the interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior.

The Code of Conduct includes student comportment and the honor code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University.

Abuses of this Code, outline in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct.

Turn cell phones off while attending on site or online lectures
Turn computers off if used for different purposes other than following the lectures (i.e., e-bay, Facebook, blogs et al).

XVII. Attendance policy

Students are expected to be available during the standard 8am-5pm AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation can be graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Lecture or Zoom session attendance is mandatory. Lectures will be recorded in Panopto for a later review by the students.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to appear for an examination (Sakai quiz/test or ExamSoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (rbruhl-day@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call 866-429-8889) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.

6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A ExamSoft/ExamID quick guide for students](#)
 - b. [The ExamSoft student perspective video 30mins](#)
 - c. [The ExamSoft/ExamID FAQ](#)
 - d. ExamSoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy (if applicable):

The materials (such as slides, handouts, and video recordings) provided to students who are taking courses at St. George’s University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices:

Appendix I. Detailed Course Content:

Lecturer Date, Time	Topic
SOFT TISSUE	
Dr. Bruhl Day Aug 16 2:30	Surgical Approaches to the Abdomen and Incision Closure
Dr. Bruhl-Day Aug 17 2:30	Exploratory Celiotomy & Biopsy Techniques
Dr. Bruhl Day Aug 18 1:30	Castration Dog
Dr. Bruhl Day Aug 19 1:30	Prostate surgery Castration Cat
Dr. Bruhl-Day Aug 23 2:30	Gastric and Pyloric Surgery
Dr. Bruhl-Day	GDV I

Aug 27 2:30	
Dr. Bruhl-Day Aug 24 2:30	GDV II
Dr. Bruhl-Day Aug 25 2:30	Intestinal Surgery Small Bowel I
Dr. Bruhl-Day Aug 26 2:30	Intestinal Surgery Small Bowel II
Dr. Bruhl-Day Aug 30 3:30	Intestinal Surgery Large Bowel
Dr. Bruhl-Day Aug 31 2:30	Esophageal Surgery
Dr. Bruhl-Day Sep 1 2:30	Spay Dog and Cat I
Dr. Bruhl-Day Sep 2 2:30	Spay Dog and Cat II
Sep 6 1:30	Quiz # 1 20 Points
Dr. Bruhl-Day Sep 7 2:30	Surgical Approaches to the Thorax and Incision Closure
Dr. Bruhl-Day Sep 8 2:30	Pulmonary Surgery Trachea
Dr. Bruhl-Day Sep 10 1:30	Thoracic surgery: PDA
Dr. Bruhl-Day Sep 13 2:30	Thoracic surgery: PRAA, vascular ring anomalies
Dr. Bruhl-Day Sep 14 2:30	Upper Respiratory Tract, BOAS
Dr. Bruhl-Day Sep 15 2:30	GOLPP, Laryngeal paralysis

Dr. Bruhl-Day Sep 16 2:30	Ear Surgery
Dr. Bruhl-Day Sep 20 2:30	Salivary glands, Neck surgery
Dr. Bruhl-Day Sep 21 2:30	Hernias: Classification Abdominal hernias
Dr. Bruhl-Day Sep 22 2:30	Hernias: Perineal hernia
Dr. Bruhl-Day Sep 23 2:30	Hernias: Diaphragmatic hernia
Dr. Lanza-Perea Sep 27 2:30	Spleen
Dr. Paterson Sep 28 2:30	Pancreas
Sep 30 2:30	TBA
Dr. Paterson	PSS Sx will be Team taught in SAMS 524 SAM II in Spring 2022
Dr. Lanza-Perea	Liver Sx will be Team taught in SAMS 524 SAM II in Spring 2022
Oct 7 1:30	MIDTERM 50 Points
Oct 11 2:30	TBA
Dr. Guttin – Dr. Bruhl Day	Urinary tract - Lectures Team taught with SAM I
Dr. Guttin/ Dr. Bruhl- Day Oct 22 4:30	AKI 2 & Surgery of the Kidney
Dr. Guttin/ Dr. Bruhl- Day Nov 2 4:30	Surgery of the Ureters & Bladder
Dr. Guttin/ Dr. Bruhl- Day Nov 4 3:30	Feline U.O., FISC

Dr. Guttin/ Dr. Bruhl- Day Nov 4 4:30	Urinary Catheters and Urethral Surgery
Dr. Guttin/ Dr. Bruhl- Day Nov 8 4:30	Micturition Disorders, medical and surgical treatment
DENTISTRY	
Dr. Ivaldi Oct 11 4:30	Nomenclature, Anatomy, Periodontal Disease
Dr. Ivaldi Oct 12 2:30	COHAT/ATP: Radiography, Radiographic interpretation
Dr. Ivaldi Oct 13 4:30	COHAT/ATP: Scale, Polish, Closed and Open Root Planing
Dr. Ivaldi Oct 14 4:30	Extraction Indications
Dr. Ivaldi Oct 19 4:30	Extraction Methods, Nerve Blocks
Dr. Ivaldi Oct 20 2:30	Prevention and Maintenance
Dr. Ivaldi Oct 28 4:30	Oral and Dental Conditions
Nov 1 1:30	Quiz #2 20 Points
ORTHOPEDICS	
Dr. Guerrero Nov 15 1:30	Fracture's biomechanics and classification
Dr. Guerrero Nov 15 2:30	Bone healing
Dr. Guerrero Nov 16 3:30	Fractures - Conservative treatment. Fractures- Pins and wires
Dr. Guerrero Nov 16 4:30	Fractures - External Skeletal Fixators (ESFD's) Fractures - Plates & Screws

Dr. Guerrero Nov 17 3:30	Fractures - Decision making Complications
Dr. Guerrero Nov 17 4:30	Bone Disease - Growth abnormalities. OCD
Dr. Guerrero Nov 18 2:30	Fractures in growing animals
Dr. Guerrero Nov 18 3:30	Articular surgery
Dr. Guerrero Nov 19 1:30	Conditions of the Elbow
Dr. Guerrero Nov 19 2:30	Conditions of the Pelvis
Dr. Guerrero Nov 22 1:30	Conditions of the Hip I
Dr. Guerrero Nov 22 2:30	Conditions of the Hip II
Dr. Guerrero Nov 23 1:30	Conditions of the Stifle I
Dr. Guerrero Nov 23 2:30	Conditions of the Stifle II
Dr. Guerrero Nov 24 1:30	Soft Tissue Orthopedic Disease
Dr. Guerrero Nov 24 2:30	Mandibular and maxillary fractures
Dr. Guerrero Nov 25 1:30	Spinal surgery. Osteomyelitis
OPHTHALMOLOGY	
Dr. Featherstone Nov 22 3:30	Introduction and Eye anatomy review
Dr. Featherstone Nov 22 4:30	Clinical Examination of the Eye Ocular pharmacology and therapeutics

Dr. Featherstone Nov 23 3:30	Orbit and globe, Lachrymal system
Dr. Featherstone Nov 23 4:30	Eyelids, Nictitating membrane
Dr. Featherstone Nov 24 3:30	Cornea and sclera
Dr. Featherstone Nov 24 4:30	Conjunctiva
Dr. Featherstone Nov 25 2:30	Uveal Tract
Dr. Featherstone Nov 25 3:30	Lens, vitreous
Dr. Featherstone Nov 26 1:30	Retina
Dr. Featherstone Nov 26 2:30	Glaucoma Neuro Ophthalmology
Dec 3 1:30	FINAL Examination 50 Points

Assessment Summary:

Examination Blueprint

A total of **140 points** will be awarded.

Point Allocation / Professor

Quiz 1: 20 points, **Brühl-Day**

MIDTERM: 50 points, **Brühl-Day**

Quiz 2: 20 points, **Lanza-Perea,
Paterson, Ivaldi**

FINAL: 50 points, **Guerrero,
Featherstone**

The studied material covered in the assigned time frames is correlated with the individual quizzes.

Due to condensed course content, it is expected that some LO's will be prioritized as necessary and according to the new learning experience, but always taking as a reference the academic standards for this course.

Appendix II:

Course-level objectives/Learning Outcomes

Upon successful completion of this course (SAMS 518) the student will be able to:

1. Recognize common surgical diseases in small animals. Extrapolate relevant clinical data from presenting complaints, clinical signs, history, and physical examination for major organ systems in small animal species
2. Use substantial clinical data to create differential diagnosis list for surgical conditions in major organ systems in small animals Identify and evaluate surgical techniques used in small animal surgery, their monitoring and postoperative evaluation.
3. Apply related clinical data to select and interpret appropriate diagnostic testing for conditions in major organ systems to diagnose and surgically treat a disease. Develop cognitive skills in clinical problem solving, medical record keeping, and case work up in small animal surgical conditions. Process pertinent clinical data to select appropriate surgical procedures and their approaches, including referral.
4. Propose an appropriate surgical procedure, determine the prognosis for diseases for specific organ systems, and consider antimicrobial resistance. Analyze clinical data to design and perform appropriate surgical therapy plans for small animals, including the principles of wound healing

5. Apply knowledge of suture materials, techniques, and surgical anatomy to select appropriate surgical procedures and accurate use of suture patterns. Understand and properly apply Halsted principles related to gentle tissue handling

6. Recognize surgical emergency presentations for all major organ systems and propose an appropriate treatment plan in small animals. Formulate appropriate client communication regarding history, diagnosis, treatment, and prognosis.

Course Learning Outcome	SVM PLO / Category
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1. Recognize common surgical diseases in small animals. Extrapolate relevant clinical data from presenting complaints, clinical signs, history, and physical examination for major organ systems in small animal species	1, 2, 3, 4, 6, 7, 20, 23, 24, 25
2. Use substantial clinical data to create differential diagnosis list for surgical conditions in major organ systems in small animals Identify and evaluate surgical techniques used in small animal surgery, their monitoring and postoperative evaluation.	1, 3, 4, 6, 7, 20, 22, 23, 24, 25
3. Apply related clinical data to select and interpret appropriate diagnostic testing for conditions in major organ systems to diagnose and surgically treat a disease. Develop cognitive skills in clinical problem solving, medical record keeping,	1, 7, 12, 13, 14, 16, 19, 20, 21, 22, 23, 24,25, 26, 27,

and case work up in small animal surgical conditions.	
4. Propose an appropriate surgical procedure, determine the prognosis for diseases for specific organ systems, and consider antimicrobial resistance. Analyze clinical data to design and perform appropriate surgical therapy plans for small animals, including the principles of wound healing	3, 4, 6, 7, 17, 18, 20, 21, 22, 23, 24, 25, 26
5. Apply knowledge of suture materials, techniques, and surgical anatomy to select appropriate surgical procedures and accurate use of suture patterns. Understand and properly apply Halsted principles related to gentle tissue handling	1, 2, 5, 11, 14, 17

Lecture name and number:	Lecture Learning Outcomes:	Course learning outcome Number/s
1. Surgical Approaches to the Abdomen and Incision Closure	1. Know the different surgical approaches 2. Recognize the tissue planes involved in gaining access to the abdomen 3. Know alternative closure methods	1, 5

2. Exploratory Celiotomy & Biopsy Techniques	1. Know the approaches, techniques, and complications for exploratory celiotomy and abdominal organ biopsy	1, 4, 5
3. Castration Dog	1. Understand the indications for castration in the dog 2. Apply the different techniques for castration	1, 2, 3, 4, 5
4. Castration Cat	1. Understand the indications for castration in the cat 2. Apply the different techniques for castration	1, 2, 3, 4, 5
5. Gastric and Pyloric Surgery	1. Understand the indications and techniques for gastric surgery 2. Be able to recognize clinical aspects of pyloric outflow obstruction 3. Know surgical techniques that are available.	1, 2, 3, 4, 5
6. GDV	1. Understand the following aspects of GDV: pathogenesis, pathophysiology, and stabilization of the patient. 2. Understand the surgical techniques to prevent the recurrence of GDV.	1, 2, 3, 4, 5
7. Intestinal surgery. Small bowel.	1. Understand the clinical features of small bowel disease, diagnostic, and surgical management techniques. Enterotomy, R&A 2. Know the clinical features of small bowel obstruction, diagnostic, and surgical techniques to correct this condition.	1, 2, 3, 4
8. Intestinal surgery. Large bowel	1. Know the clinical features of large bowel obstruction, diagnostic, and management techniques to correct this condition. 2. Megacolon in cats	1, 2, 3, 4
9. Esophageal surgery	1. Know the management and complications of the	1, 2, 3, 4

	conditions, especially esophageal foreign bodies. Endoscopic surgery	
10. Surgery of the Urinary tract	<ol style="list-style-type: none"> 1. Be able to diagnose conditions affecting the kidney. 2. Be able to recognize ectopic ureter and techniques to correct this problem. 3. Recognize the typical features of common bladder conditions. Know which of these can be corrected with surgery and the available surgical techniques. 4. Recognize sphincter mechanism incompetence and its medical or surgical treatments. 5. Recognize the typical features of common urethral conditions. FLUTD/FISC 6. Know which of these pathologies can be corrected by surgery and the techniques available for surgical correction. 	1, 2, 3, 4, 5
11. Spay, dog and cat	<ol style="list-style-type: none"> 1. Be familiar with the surgical conditions of the ovaries and uterus. 	1, 2, 3, 4, 5
12. Prostate surgery	<ol style="list-style-type: none"> 1. Be able to diagnose and treat prostatic diseases applying new surgical techniques. 	1, 2, 3, 4
13. Surgical Approaches to the Thorax and Incision Closure. Thoracic surgery, PDA, Vascular ring anomalies (PRAA), other conditions. Lung surgery	<ol style="list-style-type: none"> 1. Know the different surgical approaches to the thorax. Thoracocentesis 2. Recognize the tissue planes involved in gaining access to the thoracic cavity. 3. Know different closure methods. 4. Understand the various surgical and drainage techniques applied to the thorax. 5. Recognize the typical features of these common 	1, 2, 3, 4, 5

	<p>vascular diseases. Surgical treatment options</p> <p>6. Recognize the typical features of these common cardiac conditions. Surgical treatment options</p> <p>7. Recognize the typical features of other cardiac and thoracic/lung conditions. Surgical treatment options</p>	
14. Upper Respiratory Tract. Brachycephalic Airway Syndrome	<p>1. Understand the pathophysiological consequences of upper airway obstruction</p> <p>2. Know the surgical options for correction of the various conditions involved.</p>	1, 2, 3, 4, 5
15. Lower Respiratory Tract, trachea	<p>1. Be able to recognize the clinical, radiographic, and endoscopic features of tracheal collapse and tracheo-bronchial foreign bodies.</p> <p>2. Understand the options to correct obstructions of the respiratory tract</p>	1, 2, 3, 4
16. Ear Surgery	<p>1. Recognize otitis externa.</p> <p>2. Understand lateral ear canal resection.</p> <p>3. Understand the diseases and correction of problems of the pinna</p> <p>4. Recognize irreversible otitis externa.</p> <p>5. Understand the rationale for total ear canal ablation and lateral bulla osteotomy.</p>	1, 2, 3, 4
17. Rectal, perineal surgery	<p>1. Be able to diagnose conditions in the perineal area</p> <p>2. Understand the management techniques used to correct these problems.</p>	1, 2, 3
18. External genitalia	<p>1. Know the common abnormalities of the external genitalia,</p>	1, 2, 3, 4

	mammary tumors, and their treatment	
19. Hernias: Abdominal, diaphragmatic, and perineal.	<ol style="list-style-type: none"> 1. Be able to recognize the most common hernia/ruptures. 2. Be able to discuss the diverse techniques that can be used in the management of the different abdominal hernias 3. Be able to discuss the diverse surgical techniques that can be used in the management of diaphragmatic hernia. 4. Be able to discuss the diverse surgical techniques that can be used in the management of perineal hernia. 	1, 2, 3, 4
20. Surgery of the head and nose	<ol style="list-style-type: none"> 1. Be familiar with the surgical conditions of the head and be able to properly manage them. 2. Salivary gland surgery. 3. Rhinotomy approaches. 	1, 2, 3, 4, 5
21. Surgery of the neck	<ol style="list-style-type: none"> 1. Be familiar with the surgical conditions of the neck to be able to properly manage them. 2. GOLPP. Laryngeal surgery 	1, 2, 3,4
22. Surgery of the spleen	<ol style="list-style-type: none"> 1. Be able to diagnose conditions involving the spleen 2. Know the management and surgical techniques used to correct these problems 	1, 2, 3, 4
23. Surgery of the pancreas	<ol style="list-style-type: none"> 1. Be able to diagnose conditions involving the pancreas 2. Know the management and surgical techniques used to correct these problems 	1, 2, 3, 4

24. Surgery of the liver	<ol style="list-style-type: none"> 1. Be able to diagnose and correct conditions affecting the liver. 2. Be able to diagnose and correct conditions affecting the extra hepatic biliary system. 	1, 2, 3, 4
25. Portosystemic Shunts	<ol style="list-style-type: none"> 1. Know the management and surgical techniques used to correct Portosystemic Shunts. 	1, 2, 3, 4, 5
26. Fractures: biomechanics, and classification	<ol style="list-style-type: none"> 1. Understand how fractures occur, which forces need to be neutralized to get a successfully treatment. 2. Be able to correctly describe a fracture 	1, 2, 3, 4, 5
27. Bone healing	<ol style="list-style-type: none"> 1. Understand the many factors that influence the bone healing process. 	1, 2, 3, 4, 5
28. Fractures: conservative treatment. Pins and wires	<ol style="list-style-type: none"> 1. Understand the principles of conservative management of fractures. 2. Know indications, advantages, disadvantages and techniques for pins and wires to treat bone fractures. 	1, 2, 3, 4, 5
29. External fixators (ESFD's). Bone plates and screws	<ol style="list-style-type: none"> 1. Know the indications, advantages, disadvantages, and techniques of using external fixators in fracture repair. 2. Know the indications, and techniques of using screws and plates to treat bone fractures. 3. Be familiar with different types of plates and screws 	1, 2, 3, 4, 5
30. Osteomyelitis.	<ol style="list-style-type: none"> 1. Be able to recognize and treat bone infection. 	1, 2, 3, 4, 5
31. Fractures: Decision making. Complications	<ol style="list-style-type: none"> 1. Understand how to choose the correct method of treatment. 2. Know the common causes of complications of fracture repair. 	1, 2, 3, 4, 5

	3. Know how to avoid and treat complications of fracture repair	
32. Fractures in growing animals	1. Understand the classification of growth plate fractures, and its principles of treatment	1, 2, 3, 4, 5
33. Articular diseases	1. Recognize articular disease 2. Discuss clinical and surgical management	1, 2, 3, 4, 5
34. Bone diseases	1. Understand the general principles of bone pathology 2. Be able to discuss common examples.	1, 2, 3, 4, 5
35. Growth abnormalities	1. Growth abnormalities. OCD	1, 2, 3, 4, 5
36. Conditions of the elbow	1. Know the common diseases affecting the elbow joint 2. Be able to recognize and treat them.	1, 2, 3, 4, 5
37. Conditions of the stifle	1. Be able to recognize cruciate ligament conditions 2. Know different surgical techniques. 3. Be able to recognize patellar luxation conditions 4. Know different surgical techniques.	1, 2, 3, 4, 5
38. Conditions of the Hip.	1. Be able to prepare a differential diagnostic of conditions involving the hip. 2. Discuss the surgical approaches and surgical treatment for the listed conditions.	1, 2, 3, 4, 5
39. Soft tissue orthopedic diseases	1. Be able to recognize the common tendon and muscle disorders such as ruptures and contractures	1, 2, 3, 4, 5
40. Mandibular and maxillary fractures.	1. Be able to recognize mandibular and maxillary conditions 2. Know their management techniques.	1, 2, 3, 4, 5

41. Spinal surgery	<ol style="list-style-type: none"> 1. Be able to recognize some neurological diseases 2. Know the different clinical and surgical management techniques. 	1, 2, 3, 4,
42. Nomenclature, Anatomy, Periodontal Disease	<ol style="list-style-type: none"> 1. Know normal anatomical dental structures, names, and numbers of teeth. 2. Recognize nomenclature for oral pathology in the dog. 	1, 3, 4
43. Nomenclature, Anatomy, Periodontal Disease	<ol style="list-style-type: none"> 1. Know normal anatomical dental structures, names and numbers of teeth. 2. Recognize nomenclature for oral pathology in the cat. 	1, 3, 4
44. COHAT/ATP: Radiography Radiographic, interpretation	<ol style="list-style-type: none"> 1. Understand the indications, techniques, and interpretation for intra oral radiology in companion animals 	1, 3, 4
45. COHAT/ATP: Scale, Polish, Closed and Open Root Planing	<ol style="list-style-type: none"> 1. Understand dental treatment concepts and how they relate to the different case presentations 	1, 3, 4, 5
46. Extraction Methods, Nerve Blocks. Oral and Dental Conditions	<ol style="list-style-type: none"> 1. Know how to recognize and practice poor, adequate, and superlative dental care and patient management. 	1, 2, 3, 4, 5
47. Ophthalmology examination	<ol style="list-style-type: none"> 1. Know how to do an ophthalmology examination in companion animals. 2. Learn how to use the instruments needed for this exam. 	1, 2, 3
44. Ocular Pharmacology and Therapeutics	<ol style="list-style-type: none"> 1. Know about ocular treatments and diagnostic aids. 	1, 4
45. Eyelid surgery	<ol style="list-style-type: none"> 1. Recognize the most common eyelid pathologies 2. Know how to surgically treat them 	1, 2, 3, 5
46. Third eyelid and conjunctiva	<ol style="list-style-type: none"> 1. Recognize the most common third eyelid pathologies 	1, 2, 3, 5

47.Orbit and globe. Lachrymal system	1. Recognize the most common globe diseases 2. Recognize the most common lachrymal system pathologies 3. Know how to diagnose and treat KCS	1, 3, 4
48. Cornea and sclera	1. Recognize the most common corneal pathologies 2. Know how to surgically treat them	1, 2, 3, 4, 5
49.Lens and vitreous	1. Recognize the most common lens and vitreous pathologies. 2. Learn how to treat cataracts	1, 2, 3, 4, 5
50.Retina	1. Recognize the most common lens and vitreous pathologies.	1, 3, 4
51. Glaucoma	1. Recognize the different presentations for glaucoma 2. Know surgical and medical treatments for the disease.	1, 3, 4, 5
52. Neuro Ophthalmology	1. Understand vision and the visual pathways.	1, 3

NB: The number assigned to the title of the lectures does not represent the actual number of contact hours the course has. Is just an indication of the content of the course.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Department of Small Animal Medicine and Surgery

VETERINARY ANESTHESIOLOGY SYLLABUS (3 Credits)

SAMS 520 TERM 4

Fall 2021

I. Course Faculty and Staff Information

- a. Course Director: Dr. Flavia Restitutti, DVM PhD, Associate Professor
- b. Email: frestitu@sgu.edu
- c. Office location: Cassia Building (SGU Campus map #17), ground floor
- d. Office hours: By appointment via email. Individual office hours can be done in person if or via Zoom. Appointments with two or more students are held exclusively online.
- e. Other Faculty members:
 - Dr. Mercedes Miccio DVM, Assistant Professor, mmiccio@sgu.edu
 - Naudia Dundas BSc, Instructor, ndundas@sgu.edu

II. Course location

Theoretical classes: Ray & Jan Sis Lecture Theatre 2/Zoom

Practical lessons: SimLab and VSL

For the students on the Approved list for Remote Learning, the **Practical** Lessons, pre-recorded videos will be uploaded on Sakai accordingly.

On SAKAI, the following tools will be used.

- Lessons
- Panopto
- Resources
- Forums
- Tests & Quizzes

Most of the tools to be used will be centralized under the “Lessons” tab.

Other tools on Sakai might be used if needed. Students will be informed accordingly if the need arises.

The Forums on Sakai are used for questions and doubts regarding the contents of the course and should be the preferred method for this purpose (which allows other students with similar questions).

III. Prerequisite and/or co-requisite courses

ANPH 506/503 Veterinary Anatomy I/II

ANPH 504/505 Veterinary Pharmacology I/II

ANPH 512/513 Veterinary Physiology I/II


IV. Required resources


Slides handouts, didactic laboratory handouts and any additional reading that might be provided on SAKAI (for example review of literature articles).


V. Recommended resources

a. Supplemental articles (for example literature reviews) will be uploaded on SAKAI

b. Reference textbooks:

 BSAVA Manual of Canine and Feline Anaesthesia and Analgesia, 3rd edition
Tanya Duke-Novakovski, Marieke De Vries, Chris Seymour.
BSAVA, 2016

 Veterinary Anaesthesia Principles to Practice.
Alex Dugdale Wiley-Blackwell, 2010

 Veterinary Anesthesia and Analgesia, The fifth edition of Lumb & Jones.
Grimm, Lamont, Tranquilli, Greene, Robertson.
Blackwell Professional 2015 (**Available online via HINARI database which can be accessed through SGU's Founders Library website**)

- ✚ Veterinary Anaesthesia, 11th edition.
KW Clarke, CM Trim & LW Hall. Saunders Ltd. 2013
**(Available online via HINARI database which can be access
through SGU's Founders Library website)**

- ✚ Handbook of Veterinary Pain Management, 3rd edition.
James S. Gaynor and William M Muir. Elsevier 2015
**(Available online via HINARI database which can be
accessed through SGU's Founders Library website)**

- ✚ Handbook of Veterinary Anaesthesia, 5th edition,
W Muir, J Hubbell, R Bednarski, P Lerche. Elsevier 2013

- ✚ Essentials of Small Animal Anesthesia and Analgesia, 2nd
edition,
K.A. Grimm, W.J. Tranquilli & L.A. Lamont. Wiley & Blackwell
2011

- ✚ Manual of Equine Anesthesia and Analgesia,
Alexander Valverde, Thomas Doherty. Blackwell
Professional 2006 **(Available online via HINARI database
which can be accessed through SGU's Founders Library
website)**

📖 Handbook of Equine Anaesthesia, 2nd edition,
PM Taylor and KW Clarke. Saunders Elsevier 2007

📖 Veterinary Anesthesia and Pain Management Secrets,
Stephen A. Greene. Elsevier 2002

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Computer/tablet with functional microphone and camera are an asset for the Zoom sessions

White coats are required for in-person practical sessions

VIII. Course rationale

This course aims to provide students with the theoretical knowledge required to develop an understanding of the principles of anesthesia and pain management in domestic animals and wildlife/exotic species. It aims to promote critical thinking when elaborating an anesthetic plan taking in consideration the health status of the patient and its risk assessment.

This course is a pre-requisite for SAMS 527 and SAMS 528

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Formulate a sedation and/or anesthetic plan in domestic and exotic animals according to their physical status.
2. Design an analgesic plan in domestic animals
3. Clinically interpret the information provided by the monitoring equipment.
4. Evaluate the anesthetic depth of a patient of the different species
5. Formulate a euthanasia protocol for domestic animals
6. Recognize the main components of an anesthetic machine.
7. Identify important risk factors in veterinary anesthesia.

X. Lesson Learning Outcomes

See appendix I

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SGU SVM program level outcome
<p>CLO 1 Formulate a sedation and/or anesthetic plan in domestic and exotic animals according to their physical status.</p>	<p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare</p>
<p>CLO 2 Design an analgesic plan in domestic animals</p>	<p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare</p>
<p>CLO 3 Clinically interpret the information provided by the monitoring equipment</p>	<p>PLO 04 Explain the relationship between disease process and clinical signs</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare</p>
<p>CLO 4 Assess the anesthetic depth of a patient of the different species</p>	<p>PLO 01 Recall. Understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare</p>
<p>CLO 5 Formulate an euthanasia protocol for domestic animals</p>	<p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare</p> <p>PLO 27 Demonstrate and model effective client communicate and ethical conduct</p>

CLO 6 Recognize the main components of an anesthetic machine.	PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare
CLO 7 Identify important risk factors in veterinary anesthesia	PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare

XII. Course Schedule

See Appendix II

XIII. Grading and assessment policy, and grading rubrics

- a. Grading scale: The SGU SVM grading scale applies

>89.5%	A
84.5-89.49	B+
79.5-84.49	B
74.5-79.49	C+
69.5-74.49	C
64.5-69.49	D+
59.5-64.49	D
<59.49	F

- a. Assessment policy

This course is 140 points, divided in one quiz (20 points), midterm exam (50 points) and one final exam (70 exams).

The importance of clinical skills in this course must be emphasized and recognized. Failure to remediate any OSCE before the end of the term will result in failure of the course (F Grade).

A grade reduction of 5-10% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

Appointments to discuss study strategies can be arranged via email with the course director.

XV. Instructor's expectations of the student

Students are encouraged to participate in any discussion, prepare the handouts for the didactic lab sessions./

XVI. Professionalism statement

The classroom is designated a safe environment. Please respect the fact that not all students have the same experience and may ask questions that seem obvious to you. Do not make fun of students either in or after class

Students are expected to be professional in their interactions with colleagues, faculty, and staff and to exhibit caring and compassionate attitudes.

Derogatory attitudes or inappropriate behaviors directed at clients, patients, peers, faculty, or staff will not be tolerated and can be grounds for dismissal.

Attendance/Participation Policy

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is

anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Laboratory session participation policy

Attendance in laboratory sessions is not mandatory but strongly recommended.

Due space limitation, if a student knows in advance attendance to their laboratory session day will not be possible, please switch in advance with another student and inform the instructors.

XVII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (frestitu@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XVIII. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.

6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XIX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices

Appendix I – Lessons and Laboratory outcomes

L: Lab

DL: Didactic lab

L/DL	Topic	Lesson Learning outcomes
L1	Introduction to the Course	<ul style="list-style-type: none">a. Define some important terms used in anesthesiologyb. Identify the different phases of anesthesia
L2	Anesthetic Planning	<ul style="list-style-type: none">a. Explain how to prepare an animal patient for anesthesiab. Assign an ASA status to a patientc. Identify different factors that impact morbidity and mortality in different species
L3	Preanesthetic Medication I	<ul style="list-style-type: none">a. Reason the importance of premedication
L4	Preanesthetic Medication II	<ul style="list-style-type: none">b. Explain the mechanism of action of the effects of the most commonly used sedatives: phenothiazines, butyrophenones, alpha2-adrenoceptor agonists, benzodiazepines

		<p>c. List the clinical effects and side effects of the most commonly used sedatives: phenothiazines, butyrophenones, alpha2-adrenoceptor agonists, benzodiazepines</p> <p>d. List the most commonly used opioids in veterinary anesthesia</p> <p>e. Understand the importance of using opioids for premedication</p> <p>f. Compare the different opioids regarding time of onset, duration of effect, efficacy and side effects</p> <p>g. Understand the importance of handling controlled substances in veterinary practice</p> <p>h. Compare atropine and glycopyrrolate regarding duration of action, effects and side effects</p>
L5	Injectable anesthetic agents I	<p>a. Explain the mechanism of action, the effects and side effects, indications and contraindications for the different injectable anesthetics currently in use: thiopental, propofol, etomidate, alfaxalone and ketamine</p> <p>b. Define the term total intravenous anesthesia (TIVA)</p> <p>c. Understand the advantages of TIVA</p>
L6	Injectable anesthetic agents II	
L7	Inhalation Anesthesia Equipment I	<p>a. List the different options of gas supply</p>

L8	Inhalation Anesthesia Equipment II	<ul style="list-style-type: none"> b. Calculate the gas volume of an oxygen cylinder c. Explain the basic parts of the anesthesia machine and their function d. Describe the different safety features of the machine and the gas supply e. Differentiate between rebreathing and non-rebreathing systems f. Calculate fresh gas flow rates for each system g. Describe the different waste anesthetic gas disposal systems h. List the different modalities to provide inhalational anesthetics to a patient i. Explain the advantages, disadvantages and indications of face masks, supraglottic devices and endotracheal tubes
L9	Inhalation Anesthesia Equipment III	
L10	Inhalational Anesthetic agents I	<ul style="list-style-type: none"> a. Explain the physicochemical properties of the inhalant anesthetics and their impact on practical use b. Explain the minimal alveolar concentration c. Compare the effects and side effects of the inhalant anesthetics in use (Isoflurane, Sevoflurane, Halothane, Desflurane) d. Explain the indications, effects and side effects of nitrous oxide
L11	Inhalational Anesthetic agents II	

		e. Understand the potential risks of chronic exposure to inhalant anesthetics and nitrous oxide
DL 01	Didactic Lab 01 Simulations. IV catheter placement Drug Calculations	<ul style="list-style-type: none"> a. Observe intravenous catheter placement in a dog manikin b. Calculate drug dosages, drug solutions and fluid rate rate for different dripping sets c. Observe changes in cardiorespiratory parameters on a monitor after injecting the most commonly used sedatives and injectable anesthetics to a dog
L12	Pharmacology of Local Anesthetic Drugs	<ul style="list-style-type: none"> a. Classify the different local anesthetics (LA) in use b. Compare the different LA regarding physicochemical properties, effects and side effects c. Describe the different additives to LA's and their effects d. Reason the use of local anesthesia
L13	Local Anesthetic Techniques in Small Animals	a. Explain the commonly used local anesthetic techniques used in small animals: topical anesthesia, infiltration techniques, nerve blocks of head and extremities, intravenous regional anesthesia and epidural anesthesia

		<ul style="list-style-type: none"> b. List the indications and possible side effects of the LA techniques mentioned above
L14	Local Anesthesia in Large animals	<ul style="list-style-type: none"> a. Explain the significance of local anesthesia in large animals b. Describe commonly used local anesthetic techniques in large animals c. Understand the side effects of these LA techniques
DL02	Didactic Lab 02: Anesthesia Equipment	<ul style="list-style-type: none"> a. Observe the assembling an anesthesia machine and name its components b. Explain the gas flow through the anesthesia machine c. Observe a leak test of the anesthesia machine and describe the steps to perform it d. Understand the differences of the gas flow among the breathing systems and its implication on the anesthetic procedure e. Observe the intubation of a dog manikin and describe the correct steps for the procedure
L15	Pain Physiology	<ul style="list-style-type: none"> a. Explain the nociceptive pathway b. Differentiate between physiologic and clinical pain c. Explain the possible consequences of pain d. Justify pain treatment in animals

L16	Pain Assessment	<ul style="list-style-type: none"> a. Explain the commonly used pain scoring systems in animals: numerical rating scales, visual analogues scales, composite pain scales b. Understand the limitations of pain assessment in animals c. Explain the PLATTER approach to pain
L17	Pain Treatment: Pharmacologic Approach	<ul style="list-style-type: none"> a. Explain the terms preemptive and multimodal analgesia b. List the different analgesic drugs systemically used and name their indications, effects, and side effects: opioids, ketamine, alpha2-agonists, NSAIDs, tramadol, gabapentin, lidocaine
L18	Anesthetic Monitoring I	<ul style="list-style-type: none"> a. Understand the significance of monitoring in the perioperative period; b. Assess the anesthetic plane in small and large animals c. Understand the importance of record keeping
L19	Anesthetic Monitoring II	<ul style="list-style-type: none"> a. Assess the cardiovascular function based on heart rate and blood pressure b. Interpret a basic ECG c. List the different methods of blood pressure measurement

		d. Appreciate the limitations of blood pressure measurement
L20	Anesthetic Monitoring III	<ul style="list-style-type: none"> a. Assess the respiratory function in the anesthetized patient b. Define the different monitors available to assess respiratory function and understand their limitations c. Interpret the capnography curve d. Differentiate between oxygenation and ventilation
L21	Mechanical Ventilation	<ul style="list-style-type: none"> a. Name the indications and potential side effects for mechanical ventilation (IPPV) b. Name the modalities of IPPV and their indication of use
L22	Anesthesia emergencies and complications	<ul style="list-style-type: none"> a. Differentiate between common complications and emergencies in anesthesia b. Recognize the most common complications occurring during anesthesia and list treatment options
L23	CPR	<ul style="list-style-type: none"> a. Define the guidelines stated by the RECOVER Initiative b. Understand the importance of correct techniques for cardiorespiratory resuscitation

L24	Fluid Therapy I	
L25	Fluid Therapy II & Thermoregulation	<ul style="list-style-type: none"> a. Differentiate between dehydration and hypovolemia b. Understand the clinical difference between crystalloids and colloids c. Design fluid therapy for your patient undergoing anesthesia d. Calculate fluid rates for different drip sets e. Explain the significance and causes of perioperative hypothermia f. List different methods to prevent or treat perioperative hypothermia g. List possible causes for hyperthermia
DL03	Didactic Lab 03: Monitoring	<ul style="list-style-type: none"> a. Observe blood pressure measurement with oscillometric and Doppler techniques and interpret the values b. Observe end tidal and inspiratory carbon dioxide monitoring and interpret the capnography curve c. Observe SpO2 measurement with a pulse oximeter and interpret the result d. Observe the use of an ECG in the clinical instructor and interpret the ECG

L26	Small Animal Anesthesia I	<ul style="list-style-type: none"> a. Design an appropriate anesthetic and analgesic protocol for healthy small animal patients b. Understand the peculiarities in feline anesthesia c. Explain the special considerations in neonate and pediatric patients regarding anesthesia and analgesia d. Design an anesthetic and analgesic protocol for neonate and pediatric small animal patients e. Understand the challenges in geriatric patients undergoing anesthesia and develop an anesthetic and analgesic protocol for geriatric patients f. Understand the anesthetic challenges of patients undergoing dental procedures g. Comprehend the implications of obesity when developing an anesthetic plan for obese small animal patients h. Design an anesthetic and analgesic protocol for small animal patients with hepatic diseases i. Design an anesthetic and analgesic protocol for small animal patients with renal disease j. Design an anesthetic protocol for obstructed small animal patients
L27	Small Animal Anesthesia II	
L28	Small Animal Anesthesia III	
L29	Small Animal Anesthesia IV	
L30	Small Animal Anesthesia V	

		<ul style="list-style-type: none"> k. Design an anesthetic and analgesic protocol for small animal patients with diabetes mellitus l. Design an anesthetic and analgesic protocol for a cat with hyperthyroidism m. Anesthesia in ophthalmic patients n. Design an anesthetic protocol in neurological patients o. Understand the physiological changes of pregnancy and the implications for anesthesia p. Design an anesthetic protocol for a patient undergoing C-section q. Design an anesthetic and analgesic protocol for small animal patients with different heart conditions r. Design an anesthetic and analgesic protocol for dogs with gastric-dilatational volvulus (GDV)
DL4	Case discussion	<ul style="list-style-type: none"> a. Discuss the anesthetic management of a real case
L31	Anesthesia in Guinea Pigs, Rabbits, and small rodents	<ul style="list-style-type: none"> b. Explain the anatomical and physiological particularities of Guinea Pigs, Rabbits and rodents concerning anesthesia c. Elaborate an appropriate anesthetic protocol for Guinea Pigs, Rabbits and Small Rodents

L32	Avian and Reptile Anesthesia	<ul style="list-style-type: none"> a. Explain the anatomical and physiological particularities of avian and reptile species affecting the anesthesia procedure b. Elaborate an appropriate anesthetic protocol for birds and reptiles
L33	Equine Anesthesia I	<ul style="list-style-type: none"> a. Explain the relatively high risk for horses undergoing anesthesia, and how this risk can be addressed b. List possible sedation protocols for standing procedures in horses c. Design an anesthetic and analgesic protocol for horses
L34	Equine anesthesia II	
L35	Equine anesthesia III	
L36	Anesthesia in Ruminants and Camelids	<ul style="list-style-type: none"> a. Explain the special considerations in ruminant anesthesia b. Choose an appropriate drug protocol for cattle and small ruminant c. Explain the challenges in camelid anesthesia d. Choose an appropriate anesthetic protocol for camelids
L37	Swine Anesthesia	<ul style="list-style-type: none"> a. Explain the challenges of anesthesia in pigs b. Design an anesthetic and analgesic drug protocol for pigs a. Define the term malignant hyperthermia

L38	Euthanasia	<ul style="list-style-type: none"> a. List the different techniques and drugs available for euthanasia in small and large animals b. Explain how to properly euthanize small animals and horses c. Describe how to confirm death in animals after euthanasia d. Appreciate the AVMA guidelines for euthanasia of Animals
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Appendix II: Course schedule (L: Lecture; DL: Didactic lab)

Lecturers:

Dr. Flavia Restitutti (FR); Dr. Mercedes Miccio (MM)

Didactic Lab Instructor: Naudia Dundas (ND)

Week	L/DL	Date/Time	Lecturer	Topic
1	L01	Mon 16-Aug 10:30	FR	Introduction to the course
	L02	Wed 18-Aug 10:30	FR	Anesthesia Planning
	L03	Fri 20-Aug 10:30	MM	Preanesthetic medication I
2	L4	Mon 23-Aug 10:30	MM	Preanesthetic medication II
	L5	Wed 25-Aug 10:30	FR	Injectable Anesthetic agents I
	L6	Fri 27-Aug 10:30	FR	Injectable Anesthetic agents II

	DL1 Group A	Fri 27-Aug 13:30	FR/MM/ND	IV catheter placement, drug calculations and computer simulations (SimLab)
3	L7	Mon 30-Aug 10:30	FR	Inhalational Anesthesia Equipment I
	DL1 Group B	Mon 30-Aug 13:30	FR/MM/ND	IV catheter placement, drug calculations and computer simulations (SimLab)
	L8	Wed 1-Sep 11:30	FR	Inhalational Anesthesia Equipment II
	L9	Fri 3-Sep 10:30	FR	Inhalational Anesthesia Equipment III
4	10	Mon 06-Sep 08:30	FR	Inhalants I
	L11	Wed 08-Sep 10:30	FR	Inhalants II
	L12	Fri 10-Sep 10:30	FR	Pharmacology of Local Anesthetic Drugs
5	L13	Wed 15-Sep 10:30	FR	Local Anesthetic Techniques in Small Animals
	L14	Fri 17-Sep 10:30	FR	Local Anesthesia Techniques in Large Animals
	DL1 Group C	Fri 17-Sep 13:30	FR/MM/ND	IV catheter placement, drug calculations and computer simulations (SimLab)
6	QUIZ	Mon 20-Sep 11:30	L01-L06 + DL1	
	DL2 Group A	Mon 20-Sep 13:30	FR/MM/ND	Anesthetic equipment (VSL)
	L15	Wed 22-Sep 10:30	FR	Pain physiology
	L16	Fri 24-Sep 10:30	FR	Pain Assessment
	DL2 Group B	Fri 24-Sep 13:30	FR/MM/ND	Anesthetic equipment (VSL)

7	L17	Mon 27-Sep 11:30	MM	Pain treatment: Pharmacological approach
	L18	Wed 29-Sep 11:30	FR	Anesthesia Monitoring I
	L19	Fri 01-Oct 10:30	FR	Anesthesia Monitoring II
	DL2 Group C	Fri 01-Oct 13:30	FR/MM/ND	Anesthetic equipment (VSL)
8	No activity (Midterms week)			
9	MIDTERM	Mon 11-Oct 12:00	L01-L17; DL1-DL2 (Cumulative)	
	L20	Wed 13-Oct 9:30	FR	Anesthetic Monitoring III
	L21	Fri 15-Oct 10:30	FR	Mechanical Ventilation
10	L22	Mon 18-Oct 10:30	FR	Anesthetic Emergencies and Complications
	DL3 Group A	Mon 18-Oct 10:30	FR/MM/ND	Monitoring equipment (VSL)
	L23	Wed 20-Oct 10:30	FR	CPR
	L24	Fri 22-Oct 11:30	FR	Fluid therapy I
	DL3 Group B	Fri 22-Oct 13:30	FR/MM/ND	Monitoring equipment (VSL)
11	L25	Wed 27-Oct 11:30	FR	Fluid therapy II / Thermoregulation
	L26	Fri 29-Oct 10:30	FR	Small Animal Anesthesia I
12	L27	Mon 01-Nov 10:30	FR	Small Animal Anesthesia II
	DL3 Group C	Mon 01-Nov FR/MM/ND	FR/MM/ND	Lab: Monitoring equipment (VSL)
	L28	Wed 03-Nov 10:30	FR	Small Animal Anesthesia III

	L29	Fri 05-Nov 10:30	FR	Small Animal Anesthesia IV
13	L30	Mon 08-Nov 8:30	FR	Small Animal Anesthesia V
	DL4 Group A	Mon 08-Nov 13:30	FR/MM/ND	Case Discussion
	L31	Wed 10-Nov 9:30	FR	Anesthesia in Rabbits, Guinea Pigs and Small Rodents
	L32	Fri 13-Nov 11:30	FR	Avian and Reptile Anesthesia
	DL4 Group B	Fri 13-Nov 13:30	FR/MM/ND	Case Discussion
14	L33	Mon 15-Nov 9:30	FR	Equine Anesthesia I
	DL4 Group C	Mon 15-Nov 13:30	FR/MM/ND	Case Discussion
	L34	Wed 17-Nov 9:30	FR	Equine Anesthesia II
	L35	Fri 19-Nov 9:30	FR	Equine Anesthesia III
15	L36	Mon 22-Nov 9:30	FR	Anesthesia in Ruminants and Camelids
	L37	Tue 23-Nov 10:30	FR	Swine Anesthesia
	L38	Wed 24-Nov 10:30	FR	Euthanasia
16	No activity			
17	Final	Mon 06-Dec 12:00	L1-L38: DL1-DL4	



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

DEPARTMENT OF SMALL ANIMAL MEDICINE AND SURGERY

SMALL ANIMAL MEDICINE 1 SYLLABUS (3 credits)

SAMS 522 TERM 5

Fall 2021

I. Course Faculty and Staff Information

Course Director: Talia Guttin, VMD, DACVIM (SAIM), Associate Professor

Email: tguttin@sgu.edu; Zoom appointments available by request.

Executive Secretary SAMS Department: Ms. Emmanuel, femmanuel@sgu.edu.

Lecturers in this course:

Anne Corrigan, DVM, MS, DACVIM (SAIM), Professor, acorrigan@sgu.edu;

Andrea Lam, DVM, DACVD, Visiting Professor, alamdacvd@gmail.com;

Melissa Bain, DVM, DACVB, Visiting Professor, mjbain@ucdavis.edu.

Class Office Hours via Zoom: TBD with class reps. One-on-one office hours available upon request.

II. Course location

This course will consist of pre-recorded lectures and mandatory live sessions using Zoom for remote students, and classroom Ray and Jan Sis 2, as well as the online teaching tool TopHat.

III. Prerequisite and/or co-requisite courses

Successful completion of the first 4 terms of the DVM curriculum at SGU SVM are required.

IV. Required resources

Students will need a functional laptop and reliable internet connection.

Panopto lecture slides and/or lecture notes will be provided as pdf files. The slides will be accessible for digital notes. For certain lessons, scientific articles, videos, or other references will be assigned and will be provided via TopHat or Sakai.

All lectures will be recorded and distributed via Panopto and TopHat.

The main references for this course are:

Textbook of Veterinary Internal Medicine, Editor Ettinger, Publisher Saunders, 8th edition.

Small Animal Critical Care Medicine, Editors Silverstein & Hopper, Publisher Elsevier, 2nd edition.

Fletcher, et al. RECOVER CPR Guidelines. Journal of Emergency and Critical Care, 22(S1); 2012: S102-131.

V. Recommended resources

Videos and articles will be posted on Sakai.

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None.

VIII. Course rationale

This course is the first in a 2-set series of Small Animal Internal Medicine courses. These courses will cover the clinical presentation, diagnostic evaluation, and current therapies in small animal medicine. This course, the first of the 2-set series, covers the following systems and topics: infectious diseases, renal and urinary diseases, respiratory diseases, dermatology, hematology, immune mediated diseases, and emergency and critical care. The focus of the course is evidence-based medicine, and the problem-based approach, starting with a problem list, developing a differential diagnosis list, followed by a diagnostic plan, and treatment plan, for diseases within each system or topic.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

- A. Apply knowledge of the pathophysiologic basis of disease to obtain accurate patient histories, describe clinical signs, identify breed predispositions, and utilize correct medical terminology for common diseases in the main organ systems.
- B. Create differential diagnosis lists based on patient clinical data for conditions in specific organ systems.

- C. Based on clinical data and differential diagnosis lists, develop diagnostic plans and interpret appropriate diagnostic testing for common diseases in major organ systems.
- D. Integrate clinical data and knowledge of pharmacology to design treatment plans for diseases in specific organ systems, considering EBVM and antimicrobial stewardship.
- E. Recognize emergency presentations and considerations for specific organ systems.
- F. Formulate appropriate verbal and/or written communication to clients and other veterinary professionals regarding history, diagnostic tests, referral, treatment, and prognosis.
- G. Recognize zoonotic and contagious disease routes of transmission, associated risks in the workspace, and select patients for isolation.

X. Lesson Learning Outcomes

See Appendices XXI

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See Appendices XXI

XII. Course Schedule

See Appendices XXI

XIII. Grading and assessment policy, and grading rubrics

Grading scale complies with SGU and SVM assessment guidelines:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Total grade in the course will be based on 100 points:

- Midterm Exam (21 lectures)= 40 points
- Final Exam (non-cumulative, 24 lectures)= 50 points
- Professionalism = 10 points
 - Please see Professionalism Rubric, Appendix XXI
 - If a score of 0-6 in professionalism is obtained, the student will automatically be brought to CAPPs.

- Note: TopHat review questions: participation is monitored and graded, but points for correctness do not contribute to your grade. In other words, we will monitor your progress through the lectures and quiz questions, and you must watch all the lectures and go through the review questions, but review question scores are for you to monitor your learning, and do not count towards your grade.

Any excuses for mandatory In-person/Zoom sessions must be submitted via the Dean of Students (Dr. Bhaiyat) and he will notify the course director.

For ExamSoft/ExamMonitor exams:

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

The material in this course will be integrating much of what you have learned in other courses, so get out your old course material and refer back to it for best learning. Other tips:

- Office hours attendance and participation are recommended.
- After each class, summarizing and making an outline of the lecture's most important points.
- Working through cases that are provided in lecture on your own, by formulating a problem list, differential diagnosis list, and diagnostic plan, prior to seeing the lecturer's slides with that information, is encouraged.
- Use the Learning Objectives for each section/lecture, and "Talia's Tips" main points, to guide studying.
- Refer to the Internal Medicine textbook.

XV. Instructor's expectations of the student

Students are expected to watch all lectures and complete the review questions prior to the mandatory live In-person/Zoom sessions. Content questions will be answered

on TopHat and at office hours, but not at the live sessions, as other activities are planned for this time.

XVI. Professionalism statement

Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior.

The Code of Conduct includes student comportment and the honor code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University.

Abuses of this Code, outline in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct.

XVII. Attendance/Participation Policy

Students are expected to be available during the standard 8am-5pm AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination. Students who have technical issues during examinations MUST inform the course

director (tguttin@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination. Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

XXI. Appendices: Learning Outcomes, Course Schedule, Rubrics

CLOS: Upon successful completion of this course, the student will be able to:

- A. Apply knowledge of the pathophysiologic basis of disease to obtain accurate patient histories, describe clinical signs, identify breed predispositions, and utilize correct medical terminology for common diseases in the main organ systems.
- B. Create differential diagnosis lists based on patient clinical data for conditions in specific organ systems.
- C. Based on clinical data and differential diagnosis lists, develop diagnostic plans and interpret appropriate diagnostic testing for common diseases in major organ systems.
- D. Integrate clinical data and knowledge of pharmacology to design treatment plans for diseases in specific organ systems, considering EBVM and antimicrobial stewardship.
- E. Recognize emergency presentations and considerations for specific organ systems.
- F. Formulate appropriate verbal and/or written communication to clients and other veterinary professionals regarding history, diagnostic tests, referral, treatment, and prognosis.
- G. Recognize zoonotic and contagious disease routes of transmission, associated risks in the workspace, and select patients for isolation.

Course Level Outcomes	SGU-SVM Program Level Outcomes	AVMA clinical competencies
Course Level Outcome A	1, 2, 3, 4, 6	1, 2, 3, 4, 5, 6, 9
Course Level Outcome B	1, 2, 3, 4, 6, 20	1, 8
Course Level Outcome C	1, 2, 3, 4, 6, 20	1, 2, 3, 4, 5, 6,
Course Level Outcome D	1, 2, 3, 4, 5, 6, 10, 11, 12, 15, 21, 22, 23, 24, 25, 27, 28	1, 2, 3, 5, 6, 7, 8, 9
Course Level Outcome E	1, 2, 3, 5, 6, 20, 25	1, 2, 6
Course Level Outcome F	3, 4, 5, 12, 13, 19, 27	1,2, 8
Course Level Outcome G	1, 2, 3, 4, 6, 8, 11, 18, 26, 28	1, 2, 7, 8, 9

Lesson Learning Outcomes

Infectious Diseases:

1. Apply fundamentals of pharmacology and antimicrobial stewardship to select, adjust and critique therapy for a variety of infectious diseases, considering the infecting microbe, the host, and the drug.
2. Compare and contrast simple vs. complicated infections and determine appropriate treatment protocols and prognosis.
3. Describe toxicities and side effects for commonly used antimicrobials.
4. Review and explain breed predispositions, historical data, presenting complaints, and clinical signs of a variety of fungal diseases.
5. Design, implement, and critique diagnostic plans, treatment plans, and prognosticate for fungal infections in both stable and emergent patients.
6. Review and explain breed predispositions, historical data, presenting complaints, and clinical signs of a variety of viral diseases in both the dog and cat.
7. Design, implement, and critique diagnostic plans, treatment plans, and prognosticate for viral infections.
8. Review and explain breed predispositions, historical data, presenting complaints, and clinical signs of a variety of bacterial/parasitic/mycoplasmal/and protozoal diseases in both the dog and cat.
9. Design, implement, and critique diagnostic plans, treatment plans, and prognosticate for bacterial/parasitic/mycoplasmal/and protozoal diseases in both the dog and cat.
10. Formulate appropriate communications for both veterinarians and owners.
11. Promote preventative medicine and discuss appropriate vaccination protocols and benefits of vector prevention.
12. IN CLASS: model teamwork and communications skills, utilize the TARGET app to assist in case discussions.

Respiratory Diseases:

1. Review and explain relevant anatomy, physiology, and pathophysiology of common respiratory conditions and be able to create differential lists for presenting cases of respiratory disease.
2. Review and explain breed predispositions, historical data, presenting complaints, and clinical signs of a variety of respiratory diseases.
3. Design, implement, and critique diagnostic plans, treatment plans, and prognosticate for respiratory diseases in both stable and emergent patients.
4. Compare and contrast different airway wash techniques.
5. Utilize current research and resources to assist in disease classifications and treatment.
6. Be able to calculate the A-a gradient and interpret venous and arterial blood gas evaluation.
7. Review emergency procedures for patient stabilization and diagnostics.
8. Formulate appropriate communications for both veterinarians and owners.
9. IN CLASS: Model teamwork and professional communications.

Hematologic and Immune Mediated Diseases: revised April 29, 2021

1. Classify anemias as regenerative or non-regenerative, and whole blood loss vs. increased destruction vs. decreased production.
2. Formulate a differential list and diagnostic plan for each category of anemia.
3. Classify thrombocytopenias as: consumptive vs. destruction vs. decreased production
4. Formulate a differential list and diagnostic plan for each category of thrombocytopenia.
5. Extrapolate similarities and differences between all the immune mediated diseases as far as diagnostic plan, underlying triggers, treatment, and prognosis.
6. Distinguish primary vs. secondary immune mediated diseases, and make a diagnostic plan for the common triggers of the immune system and the immune mediated disease.

7. Practice verbal and/or written client communication regarding the prognosis, treatment, and risk of relapse for immune mediated diseases.
8. Discuss the treatment, side effects, and prognosis of immune mediated diseases.
9. Review and explain relevant physiology and pathophysiology of the coagulation cascade and be able to create differential lists for animals presenting with coagulation disorders.
10. Review and explain breed predispositions, historical data, presenting complaints, and clinical signs of a variety of coagulation disorders.
11. Design, implement, and critique diagnostic plans, treatment plans, and prognosticate for patients with coagulation disorders.
12. Compare and contrast primary vs. secondary hemostasis; including the proteins necessary for hemostasis and the organization of the cell-based model of hemostasis
13. IN CLASS: Model teamwork and professional communications.

Renal and Urinary Diseases:

1. Distinguish lower urinary tract signs and upper urinary tract signs via targeted history questions, physical exam, and clinical signs.
2. Develop a differential diagnosis list based on clinical data and localization to the upper or lower urinary tract.
3. Create a diagnostic plan based on the differential list for cases of: acute kidney injury (AKI), chronic kidney disease (CKD), glomerular disease, urolithiasis, urinary tract infection (UTI), prostatic disease, Feline Idiopathic Cystitis (FIC), urinary neoplasia, and micturition disorders.
4. Compare and contrast acute kidney injury from chronic kidney disease.
5. Select and/or interpret diagnostic testing for upper and lower urinary tract diseases.
6. Compare the diagnosis, monitoring, treatment, and prognosis for glomerular diseases to other kidney diseases.
7. Discuss treatment for the common renal diseases, considering EBVM (ACVIM consensus statements, IRIS staging and treatment guidelines).
8. Discuss treatment and prevention for the common lower urinary tract diseases, considering EBVM.
9. Select nutrition plans for various renal and urinary diseases based on the patient's specific needs.
10. Identify the indications for renal and urinary system surgery and describe the commonly used surgical techniques for renal, ureteral, and urethral diseases.
11. Discuss the indications for referral for dialysis, the prognosis, and the different types of dialysis.
12. Identify the indications for referral to a specialist for diagnostics, or medical, non-invasive, or surgical treatment of renal and urinary diseases.
13. Prognosticate for the common upper and lower urinary tract diseases.
14. Recognize when isolation protocols for infectious and zoonotic diseases should be implemented, and how to discuss zoonotic diseases with owners.
15. Practice verbal and/or written client communication regarding renal and urinary case history, etiology, prognosis, and treatment.
16. IN CLASS: Model teamwork and professional communications.

Behavior:

1. Distinguish inappropriate toileting from urine marking behavior.
2. Create and critique treatment plans for inappropriate toileting in cats.
3. Practice verbal and/or written client communication about the treatment and prognosis for inappropriate toileting in cats.

Emergency/CPR:

1. Compare and contrast BLS and ALS in CPR.

2. Describe and critique appropriate monitoring and stabilization of emergent patients.
3. Compare and contrast chest compression techniques.
4. Understand emergency drugs/therapeutics and how and when to administer including medications, defibrillation and open chest CPR.
5. Utilize current research and resources to assist in disease classifications and treatment.

Dermatology:

1. Understand and utilize appropriate dermatology terminology and define primary and secondary dermatologic lesions.
2. Develop targeted history questions for the dermatologic patient.
3. Identify breed predispositions in dermatologic diseases.
4. Based on presenting complaint, history, and PE findings, create a differential diagnosis list for dermatologic patients.
5. Select and interpret diagnostic tests for common dermatologic diseases.
6. Describe how a definitive diagnosis of the common dermatologic diseases is made: pyoderma, demodicosis, dermatophytosis, scabies, Malassezia, atopy, food allergy, flea allergy, endocrine dermatopathies, DLE, cutaneous lymphoma, uveodermatologic syndrome, juvenile cellulitis, vasculitis, erythema multiforme, toxic epidermal necrolysis, and hepatocutaneous syndrome.
7. Review the pharmacology of therapeutic options of common skin diseases and appropriate use, including antimicrobial stewardship.
8. Develop a treatment plan for the common dermatologic diseases including management and prevention.
9. Explain the prognosis for the common dermatologic diseases.
10. Review nutritional aspects of skin disorders including therapeutic nutritional supplementation.
11. Describe the anatomic structures of the canine ear and the related pathophysiology of otitis externa/media/interna.
12. Define the “3 Ps” (predisposing, primary, perpetuating) and their contribution to the work-up and management of otitis.
13. Recognize when isolation protocols for infectious and zoonotic diseases should be implemented, and how to discuss zoonotic diseases with owners.
14. Practice verbal and/or written client communication regarding dermatology case history, etiology, prognosis, and treatment.
15. IN CLASS: Model teamwork and professional communications.

SAMS 522 SMALL ANIMAL MEDICINE 1 SCHEDULE FALL 2021			
Lect Time	Day/Dates	LECTURE TOPIC Blue= virtual; Yellow= mandatory in person	Instructor
Week 1			
4:30	Wed 8/18	ID 1: Intro to Clin Pharmacol & Antimicrobial Use	Corrigan
4:30	Thurs 8/19	ID 2: Systemic Mycosis 1	Corrigan
4:30	Fri 8/20	ID 3: Systemic Mycosis 2; Vector-Borne Diseases 1	Corrigan
Week 2			
4:30	Mon 8/23	ID 4: VBD 2; Canine Viral Diseases	Corrigan
4:30	Wed 8/25	ID 5: Feline Viral Diseases	Corrigan
4:30	Thurs 8/26	ID 6: Bacterial, Mycoplasmal, & Parasitic Diseases	Corrigan
Week 3			
1:30	Mon 8/30	In person Infectious Disease Session	Corrigan
2:30	Mon 8/30	In person Infectious Disease Session	Corrigan
Week 4			
4:30	Mon 9/6	Derm 1: Intro to Dermatology	Lam
4:30	Tues 9/7	Derm 2: Canine Focal/Multifocal Alopecia 1	Lam
4:30	Thurs 9/9	Derm 3: Canine Focal/Multifocal Alopecia 2	Lam
4:30	Friday 9/10	Derm 4: Canine Pruritus Part 1	Lam
Week 5			
4:30	Mon 9/13	Derm 5: Canine Pruritus Part 2	Lam
4:30	Wed 9/15	Derm 6: Feline Pruritus Part 1	Lam
Week 6			
4:30	Mon 9/20	Derm 7: Feline Pruritus Part 2	Lam
4:30	Tues 9/21	Derm 8: Canine Crusting, Erosive, Ulcerative, Misc	Lam
4:30	Thurs 9/23	Derm 9: Otitis	Lam
1:30	Fri. 9/24	In Person Dermatology Session	Lam/Guttin
Week 7			
4:30	Mon 9/27	Heme/Imm 1: Hemostasis and Specific Disorders	Corrigan
*2:30	Wed 9/29	In-Person or Zoom: CPR	Corrigan
4:30	Thurs 9/30	Heme/Imm 2: Immune Mediated Diseases	Guttin
Week 8	Midterm	WED OCT 6th	22 lectures
Week 9			
4:30	Mon 10/11	Heme/Imm 3: Approach to Anemia	Guttin
Week 10			
4:30	Mon 10/18	Heme/Imm 4: Approach to Thrombocytopenia	Guttin
1:30	Thurs 10/21	In Person Hematology/Immunology Session	Guttin
3:30	Fri 10/22	Renal 1: Intro & Localization, Acute Kidney Injury 1	Guttin
4:30	Fri 10/22	Renal 2: AKI 2 & Surgery of the Kidney	Guttin/Bruhl-Day
Week 11			
4:30	Tues 10/26	Renal 3: Chronic Kidney Disease	Guttin
4:30	Thurs 10/28	Renal 4: Proteinuria & Glomerular Diseases	Guttin
Week 12			
4:30	Mon 11/1	Renal 5: Urolithiasis and Urethral Obstruction 1	Guttin
4:30	Tues 11/2	Renal 6: Surgery of the Ureters & Bladder	Guttin/Bruhl-Day
3:30	Thurs 11/4	Renal 7: Feline U.O., FIC	Guttin/Bruhl-Day
4:30	Thurs 11/4	Renal 8: Urinary Catheters and Urethral Surgery	Guttin/Bruhl-Day
4:30	Fri 11/5	Renal 9: UTIs, Prostatic Disorders, and Neoplasia	Guttin

Week 13			
4:30	Mon 11/8	Renal 10: Micturition Disorders, medical and surgical treatment	Guttin/Bruhl-Day
4:30	Tues 11/9	Behavior: Feline Inappropriate Eliminations	Bain
1:30	Thur 11/11	In person Renal Diseases Session	Guttin
2:30	Thur 11/11	In person Renal Diseases Session	Guttin
4:30	Fri 11/12	Resp 1: Emergency Considerations	Corrigan
Week 14			
4:30	Mon 11/15	Resp 2: Thoracic Trauma	Corrigan
4:30	Thurs 11/18	Resp 3: Nasal and Paranasal Disorders	Corrigan
4:30	Fri 11/19	Resp 4: Laryngeal & Pharyngeal Disorders	Corrigan
Week 15			
3:30	Fri 11/26	Resp 5: Parenchymal Diseases Part 1	Corrigan
4:30	Fri 11/26	Resp 6: Parenchymal Diseases Part 2; Pleural Space Diseases	Corrigan
Week 16			
1:30	Mon 11/29	In person Respiratory Session	Corrigan
2:30	Mon 11/29	In person Respiratory Session	Corrigan
Week 17	Mon 12/6	FINAL EXAM	24 lectures non-cumulative

Student Professionalism In Online Courses: Small Animal Medicine Courses, Fall 21

Professionalism: 10 points: It is assumed that students will exhibit professional behavior, so students earn these 10 points unless the following occur:

Professionalism Rubric:

Criteria	Did not meet expectations
Watching Panopto videos and completing review questions prior to live sessions (TopHat)	Failed to watch lectures and/or complete review questions prior to live session (aka being unprepared for live sessions). Deduction of 1 point for each lecture content (Panopto and review questions) that is late.
Attendance at live mandatory sessions (in person for Grenada students, on Zoom for remote students)	Failure to attend a live mandatory session will result in deduction of 2 points. Arriving late or leaving early will result in the deduction of 1 point.
Appropriate professional communication (example: replying within 24 hours to faculty member, excused absence requests)	If a student did not respond to a faculty email in 24 hours or communicated unprofessionally: Deduction of 2 professionalism points.

*If a score of 0-6 in professionalism is obtained, the student will automatically be brought to CAPPS.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

DEPARTMENT OF SMALL ANIMAL MEDICINE AND SURGERY

SMALL ANIMAL MEDICINE 2 SYLLABUS (4 credits)

SAMS 524 TERM 6

Fall 2021

I. Course Faculty and Staff Information

Course Director: Anne Corrigan, DVM, MS, DACVIM (SAIM), Professor,
acorrigan@sgu.edu

Email:; Zoom appointments available by request.

Executive Secretary SAMS Department: Ms. Emmanuel, femmanuel@sgu.edu.

Lecturers in this course:

Talia Guttin, VMD, DACVIM (SAIM), Associate Professor, tguttin@sgu.edu;

Melissa Bain, DVM, DACVB, Visiting Professor, mjbain@ucdavis.edu;

Jill Narak, DVM DACVIM (Neuro), Visiting Professor, jill.narak@svsevet.com;

Sandra Bechtel, DVM DACVIM (Onco), Visiting Professor, sbechtel@ufl.edu.

Class Office Hours via Zoom: TBD with class reps. One-on-one office hours available upon request.

II. Course location

This course will consist of pre-recorded lectures and mandatory live sessions using Zoom for remote students, and classroom Ray and Jan Sis 1, as well as the online teaching tool TopHat.

III. Prerequisite and/or co-requisite courses

Successful completion of the first 5 terms of the DVM curriculum at SGU SVM are required.

IV. Required resources

Students will need a functional laptop and reliable internet connection.

Panopto lecture slides and/or lecture notes will be provided as pdf files. The slides will be accessible for digital notes. For certain lessons, scientific articles, videos, or other references will be assigned and will be provided via TopHat or Sakai.

All lectures will be recorded and distributed via Panopto and TopHat.

The main references for this course are:

Textbook of Veterinary Internal Medicine, Editor Ettinger, Publisher Saunders, 8th edition.

Small Animal Critical Care Medicine, Editors Silverstein & Hopper, Publisher Elsevier, 2nd edition.

V. Recommended resources

Videos and articles will be posted on Sakai.

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None.

VIII. Course rationale

This course is the second in a 2-set series of Small Animal Internal Medicine courses. These courses will cover the clinical presentation, diagnostic evaluation, and current therapies in small animal medicine. This course, the second of the 2-set series, covers the following systems and topics: Cardiology, Endocrinology, Neurology, Oncology, Hepatology, Gastroenterology, as well as selected topics in Behavior and Emergency and Critical Care. The focus of the course is evidence-based medicine, and the problem-based approach, starting with a problem list, developing a differential diagnosis list, followed by a diagnostic plan, and treatment plan, for diseases within each system or topic.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

- A. Apply knowledge of the pathophysiologic basis of disease to obtain accurate patient histories, describe clinical signs, identify breed predispositions, and utilize correct medical terminology for common diseases in the main organ systems.

- B. Create differential diagnosis lists based on patient clinical data for conditions in specific organ systems.
- C. Based on clinical data and differential diagnosis lists, develop diagnostic plans and interpret appropriate diagnostic testing for common diseases in major organ systems.
- D. Integrate clinical data and knowledge of pharmacology to design treatment plans for diseases in specific organ systems, considering EBVM and antimicrobial stewardship.
- E. Recognize emergency presentations and considerations for specific organ systems.
- F. Formulate appropriate verbal and/or written communication to clients and other veterinary professionals regarding history, diagnostic tests, referral, treatment, and prognosis.
- G. Recognize zoonotic and contagious disease routes of transmission, associated risks in the workspace, and select patients for isolation.

X. Lesson Learning Outcomes

See Appendices XXI

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See Appendices XXI

XII. Course Schedule

See Appendices XXI

XIII. Grading and assessment policy, and grading rubrics

Grading scale complies with SGU and SVM assessment guidelines:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Total grade in the course will be based on 100 points:

- Midterm Exam (24 lectures + in class sessions)= 45 points
- Final Exam (non-cumulative, 24 lectures)= 45 points
- Professionalism = 10 points
 - Please see Professionalism Rubric, Appendix XXI

- If a score of 0-6 in professionalism is obtained, the student will automatically be brought to CAPPs.
- Note: TopHat review questions: participation is monitored and graded, but points for correctness do not contribute to your grade. In other words, we will monitor your progress through the lectures and quiz questions, and you must watch all the lectures and go through the review questions, but review question scores are for you to monitor your learning, and do not count towards your grade.

Any excuses for mandatory In-person/Zoom sessions must be submitted via the Dean of Students (Dr. Bhaiyat) and he will notify the course director.

For ExamSoft/ExamMonitor exams:

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

XIV. Recommended study strategies

The material in this course will be integrating much of what you have learned in other courses, so get out your old course material and refer back to it for best learning. Other tips:

- Office hours attendance and participation are recommended.
- After each class, summarizing and making an outline of the lecture's most important points.
- Working through cases that are provided in lecture on your own, by formulating a problem list, differential diagnosis list, and diagnostic plan, prior to seeing the lecturer's slides with that information, is encouraged.
- Use the Learning Objectives for each section/lecture, and "Talia's Tips" main points, to guide studying.
- Refer to the Internal Medicine textbook.

XV. Instructor's expectations of the student

Students are expected to watch all lectures and complete the review questions prior

to the mandatory live In-person/Zoom sessions. Content questions will be answered on TopHat and at office hours, but not at the live sessions, as other activities are planned for this time.

XVI. Professionalism statement

Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior.

The Code of Conduct includes student comporment and the honor code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that is sees fit to protect the rights of the student body, as well as the reputation of the University.

Abuses of this Code, outline in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct.

XVII. Attendance/Participation Policy

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during examinations MUST inform the course director (tguttin@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of "0" points for the examination. Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

XXI. Appendices: Learning Outcomes, Course Schedule, Rubrics

CLOS: Upon successful completion of this course, the student will be able to:

- A. Apply knowledge of the pathophysiologic basis of disease to obtain accurate patient histories, describe clinical signs, identify breed predispositions, and utilize correct medical terminology for common diseases in the main organ systems.
- B. Create differential diagnosis lists based on patient clinical data for conditions in specific organ systems.
- C. Based on clinical data and differential diagnosis lists, develop diagnostic plans and interpret appropriate diagnostic testing for common diseases in major organ systems.
- D. Integrate clinical data and knowledge of pharmacology to design treatment plans for diseases in specific organ systems, considering EBVM and antimicrobial stewardship.
- E. Recognize emergency presentations and considerations for specific organ systems.
- F. Formulate appropriate verbal and/or written communication to clients and other veterinary professionals regarding history, diagnostic tests, referral, treatment, and prognosis.
- G. Recognize zoonotic and contagious disease routes of transmission, associated risks in the workspace, and select patients for isolation.

Course Level Outcomes	SGU-SVM Program Level Outcomes	AVMA clinical competencies
Course Level Outcome A	1, 2, 3, 4, 6	1, 2, 3, 4, 5, 6, 9
Course Level Outcome B	1, 2, 3, 4, 6, 20	1, 8
Course Level Outcome C	1, 2, 3, 4, 6, 20	1, 2, 3, 4, 5, 6,
Course Level Outcome D	1, 2, 3, 4, 5, 6, 10, 11, 12, 15, 21, 22, 23, 24, 25, 27, 28	1, 2, 3, 5, 6, 7, 8, 9
Course Level Outcome E	1, 2, 3, 5, 6, 20, 25	1, 2, 6
Course Level Outcome F	3, 4, 5, 12, 13, 19, 27	1,2, 8
Course Level Outcome G	1, 2, 3, 4, 6, 8, 11, 18, 26, 28	1, 2, 7, 8, 9

Lesson Learning Outcomes

Cardiology:

1. Review and explain relevant anatomy, physiology, and pathophysiology of common cardiac conditions including congestive heart failure and be able to create differential lists for presenting cases of cardiac disease.
2. Review and explain breed predispositions, historical data, presenting complaints, and clinical signs of a variety of cardiac diseases.
3. Design, implement, and critique diagnostic plans, treatment plans, and prognosticate for cardiac diseases in both stable and emergent patients.
4. Review cardiac drug classifications and compare and contrast use in a variety of cardiac diseases.
5. Formulate appropriate communications for both veterinarians and owners.
6. Utilize current research to help with disease classification, treatments, and prognosis.
7. Review cardiac drug classifications and compare and contrast use in a variety of cardiac diseases.
8. Compare and contrast systemic and pulmonary hypertension, select appropriate diagnostics, therapeutic agents and prognosis.
9. Interpret a variety of ECG's and appropriately diagnose, treat and prognosticate atrial and ventricular arrhythmias.

Endocrinology:

1. Review and explain relevant anatomy, physiology, and pathophysiology of common endocrine conditions and be able to create differential lists for presenting cases of endocrine disease.
2. Review and explain breed predispositions, historical data, presenting complaints, and clinical signs of a variety of endocrine diseases.
3. Design, implement, and critique diagnostic plans, treatment plans, and prognosticate for endocrine diseases in both stable and emergent patients.
4. Understand common drugs used for treating endocrine diseases and design plans for monitoring therapeutic drug levels.
5. Formulate appropriate communications for both veterinarians and owners.
6. Utilize current research to help with disease classification, treatments, and prognosis.

Nutrition:

1. Discuss the evidence for early enteral nutrition.
2. Compare and contrast the types and indications of the various enteral feeding methods.
3. Describe the complications of enteral nutrition and strategies for preventing them.
4. Develop a nutrition plan for a patient, including RER calculation, route, type of food, calories per feeding, feedings per day.

GI:

1. Recognize and utilize appropriate gastrointestinal terminology and abbreviations.
2. Localize gastrointestinal disease to a specific portion of the GI tract based on presenting complaint, history, clinical signs, and targeted questions.
3. Recognize emergency presentations of GI disease and prioritize emergency diagnostics and treatments.
4. Develop a problem list and differential diagnosis list based on the localization of gastrointestinal signs and other relevant clinical data.
5. Develop a diagnostic plan for animals presenting with clinical signs of gastrointestinal disease.
6. Understand common diagnostic imaging terminology and the utility of each imaging modality in different small animal gastrointestinal diseases.
7. Select and interpret diagnostic testing results in cases of small animal gastrointestinal diseases.
8. Explain how the definitive diagnoses for common GI diseases are reached.
9. Identify when it is appropriate to refer a case to a specialist.

10. Recognize the indications for emergency exploratory celiotomy and other indications of GI surgery.
11. Utilize current research to help with disease classification, and updated treatments.
12. Create a treatment plan for the common gastrointestinal diseases for both stable and unstable patients, ensuring to prioritize emergency treatment when appropriate.
13. Discuss the role of the gut microbiome in causing and treating gastrointestinal diseases.
14. Explain the prognosis of common gastrointestinal diseases.
15. Identify patients at high risk of spreading infectious and zoonotic diseases, and for these patients, develop an isolation plan.
16. Recall breed predispositions for common GI diseases.
17. Practice verbal and/or written client communication regarding gastrointestinal disease history, etiology, prognosis, zoonosis, and treatment.
18. Apply knowledge of nutritional management and pathophysiology to select diets for the nutritional treatment of common gastrointestinal diseases.

Hepatobiliary:

1. Recognize and utilize appropriate hepatobiliary terminology and abbreviations.
2. Describe the common clinical signs of hepatobiliary diseases and explain their pathophysiologic basis.
3. Recognize the emergency presentations of hepatobiliary disease, the indications for emergency surgery, and design an emergency diagnostic plan.
4. Classify hepatobiliary diseases based on enzyme pattern: cholestatic, hepatocellular, or decreased liver function.
5. Utilize the enzymology classification and patient clinical data to develop a differential diagnosis list for common hepatobiliary diseases.
6. Create a diagnostic plan for hepatobiliary diseases based on a patient's differential diagnosis list.
7. Identify the indications for referral to a specialist for a hepatobiliary patient.
8. Understand common diagnostic imaging terminology and the utility of each imaging modality in hepatobiliary diseases
9. Select and/or interpret diagnostic testing for hepatobiliary diseases.
10. Explain how the definitive diagnoses for common hepatobiliary diseases are reached.
11. Describe the indications for hepatobiliary surgery, and the surgical techniques for attenuating portosystemic shunts.
12. Create and critique treatment plans for the common hepatobiliary diseases, including empiric therapy without a definitive diagnosis.
13. Utilize current research (EBVM) for hepatobiliary disease classification and updated treatments.
14. Identify patients at high risk of spreading infectious and zoonotic diseases, and for these patients, make an isolation plan, and discuss zoonotic risk with owners
15. Recall breed predispositions for common hepatobiliary diseases.
16. Formulate in-hospital enteral nutrition plans and long-term nutritional management plans for hepatobiliary diseases.
17. Practice verbal and/or written client communication regarding gastrointestinal disease history, etiology, prognosis, zoonosis, and treatment.

Behavior:

1. Understand puppy development and important socialization times.
2. Design and analyze appropriate training and desensitization methods.
3. Recall important neurotransmitters involved in the rewards system.
4. Design and analyze appropriate pharmacotherapy for a variety of behavior disorders.

Emergency:

1. Identify the body systems affected by each environmental emergency: heat stroke, smoke inhalation, burns, electrocutions, hypothermia, drowning.
2. Describe the triage and diagnostic evaluation of a patient affected by each environmental emergency.
3. Develop an emergency treatment plan for common environmental emergencies and their sequelae, utilizing EBVM.
4. Identify prognostic factors in cases of environmental emergencies.
5. Describe the pathophysiology and clinical definitions of sepsis and SIRS.
6. Develop a diagnostic plan to locate the body system sources of inflammation or infections that can lead to SIRS/sepsis.
7. Discuss the prognosis and treatment of SIRS/sepsis, including the criteria for exploratory celiotomy.
8. Practice verbal and/or written client communication regarding emergency case history, etiology, prognosis, and treatment.
9. Apply EBVM knowledge to emergency situations.
10. Select appropriate transfusion products for use in patients with a variety of clinical presentations.
11. Utilize current research to help design treatment protocols and prognosticate for a variety of conditions requiring transfusion medicine.
12. Select, design, and critique appropriate diagnostic and therapeutic plans for both donor and recipient; being mindful of transfusion products, necessary diagnostics and risks.
13. Understand transfusion reactions and select and critique treatment plans.
14. Formulate appropriate communications for veterinarians and owners.

Oncology:

1. Review and understand the biology of cancer to be able to diagnose and treat some cancers in practice; and to create differential diagnoses for a variety of neoplasia.
2. Practice client communication to explain why we can't cure many cancers; and when and how to treat cancers and when to use investigational therapy (or not)
3. Utilize EBVM and current literature to treat, diagnose, and prognosticate for certain cancers.
4. Review and understand the pharmacology of chemotherapeutics to be able to design and critique treatment protocols for a variety of tumor types.
5. Explain the mechanism of action, appropriate administration, and common and unique side effects for a variety of chemotherapeutics; and be able to manage the side effects.
6. Apply the concept of conditional vs. full FDA approval in practice to be able to practice legally.
7. Understand and apply biopsy techniques for cancer diagnosis
8. Understand the differences between radiation doses so you can apply this knowledge to clinical cases
9. Understand when to perform cancer surgery in practice, and when to refer a patient to a surgeon/ oncologic surgeon when appropriate
10. Make a differential diagnosis list for enlarged lymph nodes and understand how to differentiate between these diagnoses
11. Utilize clinical information to diagnose lymphoma in the dog and cat.
12. Understand and discuss staging procedures recommended for dogs and cats with lymphoma to clientele
13. Understand and discuss therapy options (initial and rescue) for dogs and cats with lymphoma to clientele
14. Utilize clinical information to diagnose mast cell tumors (MCT) in the dog and cat
15. Recommend appropriate staging and treatment options to pet owners when a MCT is diagnosed
16. Understand and explain the prognosis of a MCT based on discussed prognostic factors
17. Discuss surgery, radiation therapy, chemotherapy, and supportive care for MCTs, and anticipated outcome
18. Utilize clinical information to diagnose and appropriately stage and treat canine and feline soft tissue sarcomas
19. Know where to appropriately vaccinate a cat and when to investigate a mass at the site of vaccination
20. Understand the metastatic rates and metastatic pathways of HSA, relation to location, and effects on staging and prognosis
21. Recognize typical presentation and guide a client through decision making

22. Understand the treatment options available for HSA, potential complications, & why we recommend them
23. Be able to provide clients with prognosis associated with various treatment options
24. Utilize clinical information to develop a differential diagnosis list, select appropriate diagnostics, and appropriately stage canine bone tumors
25. Understand and recommend appropriate treatment options for canine OSA, both local and systemic
26. Know the median survival times expected in dogs diagnosed with OSA with and without chemotherapy

Neurology:

1. Utilize the neurologic examination to develop a list of differential diagnoses for the patient with seizures or neuromuscular disease.
2. Develop a rational list of diagnostics for seizures and neuromuscular diseases.
3. Recognize when a patient with neuromuscular disease or seizures should be referred to a specialist.
4. Recognize the clinical features, diagnostic approaches, and treatments for degenerative spinal cord and column diseases.
5. Recognize the clinical features, diagnostic approaches, and treatments for degenerative brain diseases.
6. Understand how/where to rationally rank degenerative neurologic disorders within your list of differential diagnoses.
7. Recognize the clinical features, diagnostic approaches, and treatments for anomalous spinal cord and column diseases.
8. Recognize the clinical features, diagnostic approaches, and treatments for anomalous brain diseases.
9. Understand how/where to rationally rank anomalous neurologic disorders within your list of differential diagnoses.
10. Recognize the clinical features, diagnostic approaches, and treatments for neoplastic spinal cord and column diseases.
11. 2. Recognize the clinical features, diagnostic approaches, and treatments for neoplastic brain diseases.
12. 3. Understand how/where to rationally rank neoplastic neurologic disorders within your list of differential diagnoses.
13. Recognize the clinical features, diagnostic approaches, and treatments for infectious/inflammatory spinal cord and column diseases.
14. Recognize the clinical features, diagnostic approaches, and treatments for infectious/inflammatory brain diseases.
15. Understand how/where to rationally rank infectious/inflammatory neurologic disorders within your list of differential diagnoses.
16. Recognize the clinical features, diagnostic approaches, and treatments for vascular and traumatic spinal cord and column diseases.
17. Recognize the clinical features, diagnostic approaches, and treatments for vascular and traumatic brain diseases.
18. Understand how/where to rationally rank vascular and traumatic neurologic disorders within your list of differential diagnoses.

Professionalism: 10 points: It is assumed that students will exhibit professional behavior, so students earn these 10 points unless the following occur:

Professionalism Rubric:

Criteria	Did not meet expectations
Watching Panopto videos and completing review questions prior to live sessions (TopHat)	Failed to watch lectures and/or complete review questions prior to live session (aka being unprepared for live sessions). Deduction of 1 point for each lecture content (Panopto and review questions) that is late.
Attendance at live mandatory sessions (in person for Grenada students, on Zoom for remote students)	Failure to attend a live mandatory session will result in deduction of 2 points. Arriving late or leaving early will result in the deduction of 1 point.
Appropriate professional communication (example: replying within 24 hours to faculty member, excused absence requests)	If a student did not respond to a faculty email in 24 hours or communicated unprofessionally: Deduction of 2 professionalism points.

*If a score of 0-6 in professionalism is obtained, the student will automatically be brought to CAPPS.

SAMS 526 Syllabus Fall 2021

DEPARTMENT: Small Animal Medicine and Surgery

COURSE NAME: Introduction to Clinical Practice SYLLABUS (1 credit)

COURSE NUMBER: SAMS 526 TERM 5

Term: Fall 2021

I. Course Faculty and Staff Information

Dr. Wayne Sylvester, DVM, MSc

Associate Professor

Medical Director- Small Animal Clinic

Email Address: WSylvester@sgu.edu

Telephone: 444-4175 Ext:3600

Office Location: Small Animal Clinic

Office Hours: By appointment

II. Course location

Online using Sakai resources such as Zoom, Panopto, Lessons, and Assignments.

Lectures: Sis Hall West

Clinic rotations: Small Animal Clinic

All clinic labs will occur at the Small Animal Clinic.

Report to the Conference room at the Small Animal Clinic at 8:30am. Please do not crowd into the waiting room of the SAC.

Rounds will occur in the SAC conference room.

Student parking—Due to limited space, we ask that you do not park in the Small Animal Clinic parking lot.

Ophthalmology Labs will occur at the Veterinary Surgery Lab/Simulation Lab

III. Prerequisite and/or co-requisite courses

Current 5th term students

IV. Required resources

Computer with functional camera and microphone.

Notes from previous terms.

Necessary resources will be posted on SAKAI by faculty members.

Material covered in previous courses (example: anatomy, physiology, LAMS 502, SAMS 522, SAMS 515) are considered appropriate material

V. Recommended resources

Textbook of Veterinary Diagnostic Radiology	D. Thrall	6th ed., 2013
Textbook of Veterinary Diagnostic Radiology (E-Book)	D. Thrall	6th ed., 2013
Small Animal Internal Medicine	R. Nelson & C.G. Couto	5th ed., 2014
Small Animal Internal Medicine (E-Book)	R. Nelson & C.G. Couto	5th ed., 2014
Textbook of Veterinary Internal Medicine Expert Consult	S.J. Ettinger & E.C. Feldman	7th ed., 2010
Textbook of Veterinary Internal Medicine (E-Book)	S.J. Ettinger & E.C. Feldman	7th ed., 2010
Fundamentals of Small Animal Surgery	F.A. Mann, G.M. Constantinescu & Hun-You	2011
Fundamentals of Small Animal Surgery (E-Book)	F.A. Mann, G.M. Constantinescu & Hun-You	2011
Small Animal Surgery	T. Welch Fossum	4th ed., 2013
Small Animal Surgery with Expert Consult Access	T. Welch Fossum	4th ed., 2013
Small Animal Surgery (E-Book)	T. Welch Fossum	4th ed., 2013
Veterinary Surgical Preparation and Protocol	C. Pasquini	2011

VI. **Accommodations**

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. **Other requirements**

All students should also keep in mind that the Small Animal Clinic is a 24 hour clinic that provides emergency services as well as preventative health care, surgical services and medicine services. This means that the schedule can change abruptly as a result of multiple emergencies, walk-in patients, and/or scheduling changes. So be prepared to “go with the flow”.

Also, please remember that the clinicians’ schedule, number of hospitalized patients, and appointments will vary week from week. No two groups will have the exact same experience. No two days in veterinary medicine are ever the same!

VIII. **Course rationale**

As a continuum of the problem-oriented medical record (POMR) and physical exam skills learnt in the SAMS 515 and LAMS 502 courses, the student practices and refines methods of incorporating physical examination, historical information collection, and development of problem lists based on current clinical cases from the Small Animal Clinic. Client relations and communication skills are emphasized. Creation of the medical record and the importance of clinical practice management are discussed and practiced by the student.

IX. **Course Learning Outcomes**

Upon successful completion of this course, the student will be able to:

1. Collect historical or review historical data from clients and perform general physical examination/restraint on pets in a clinic setting in a professional manner.
2. Generate a prioritized problem list, discuss differential diagnoses for problems and develop an appropriate therapeutic plan for patients (reinforce the Problem Based Learning approach).
3. Complete medical records and SOAP assignments in a timely and accurate manner using POMR and/or SOAP formats.
4. Develop students' proficiency in performing basic ophthalmologic examination in companion animals using appropriate tools, diagnostic aids and therapeutics.

X. Lesson Learning Outcomes

Lecture 1. Overview of SAMS 526

Review and discuss writing medical records using the SOAP format.

Practice problem-based learning strategies using clinical cases and simulation models.

Lecture 2. Small Animal Modules

Evaluate the importance of a complete history and performing complete physical exams.

Assess the DAMNITV scheme and its application to various examples of selected clinical cases.

Lecture 3. Ophthalmology part 1

Identify and differentiate the anatomical structures of the eye.

Appreciate appropriate techniques for evaluating the various structures of the eye.

Lecture 4. Ophthalmology part 2

Describe the instrumentation and principles for successful ocular exam in companion animals.

Differentiate between the roles of the handler and the examiner during ocular exam in small animals.

Lecture 5. Ophthalmology part 3

Evaluate common pharmacologic agents used in ophthalmology.

Identify ocular diagnostic tests and determine when to perform these tests.

Clinic Labs

Collect historical data from clients, perform physical exams on owned patients in a clinical settings.

Generate problem lists and differential diagnoses lists.

Develop diagnostic plans and therapeutic plans.

Demonstrate proficiency in medical record writing and keeping.

Complete and submit written SOAP assignments in a timely manner.

Apply the DAMNITV scheme to clinical cases.

Apply problem based learning to clinical cases.

Online Clinical Rotations

Review simulated cases

Generate problem lists, differential diagnoses and comprehensive discussions.

Develop diagnostic plans and therapeutic plans.

Complete and submit written SOAP assignments on clinical paper cases in a timely manner.

Actively participate in rounds via Zoom

Ophthalmology Labs

Perform ocular exams and ocular diagnostic tests.

Compare normal and abnormal findings during ocular exams.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SVM program level outcome
Collect or review collected historical data from clients and perform general physical examination/restraint on pets in a clinic setting in a professional manner.	B.1. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities / Core Professional Attributes B.2. Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy / Core Professional Attributes B.3. Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team / Core Professional Attributes B.6. Demonstrate and model self awareness including understanding personal limitations and willingness to seek advice / Core Professional Attributes B.8. Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional

	<p>differences / Core Professional Attributes</p> <p>C.8. Demonstrate and model effective client communication and ethical conduct / Core Clinical Competencies</p> <p>A.1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals /Core Medical Knowledge</p> <p>C.1. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis / Core Clinical Competencies</p>
<p>Generate a prioritized problem list, discuss differential diagnoses for problems and develop an appropriate therapeutic plan for patients (Reinforce the Problem Based Learning Approach).</p>	<p>A.3. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases /Core Medical Knowledge .</p> <p>A.4. Explain the relationship between disease processes and clinical signs /Core Medical Knowledge.</p> <p>A.9. Apply the principles of veterinary public health for the promotion of human and animal health /Core Medical Knowledge</p> <p>B.1. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities / Core Professional Attributes</p> <p>A.5. Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on</p>

	<p>the use of medicines /Core Medical Knowledge.</p> <p>C.2. Create comprehensive treatment plans / Core Clinical Competencies</p> <p>C.3. Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare / Core Clinical Competencies</p> <p>C.4. Analyze, design and execute appropriate plans for basic surgery and surgical case management / Core Clinical Competencies</p> <p>C.5. Analyze, design and execute appropriate plans for medical case management / Core Clinical Competencies</p> <p>C.6. Analyze, design and execute appropriate plans for emergency and critical care case management / Core Clinical Competencies</p>
<p>Complete medical records and SOAP assignments in a timely and accurate manner using POMR and/or SOAP formats</p>	<p>A.6. Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine. /Core Medical Knowledge</p> <p>B.3. Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team / Core Professional Attributes</p>
<p>Develop students proficiency in performing basic ophthalmologic examination in companion animals using appropriate tools, diagnostic aids and therapeutics</p>	<p>A.1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals /Core Medical Knowledge</p> <p>C.1. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a</p>

	diagnosis / Core Clinical Competencies
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X. **Course Schedule Course Schedule**

Lecture 1. Overview of SAMS 526.

Date: 16th August 2021

Time: 5:30pm-6:20pm

Location: Sis Hall West

Lecturer: Dr. Wayne Sylvester

Lecture 2. Overview of small animal modules/labs

Date: 17th August 2021

Time: 4:30pm-5:20pm

Location: Sis Hall West

Lecturer: Dr. Wayne Sylvester

Lecture 3.

Date: 22nd November 2021

Time: 3:30pm-4:20pm

Location: Sis Hall West

Lecturer: Dr. Heidi Featherstone

Lecture 4.

Date: 22nd November 2021

Time: 4:30pm-5:20pm

Location: Sis Hall West

Lecturer: Dr. Heidi Featherstone

Lecture 5.

Date: 23rd November 2021

Time: 3:30pm-4:20pm

Location: Sis Hall West

Lecturer: Dr. Heidi Featherstone

Clinic Schedule

SAMS 526 Introduction to Clinical Practice Fall 2021

Groups for Clinic Labs

Location: Small Animal Clinic

Days: Weekdays mornings (except Mondays)

Time: 8:30am-12:30pm

Date	Date	GROUPS
Week 1	Wednesday 18 th August	Groups A5-A8
Week 1	Friday 20 th August	Groups A5-A8
Week 2	Wednesday 25 th August	Groups B5-B8
Week 2	Friday 27 th August	Groups B5-B8
Week 3	Wednesday 1 st September	Groups B1-B4
Week 3	Friday 3 rd September	Groups B1-B4
Week 4	Wednesday 8 th September	Groups A3, A4, B9, C9
Week 4	Friday 10 th September	Groups A1-A4
Week 5	**Tuesday 14th September**	Groups A1, A2
Week 5	Wednesday 15 th September	Groups C1, C2, C5, C6
Week 5	Friday 17 th September	Groups C1-C4
Week 6	Wednesday 22 nd September	Groups C7, C8, C9, A9
Week 6	Friday 24 th September	Group C5-C8
Week 7	Wednesday 29 th September	Groups A9, B9, C3, C4
Week 7	Friday 1 st October	No Rotations (a mid-term exam in pm)
Week 8	Wednesday 6 th October & Friday 8 th October	No Rotations Mid-Term Exams week
Week 9	Wednesday 13 th October	Groups B1-B4

Week 9	Friday 15 th October	Groups A1-A4
Week 10	Wednesday 20 th October	Groups B5-B8
Week 10	**Thursday 21st October**	Groups B5-B8
Week 10	Friday 22 nd October	Groups C5-C8
Week 11	Wednesday 27 th October	Groups A5-A8
Week 11	**Thursday 28th October**	Groups A5-A8
Week 12	Wednesday 3 rd November	Groups C5-C8
Week 12	**Thursday 4th November**	Groups C5-C8
Week 13	Wednesday 10 th November	Groups C1, C2, B9, C9
Week 13	Friday 12 th November	Groups A9, B9, C9
Week 14	Wednesday 17 th November	Groups C1-C4
Week 14	Friday 19 th November	Groups C3, C4, A9
Week 15	Wednesday 24 th November	Groups A1-A4
Week 15	Friday 26 th November	Groups B1-B4

SAMS 526 Ophthalmology Labs Schedule

Venue: Veterinary Surgery Lab/Simulation Lab

Days: Monday and Tuesday

Time: 8:30am-12:00pm

SAMS 526 Ophthalmology Lab (1 Lab per student)

Monday 29th November at the Sim Lab: Group A + B1-B4

Tuesday 30th November at the Sim Lab: Group C + B5-B9

XI. Grading and assessment policy, and grading rubrics

Grading scale:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C

64.5-69.4	D+
59.5-64.4	D
<59.4	F

1.

a. Types of assessment:

Formative assessment:

1.

1.

- i. Participation in morning rounds at the clinic from 8:30am-9:00am
- ii. Feedback during Labs

Summative assessment:

1.

1.

- iii. Clinical Performance Evaluations/Direct Observation of Procedural Skills (DOPS). Clinicians will assess each student as they consult on cases or do online labs- 40%
- iv. SOAP Assignment - 50%
- v. Pre-Lab quiz - 10%

XII. Recommended study strategies

The students should review the relevant subject matter pertaining to the rotation they will be completing. The student should refer to previous course notes and manuals and should refresh clinical skills as necessary to be able to successfully complete the rotation.

Instructor's expectations of the student

The student is expected to read the WHOLE syllabus before the first lecture and rotation session.

Expectations of the Student for Clinical Rotations include but are not limited to:

1.

- a.
 - 1.
 - 1.
 - a. Participation
 - b. Teamwork
 - c. Professionalism
 - d. Knowledge of SOAP and POMR
 - e. Basic ability to collect history from pet owners and perform physical examinations
 - f. Basic knowledge of medical terminology
 - g. Be prepared—appropriate attire, equipment/supplies, mentally prepared
 - h. Punctuality

Professionalism statement

Students are expected to carry themselves in a professional manner in accordance with AVMA professionalism competency. Professionalism is graded in every lab session.

XIII. **Attendance/Participation Policy** (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XIV. **Policy regarding missing examinations and/or failure of submission of assignments**

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) (**COURSE DIRECTOR email HERE**) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do

so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XV. **ExamSoft policy**

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

XVI. **Copyright policy**

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices

Rubric for grading

	4	3	2	Un as
	Performs assignment with 89.5-100% proficiency/competency	Performs assignment with 79.5-89% proficiency/competency	Performs the assignment with 69.5-79% proficiency/competency	profic
Accurate complete history	<p>Student asked pertinent history questions related to their individual patient. Student utilized good open-ended questions and closed ended questions. Student obtained a thorough history.</p> <p>Or student in an online Lab correctly interpreted all the historical data from an online case.</p>	<p>Student asked most of the relevant questions related to their individual patient.</p> <p>Student obtained a fairly thorough history.</p> <p>Or student in an online Lab correctly interpreted most of the historical data from an online case.</p>	<p>Student asked some history questions, mostly related to the individual patient, but does not obtain a thorough history.</p> <p>Or student in an online Lab partially interpreted the historical data from an online case.</p>	St approp Or stu dic hist
Accurate complete physical examination	<p>Student performed a complete physical exam on the patient, examining all body systems thoroughly. Student displayed a routine or systematic approach in their exam.</p> <p>Student recorded all PE findings correctly on the Physical Exam form.</p> <p>Or student in an online Lab correctly interpreted 100% of physical exam findings from an online clinical case</p>	<p>Student performed a complete physical exam without a systematic approach.</p> <p>Student completed the PE form with a few minor errors.</p> <p>Or student in an online Lab interpreted 75% of the physical exam findings correctly from an online clinical case</p>	<p>Student partially completed a physical exam. Student did not follow a systematic approach.</p> <p>Student partially completed the PE form.</p> <p>Or student in an online Lab interpreted 50% of the physical exam findings from an online clinical case</p>	Stu phy patient minim the Stude Or Stu interpr the ph from a

<p>Applied Knowledge base</p>	<p>Through written assignments and oral discussions (while seeing cases at the clinic, interactive Zoom rounds or sakai forums), the student clearly discussed/stated the appropriate knowledge base for this stage of their career.</p> <p>Student was able to express in written format (+/- discuss verbally via Zoom) their knowledge of companion animal medicine, shelter medicine, surgery, anesthesia or emergency and critical care in a well-organized, logical, and easy to follow format.</p> <p>Student develops appropriate written plans for case discussion and management</p>	<p>Through written assignments and oral discussions (while seeing cases at the clinic, interactive Zoom sessions or sakai forums), the student discussed/stated the appropriate knowledge base for this stage of their career on most occasions.</p> <p>For the most part, the student was able to express in written format (+/- discuss verbally via Zoom) their knowledge of companion animal medicine, shelter medicine, surgery, anesthesia or emergency and critical care in an organized and logical format.</p> <p>For the most part, the student develops appropriate written plans for case discussion and management</p>	<p>Through written assignments and oral discussions (while seeing cases at the clinic, interactive Zoom sessions or sakai forums), the student discussed/stated inadequate knowledge base for this stage of the career.</p> <p>Student occasionally shares appropriate knowledge of companion animal medicine, shelter medicine, surgery, anesthesia or emergency and critical care in a haphazard and illogical format.</p> <p>Student develops inappropriate written and/or verbal plans for cases.</p> <p>Knowledge base needs to improve</p>	<p>Stu share or v know anima me anesth a St inap and/</p>
<p>SOAP assignment/completion of medical records</p>	<p>Written SOAP and/or medical records contained comprehensive Subjective (including signalment and SHEDC), Objective (TPRH, BCS, weight, all parameters from all body systems, all Day 1 diagnostic tests and their results), Assessment (including Problem List, all Differential Diagnoses for each problem from the DAMNIT-V scheme,</p>	<p>Written SOAP and/or medical records contained adequate Subjective, Objective, Assessment and Plan sections. The Assessment section contained at least 75% of the total problems from the Subjective and Objective sections and 75% of them are prioritized correctly.</p> <p>75% of the differential diagnoses for each</p>	<p>Written SOAP and/or medical records partially contained some correct aspects of Subjective, Objective, Assessment and Plan sections. The Assessment section contained at least 50% of the total problems from the Subjective and Objective sections and 50% of them are prioritized correctly.</p> <p>50% of the differential diagnoses for each</p>	<p>Wri n co includ o The follow is c Mon to omitte</p>

	<p>discussion section in paragraph format) and Plan sections (including Diagnostic Plan, Treatment plan, client education, follow up plan). The Assessment section contained a complete prioritized problem list, all differential diagnoses (using DAMNIT-V scheme or Body system but not both for the same problem) for each problem in order of most likely to least likely and a mandatory discussion section in paragraph format is included. The SOAP contained only appropriate medical terminology.</p> <p>The SOAP assignment is organized, accurate and thought processes flow logically.</p> <p>The SOAP contains zero typographical errors</p>	<p>problem are listed in order of most likely to least likely and mandatory comprehensive discussion sub-section in paragraph format is included.</p> <p>The SOAP contained 75% of appropriate medical terminology.</p> <p>The SOAP is well organized, accurate and thought processes flows logically for the most part. The SOAP contains less than 3 typographical errors.</p>	<p>problem are listed in order of most likely to least likely.</p> <p>The mandatory discussion sub-section within the Assessment section in paragraph format was either missing completely or was very brief and vague.</p> <p>The SOAP contained 50% of appropriate medical terminology.</p> <p>The SOAP is partially organized, inaccurate and thought processes don't flow in a logical sequence.</p> <p>The SOAP contains less than 4 typographical errors.</p>	<p>Pro</p> <p>T</p> <p>sub</p> <p>Asses</p> <p>writ</p> <p>The S</p> <p>tha</p>
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SMALL ANIMAL MEDICINE & SURGERY DEPARTMENT

JUNIOR SURGERY AND ANESTHESIA LABORATORY (2 credits)

SAMS 527 (TERM5)

Fall 2021

I. Course Faculty and Staff Information

Course Director: Marta Lanza-Perea, DVM, MRCVS, MSc
Associate Professor (mperea@sgu.edu)

Assistant Course Director: Emily Turitto, DVM
Assistant Professor (eturitt1@sgu.edu)

Office Hours/Communication:

- Faculty are available via email, response time within 24-48 hours
- Weekly rounds will serve as way of constant communication with students
- General course communication will occur within Sakai Email or Sakai announcements

Participating Faculty:

- **Surgery:**
 - Keith Kalasi, DVM. Assistant Professor (KKalasi@sgu.edu)
 - Adria Rodriguez DVM, MSc, CVA, CVCH. Associate Professor (airodriguez@sgu.edu)
 - Tara Paterson DVM, MSc Associate Professor (tpaterson@sgu.edu)
 - Heidi Janicke, DVM, PhD, MRCVS, Dipl. ECVS, SFHEA. Professor (hjanicke@sgu.edu)
 - Rodolfo Bruh Day, DVM,ChD.SAS, Dipl.CLOVE,EdD. Professor (rbruhl-day@sgu.edu)
 - Francesca Ivaldi, DVM, MSc Associate Professor (fivaldi@sgu.edu)
 - Tomas Guerrero, DVM, Dipl SAS. Professor,(tguerrer@sgu.edu)
 - VP's: Dr Merel Blonk, Dr Katie Morris, Dr Tatiana de Oliveira

- **Anesthesia:**
 - Flavia Restitutti DVM, PhD Associate Professor(frestitu@sgu.edu)
 - Mercedes Miccio, DVM Assistant Professor(mmiccio@sgu.edu)
 - Mrs. Naudia Dundas, Instructor (ndundas@sgu.edu)
 - VP's: Laura Gomez, DVM

Technicians

- Licensed Veterinary Technician: Ms. Elizabeth Peach (epeach@sgu.edu)
- Veterinary Technician: Mr. Jakobus Louw (jlouw@sgu.edu)
- Veterinary Technician: Mr. Quacy Matthew(qmatthew@sgu.edu)
- Veterinary Technician: Mr. Jude Modeste (jmodeste@sgu.edu)

Community Dog Recruitment Coordinator: Mr. Quacy Matthew
Assistant dog recruitment: Ms. Diane Basset

II. Course location

The laboratory sessions take place in the Veterinary Surgical Facilities at the Ray and Jan Sis Hall Building each Tuesday and Thursday. Animal housing, pre-operative evaluations and post-operative care all occur in the same building. The lecture portion will take place in the regular classroom venue

Sakai Resources being utilized include but are not limited to Announcements, Calendar, Resources, Assignments, Forums, Tests and Quizzes

For remote students: Online Location

- Lectures will be available in Sakai via Panopto or Zoom, both live (synchronous) and recorded sessions (asynchronous). Rounds and Mock surgeries will be done using synchronous zoom sessions

III. Prerequisite and/or co-requisite courses

- SAMS517 (Anesthesiology course, Term 4)
- SAMS514 (Introduction to Surgical Skills, Term 4)
- Students must be current 5th term SVM students

IV. Required resources

- JSAL manual, updated for Fall 2021
- Veterinary Surgery: Small Animal, K Tobias and S Johnston Elsevier 2nd edition, 2017

- Pasquini et al. Veterinary Surgical Preparation and protocol, SUDZ Editor, 2011
- Fundamentals of Small Animal Surgery, FA Mann, Constantinescu & Hun-You, 2011
- Basic instruments and suture material (Remote students)
- Laptop with webcam and functional microphone (Remote students)

V. Recommended resources

- Fossum et al. Small Animal Surgery. Mosby 5th edition, 2019
- Course notes and videos from term 4 SAMS 514 (Intro to Surgical Skills) and SAMS 520 (Anesthesia)
- SAMS527 Resource contents in Sakai
- The Library on the SGU Carnage is a great resource to access materials and journal articles.
- Stable Internet connection (Remote Students)

VI. Accommodation

- Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

- Backpacks, book bags, food, or drinks are not allowed in the laboratory rooms. There are lockers outside the lab to place your belongings. Bring a padlock to secure your items if you wish.
- A minimal amount of course material pertinent to the specific laboratory is permitted inside the lab (written notes, summaries, charts, whatever may help you to do a good job)
- Stethoscope, calculator, pen, thin-tip permanent marker are highly recommended.
- Conversations should focus on the tasks at hand and should be kept at a reasonable volume to minimize disturbance to other groups and patients.
- Students (other than the anesthetist) will be standing for the entire laboratory period, the reason why good quality footwear is essential to minimize leg and back strain.
- Students are expected to wear surgical scrub clothing at all times and closed toe comfortable and protected footwear with hard soles, and no upper holes (i.e. Danskos, Clogs). Sneakers may also be used.
- Please refer to OSHA (Occupational Safety and Health Administration) recommendations in the following link:
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=25439
- On surgery lab days, no person is allowed inside the surgery suite without cap and mask.

- **It is highly recommended that students have breakfast to prevent low glucose levels during surgery sessions.**

For REMOTE students (but very recommendable for ALL SAMS527 students) :

- Students will be required to create their own castration and spay models. This exercise is meant to be a learning experience meant to promote reflection and creativity as well as review of anatomy in preparation to perform the mock surgeries to practice their skills
- A good internet connection and the possibility to have a camera to show their models and hands while performing mock surgeries.

VIII. Course rationale

This is a hands-on, faculty supervised, surgery and anesthesia clinical skills course. Students will be divided into teams of four and will be expected to apply knowledge gained from previous courses (SAMS 520- Anesthesia, SAMS 514- Intro to surgical Skills) and concurrent courses (SAMS 518- Small Animal Surgery).

The goal of this course is to provide the student with the opportunity to put into practice in live patients what has been learned previously in the classroom and in dry labs. Student's should get familiarized and have a practical understanding of surgical etiquette, general operating and anesthesia procedures. The ultimate goal is to provide clinical, "hands on", experience by anesthetizing dogs undergoing elective surgical procedures (castration and ovariohysterectomy).

Students will also practice communication skills by presenting in pre-surgical and pre-anesthetic rounds. Rounds will include presentation of cases including signalment, physical examination and bloodwork findings, diagnostic procedures, and treatment plans, as well as discussions related to infectious diseases with/without zoonotic potential, behavior, ethical dilemmas, and other matters.

Anesthetic protocols and the surgical plan for either a spay or a neuter in client-owned surgical candidates will be reviewed. Students will perform MOCK canine sterilization surgical procedures in models while describing aseptic technique principles.

Students will maintain medical records using the SOAP format for every assigned patient, including the writing of surgery and anesthesia reports, postoperative treatment plans, discharge instructions, and will perform pain management assessments.

Team building and cooperative learning are an integral part of the course.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

- Present surgical cases and execute peri-operative case management for Castration and Spay laboratories
- Perform a Spay procedure in healthy canine patients as an anesthetist, surgeon, assistant surgeon and scrub nurse and a Castration procedure in three of those roles
- Perform sedation and or anesthesia in healthy male and female canine patients for castrations and spays
- Demonstrate proficiency in medical record writing and keeping
- Professionally perform and contribute in a team environment
- Perform the minimum ophthalmic data base
- Practice techniques used in routine dentistry
- Practice techniques uses in osteosynthesis

For REMOTE/ONLINE learners:

- Present surgical cases and describe peri-operative case management for Castration and Spay laboratories
- Describe and perform a Castration and a Spay procedure in a male and female model patient as a surgeon
- Describe sedation and or anesthesia protocols in a male and female model patient for castrations and Spays
- Demonstrate proficiency in medical record writing and keeping
- Professionally perform and contribute to a team environment

X. Lesson/Lab Level Outcomes

Please refer to Appendix 1

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Please refer to Appendix 2

Laboratory overview:

Preparation for Laboratories

- Prior to each session, students are responsible for reviewing relevant class notes, textbooks, and any relevant materials from other courses in preparation for the laboratory.
- Each student is expected to be familiar with all aspects of the laboratory session prior to the start of the laboratory. Students are expected to follow surgical protocols during the laboratory session and to perform appropriate pre-operative and post-operative duties (including proper patient care) as required.

- All students are expected to bring forward skills attained in Term 4 in the Introduction to Surgery Skills and Anesthesiology courses.

Pre-laboratory Classroom Session

Check your schedule for pre-laboratory sessions, which will be held in the regular lecture classroom. The session will be pertinent to the upcoming laboratory.

Attendance to these sessions is mandatory for everyone.

Laboratory Duration

Formal laboratory sessions start at 8:00 am and finish at or before 12:30 pm. Labs will start with the pre anesthetic physical examination completed between 7:30 and 8:00 am, with the pre-anesthetic medications administered before/by 8:00 am.

Students are expected to be in appropriate attire, prepared, and ready to proceed with the laboratory.

Laboratory Groups

The class is divided into groups of 4. Each group of 4 students will rotate performing the duties of Surgeon, Assistant Surgeon, Scrub Nurse and Anesthetist. There will be 3 groups (A, B, and C) who will perform surgery every week either on a Tuesday or a Thursday.

Structure of the laboratory

➤ ***Surgery portion:***

- Every Monday or Wednesday, each group of 4 students will be assigned a patient scheduled for surgery the following day. Students and instructors will meet at 5.30 pm in the Veterinary Surgical Laboratory (VSL) prep-room right after class. Each group will perform a physical examination on their patient. During rounds, cases will be discussed, and instructors will provide help and guidance in the Medical Record writing process.
- Every Tuesday or Thursday, students will meet the instructors in the VSL prep-room at 7.30 am to prepare for anesthetic induction and surgery.
- At 5:30 pm, after class, students will return to the VSL kennel room and check their patients, perform a pain assessment, and decide about analgesic options under the instructors' guidance.
- The following Wednesday or Friday, students will come before 8:15 am to discharge their patients. Each group will need to perform a physical exam. Medications and preventatives will be labelled and made available. Each group will make sure that all the paperwork and medical records have been filled out and submitted in a timely manner.

➤ **Anesthesia portion:**

- Every Monday and Wednesday, each student on anesthesia duty must arrive at the Veterinary Surgical Laboratory (VSL) prep-room at 5.30 pm. Each student will perform a preanesthetic assessment on the patient assigned to his/her group and prepare a complete anesthetic plan. A group discussion with the anesthesia instructor will follow, starting at 6.00 pm.
- Every Tuesday and Thursday, students must arrive at the VSL prep-room room at 7:30 am to set up the anesthesia station (anesthesia machine, breathing system and 'induction tray'), collect, and administer the preanesthetic medications to the patients between 7:45 and 8:00 am. The anesthesia student will be responsible for induction of anesthesia, patient monitoring, and detection and treatment of anesthetic complications perioperatively. Students must remain with their patient until complete recovery from anesthesia. If a student must leave earlier, a technician or faculty must be informed, and someone must be assigned to take over to supervise the patient until fully awake. At 5.30 pm, students must return to the VSL kennel room and check their patients, perform a pain assessment according to the **Short Form of the Glasgow Composite Pain Scale**, and decide regarding pain treatment for their patients

Patient Care

Even though students will be supervised by faculty and staff, students remain responsible for the care of their patient, from the moment the patient is assigned to the group up to the moment the patient is discharged. The highest standard of patient care is expected. Follow up telephone calls to patient's owners will be required 3 days after the surgery day to check on the patient's progress and to provide any client education as needed.

Animal Transport

Patients will be brought into the kennels by University staff, and will be delivered to their owners in the same way unless otherwise arranged by those in charge. Dogs usually arrive to the kennels sometime during Sunday.

General record keeping

Written records must be legible, accurate, and complete. They are legal documents, so you shall not copy them later to look pretty, rather do it real-time as good as you can. Record keeping must be such that it is possible for anyone to retrieve the needed information at any time by just reading the records (for example in the event of a retrospective study that entails consulting written records from previous years to collect scientific information). All records **MUST BE** completed in blue or black ink. The anesthetic record sheet must be completed and placed in the designated mailbox (mounted in the surgery suite) once the patient has recovered from anesthesia.

Specific instructions are provided in the JSAL manual in the sample record sheet. It will be graded as part of your “On-going assessment”.

XII. Course Schedule

Please see schedule posted in Sakai and attached in Appendix 3

Schedule of REMOTE STUDENTS (subject to changes depending on time zones and others)

Week 1 and 2 will be review sessions for anesthesia and surgery for the whole class. The sessions can be followed via synchronous zoom sessions or asynchronous recorded lectures

After those initial compulsory preparatory session, each student will attend (time zone pending)

- Anesthesia Rounds with Group C (each student will attend the role of anesthetist once for castrations and once for spays)
- Surgery Rounds with group C (each student will attend in the roles of Surgeon, Assistant sx and Scrub nurse, once for castrations and for spays)
- Mock castration (1h) per student in a group
- Mock Spay (1:15 h) Individual one to one with instructor

The following will be assignments due per remote student:

- Formative: Draping a “dummy” video
- Formative: Intratesticular block and Mock IV catheterization
- Surgery pre procedure video assessments x2 (1 castration, 1 spay)
- Anesthesia case assignment (anesthesia record and quiz) x2 (1 castration, 1 spay)
- SOAPS (3x castrations, 3x spays)
- Surgery Reports x2 (1 castration, 1 spay)

XIII. Grading and assessment policy, and grading rubrics

ON SITE STUDENTS:

The first half of the term will not count towards the final grade of the course. It is a time for learning, practicing, and preparing for spays. From after midterms onwards, the course will be graded as follows:

- **On-going assessments:** Four roles performed during spays will be graded **75%**

- **Formative Assessments:** These assessments will not receive a formal grade, but they are a pre-requisite before being allowed to perform your castration and spay surgeries.
 1. Castration Video Assessment
 2. Spay Video Assessment
 3. Suspensory Ligament Rupture Article Questions
- **Reports:** to be completed appropriately in a timely fashion **20%**
 - Surgery Report due on the discharge day, in the patient's medical record. This is an individual student submission and grade (**5%**)
 - SOAP (Four graded) due by 8:30 am on the discharge day. This is a group grade, so everyone in the group will get the same (**15%**)
- **Professionalism:** **5%**
 - This portion will be graded throughout the term by peers, staff and faculty
 - It is meant to be a combination of self-evaluation, reflection, participation and peer review. Two peer assessment assignments will be posted and due by midterms (2%) and final (3%) weeks.
 - The final peer evaluation grade will include grades from a rubric completed by all members of one group, when preparing for their mock spay. Meant to be a learning and growing exercise to give and receive peer feedback

Grading scale:

This course is graded with letter grade in accordance to the SGUSVM grading scale:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

REMOTE STUDENTS:

1. Anesthesia Portion: 30%

- **Rounds Presentations (x2) 6%** They will be assessed during normal rounds for Group C. One student will present.
- **Anesthesia Case Quiz (x2) 24%** Each Anesthesia Case Quiz consists of 2 portions: The Anesthesia Record (8%) and an Oral Quiz related to the case you have been assigned (16%)
- Formative assignments: These assessments will not receive a formal grade, but they are a pre-requisite for the anesthesia case assignments

grades. Students that do not submit their videos will receive an “I” on gradebook until submission. There are 2 formative assignments

- Intra testicular block: Students must perform a mock intratesticular block on video and upload for the instructors. Performance of the student will be assessed with the appropriate rubric
- IV catheterization: Students must perform a mock IV catheterization on video and upload on Panopto for the instructors. Performance of the student will be assessed with the appropriate rubric

- **Opening and deadline of the assignments:**

TBA

2. Surgery Video Assignments (Castration Video and Spay Video) (x2): 5%

- Short answer quizzes to be submitted before performing the mock castration and spay. Due dates will be specified as soon as possible depending on instructor’s availability
- Formative assignment:
 - Draping a dummy: This assessment will not receive a formal grade, but it is a pre-requisite to be able to perform mock surgeries. Each student will upload a video of him/herself draping a dummy.
 - Suspensory Ligament Rupture Article Questions

3. Medical Records. SOAPS (x4): 15%

- SOAPS will be a group submission due the Friday after rounds.
- There will be 2 submissions for castrations and 2 for Spays.
- The SOAP grades are based on group effort. Every person in the group will receive the same grade per patient.
- Performance of the student will be assessed with the appropriate rubric (see grading rubric in Sakai)

4. Surgery Reports (x2): 5%

- These reports will be an individual student submission due on the Sunday after each student’s Mock castration (2.5 %) and Mock OVH (2.5%) in the primary surgeon role.
- Performance of the student will be assessed with the appropriate rubric (see grading rubric in Sakai)
- Grades for medical records and surgery reports will be available in Sakai as they get corrected by instructors.

5. Mock Surgeries: 40%

- Castrations: 10%. They will be conducted in groups of students with 1 instructor.
- Spays: 30%. They will be conducted individually, one student to one instructor

- A comprehensive preparation guide and expectations will be available for students to prepare for this exercise. This guide will include ideas to construct the models as well as what to have ready to perform.
 - Performance of the student will be assessed with the appropriate rubric (See Grading Rubric in Sakai)

4. Professionalism: 5%

- It will be graded throughout the term by peers and faculty
- It is meant to be a combination of self-evaluation, reflection, participation and peer review. Two peer assessment assignments will be posted and due by midterms (2%) and final (3%) weeks.
- The final peer evaluation grade will include grades from a rubric completed by all members of one group, when preparing for their mock spay. Meant to be a learning and growing exercise to give and receive peer feedback

Grading characteristics for ONSITE students:

- Students will receive a grade for their daily performance and record keeping only after midterms. During the first half of the term students will be assessed and will receive written Exam Soft evaluations but the grades will not count for the final course grade. Think of it as a warm-up performance without added stress
- The SOAP grades are based on group effort. Every person in the group of 4 will receive the same grade per patient. The surgery report is an individual grade obtained when a student performs the OVH primary surgeon role. Grades for medical records and surgery reports will be available in the feedback sessions as the term progresses (as described in the table at the end of the schedule)
- Grades are determined by the faculty members involved in the course and are based on proficiency, participation, preparation and knowledge, professionalism, and clinical responsibility
- There will be no written mid-term or final examinations.
- Activities and participation may be restricted for any student not adequately prepared for a laboratory session. Lack of preparation is not acceptable for these patient-based exercises and can result in dismissal from the lab.
- DOPS (Direct Observation of Procedural Skills) are clinical proficiency tests and are graded differently to exams and coursework. The importance of clinical skills in this course must be emphasized and recognized. Due to their practical nature, grades for DOPS are calculated independently using rubrics
- Due to the nature of DOPS, subjective grading is used in whole or in part for the course. A rubric will be supplied to outline the criteria that are necessary to

perform at an acceptable level. These are the course director's expectations for a particular assignment or task. These rubrics provide a basis for self-evaluation, reflection, and peer review. This is necessary for fair assessment and student understanding.

- Rubrics are meant for student performance feedback, NOT for calculating grades. Different categories within a rubric have different weights associated depending on the importance of the skill

The final pass/fail rate will be at the discretion of the course director with input from all course instructors

- Student performance is expected to improve during the course.
- Performance is based on course learning objectives and expected clinical skills.
- Students will receive feedback for their daily performance and record keeping after each rotation.
- Pay attention to the instructor's comments and try to improve on comments they made

There is a "Daily Performance" (pass/fail) element to the grading aside from the technical skills that MUST be passed in order to pass this course. "Daily Performance" refers to professional behavior, situational awareness, being safe to perform the procedure, collaboration with team members, and maturity. Students MUST pass that portion even if the technical skills grade is passed.

XIV. Recommended study strategies

For On-Site students

It is recommended that the student keep on top of their preparations and review for each surgery day. Each student is expected to be familiar with all aspects of the laboratory session reviewing relevant class notes, textbooks, and any relevant materials from other courses in preparation for the laboratory. Students are expected to follow surgical protocols during the laboratory session and to perform appropriate pre-operative and post-operative duties (including proper patient care) as required.

All students are expected to bring forward skills attained in Term 4. Please practice suturing before coming to lab.

The feedback sessions are a good way to check in and stay on track of expected results. Check the schedule to find out specific time and dates. Office hours can be arranged via email with Dr. Lanza (mperea@sgu.edu) or Dr Turitto (eturit1@sgu.edu)

For Remote Students

It is recommended that the student prepares and reviews for each of the rounds sessions and mock surgeries. Each student is expected to be familiar with all aspects of the laboratory session reviewing relevant class notes, textbooks, and any relevant materials from other courses in preparation for the laboratory.

All students are expected to bring forward skills attained in Term 4. Please practice suturing before performing mock surgeries. Students are responsible for supplying their own suture material, practice board and Castration/ Spay models.

Additional assistance or Office hours can be arranged via email with the course instructors (mperea@sgu.edu , eturitt1@sgu.edu, kkalasi@sgu.edu) or the anesthesia team (frestitu@sgu.edu , mmiccio@sgu.edu) or with the appropriate instructor.

XV. Instructor's expectations of the student

For ON SITE students

- The student is expected to read and use the JSAL lab manual before each lab, as needed. Upon completion of this course, we would appreciate if you could take the time to complete the course & instructor evaluations. Your thoughts, comments and constructive criticisms are extremely important and valuable to us as we continue to develop and improve this course.
- Recognition and repeated avoidance of acceptable technique (ie. breaking aseptic technique without correcting the error or without asking for assistance) will be considered enough to be dismissed from the Surgery Lab.
- Students who are not performing up to an adequate standard will be notified the latest after midterm week. At the time of such an evaluation, methods to improve the student's performance will be discussed and a date will be set for a follow-up meeting to discuss the student's performance.
- Students that may be pregnant or are pregnant should immediately inform the Course Director and/or the Instructors.
- If you have any disability that may impair your performance should immediately inform the Course Director and/or the Instructors in order to receive the necessary assistance in the labs.
- Please note that the autoclave room is off limits to unauthorized personnel and students.

For REMOTE students

Students are expected to build their own castration and spay models to perform the "mock surgeries". Guides and suggestions on how to do them, as well as a list of necessary components and anatomical structures will be provided

- The student is expected to read and use the JSAL lab manual before each session of rounds and mock surgery, as needed.
- The student is expected to submit all assignments and assessments on time. If there is an issue, students are required to reach out to the course director or the appropriate instructor via email: mperea@sgu.edu, eturitt1@sgu.edu, kcalasi@sgu.edu, frestitu@sgu.edu, mmiccio@sgu.edu, ndundas@sgu.edu
- Students who are not performing up to an adequate standard will be notified the latest after midterm week or as needed. At the time of such an evaluation, methods to improve the student's performance will be discussed and a date will be set for a follow-up meeting to discuss the student's performance.
- If you have any disability that may impair your performance should immediately inform the Course Director and/or the Instructors in order to receive the necessary assistance in the class.
- Upon completion of this course, we would appreciate it if you could take the time to complete the course & instructor evaluations. Your thoughts, comments and constructive criticisms are extremely important and valuable to us as we continue to develop and improve this course.

XVI. Professionalism statement

- Punctuality is expected for rounds and surgeries.
- Cell phones are only allowed as calculators and should be switched off or in silent mode during live lectures and rounds. Ensure that all social media websites are logged off during class/ lab time.
- Students are expected to conduct themselves in an appropriate professional manner in their interactions with lecturers and fellow students (This applies to the remote students). Please be respectful, courteous and open to other people's opinions.
- Please arrive on time for lectures and labs if the session is live and dress appropriately.
- Professional behavior is always expected.

XVII. Attendance/Participation Policy

Students are expected to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered.

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence.

Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Live Lecture/Lab Zoom Sessions Policy:

- Case presentations/ Rounds for anesthesia and Surgery will be live Zoom Sessions at a scheduled time. They are all mandatory for all students. These sessions will be the basis for the group work and the SOAP. If there is a major issue, an e mail to the correspondent instructor will be sent. The sessions will be recorded.
- The Mock Surgeries will be live group or individual sessions and MANDATORY for each student
- For attendance of live rounds sessions, students are strongly encouraged to turn on their cameras to increase class engagement and interaction. For the Mock surgeries, cameras are a MUST.
- Students are expected to behave in a professional manner and dress appropriately for all live sessions.
- If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

- Students who fail to attend a lab (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the lab.
- Remote Students who have technical issues during the mock surgeries MUST inform the Course Director mperea@sgu.edu or Eturitt1@sgu.edu and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a fail for that rotation
- Make-up assignments/assessments are at the discretion of the course director

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

XX. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendix 1

Course Level Outcomes	Lab Learning Outcomes:
1. Present surgical cases and execute peri-operative case management for Castration and Spay laboratories	<ul style="list-style-type: none">• Demonstrate a complete physical examination on a dog• Demonstrate a preanesthetic assessment including physical exam and collection of relevant medical history and diagnostic information• Discuss and review surgical cases during rounds• Use appropriate communication with surgeons regarding the perioperative patient condition• Assess a patient during recovery from anesthesia until complete recovery• Organize and demonstrate patient care in the postoperative period and to transfer a patient to the care of a co-worker if necessary• Assess postoperative pain and plan analgesic treatment as necessary
2. Perform a Castration and a Spay procedure in a model as a surgeon	<ul style="list-style-type: none">• Employ general operating room procedures• Execute correct patient and surgeon aseptic surgical preparation• Demonstrate aseptic technique throughout the procedures• Identify, select and use proper instrument handling• Select and execute suture patterns and knots• Demonstrate adequate tissue handling• Select suitable suture materials

	<ul style="list-style-type: none"> • Demonstrate the duties of the supporting roles in the assistant surgeon or scrub nurse positions
<p>3. Perform sedation and or anesthesia in healthy male and female canine patients for castrations and Spays</p>	<ul style="list-style-type: none"> • Prepare a complete and appropriate anesthetic plan including fluid therapy and perioperative pain management • Select and discuss the appropriate anesthetic equipment and check it before use • Demonstrate proper administration of preanesthetic medication by intramuscular injection • Demonstrate appropriate placement of an intravenous catheter • Demonstrate induction of general anesthesia by intravenous drug injection • Demonstrate placement of an endotracheal tube • Demonstrate use an anesthetic machine for maintenance of inhalational anesthesia • Calculate and administer perioperative fluid therapy • Demonstrate local nerve blocks if indicated • Determine depth and adequacy of anesthesia and intraoperative analgesia with and without the aid of monitoring equipment
<p>4. Demonstrate proficiency in medical record writing and keeping</p>	<ul style="list-style-type: none"> • Write basic medical records (SOAPS, Surgery Reports, Anesthetic Record Sheet, Discharge Instructions, and Hospitalization Forms).
<p>5. Professionally perform and contribute in a team environment</p>	<ul style="list-style-type: none"> • Demonstrate professional behavior • Demonstrate situational awareness • Contribute and collaborate in group assignments and provide constructive feedback to peers • Demonstrate maturity • Demonstrate that is safe to perform procedure

<p>6.Perform the minimum ophthalmic data base</p>	<ul style="list-style-type: none"> • Practice the Schirmer's tear test • Practice the Fluorescein test • Use direct and indirect ophthalmoscopy • Examine the cranial nerves
<p>7.Practice techniques used in routine dentistry</p>	<ul style="list-style-type: none"> • Perform full mouth radiographs and interpret normal dental and periodontal anatomy • Be exposed to proper use of hand instruments, machine scaling, polishing, nerve blocks, gingival flaps, tooth sectioning and extractions of single and multi-rooted teeth, including removal of alveolar bone in canine and feline cadaver heads
<p>8.Practice techniques uses in osteosynthesis</p>	<ul style="list-style-type: none"> • Apply Pins, Plates, Cerclages and external fixators to fractures in plastic bone models.

For REMOTE Students:

<p>Course Level Outcomes</p>	<p>Lab Learning Outcomes:</p>
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<p>1. Present surgical cases and execute peri-operative case management for Castration and Spay laboratories</p>	<ol style="list-style-type: none"> 1. Describe and discuss a complete physical examination on a dog 2. Describe and discuss a preanesthetic assessment including physical exam and collection of relevant medical history and diagnostic information 3. Discuss and review surgical cases during rounds 4. Use appropriate communication with surgeons regarding the perioperative patient condition 5. Describe a patient during recovery from anesthesia until complete recovery 6. Describe patient care in the postoperative period and how to transfer a patient to the care of a co-worker if necessary 7. Discuss postoperative pain and plan analgesic treatment as necessary
<p>2. Describe and perform a Castration and a Spay procedure in a model as a surgeon</p>	<ol style="list-style-type: none"> 1. Discuss general operating room procedures 2. Select and discuss correct patient and surgeon aseptic surgical preparations 3. Discuss aseptic technique throughout the procedures 4. Identify and select proper instrument handling 5. Select and execute suture patterns and knots 6. Discuss adequate tissue handling 7. Select suitable suture materials
<p>3. Describe sedation and or anesthesia in a model patient for Castrations and Spays</p>	<ol style="list-style-type: none"> 1. Prepare a complete and appropriate anesthetic plan including fluid therapy and perioperative pain management 2. Select and discuss the appropriate anesthetic equipment and check it before use 3. Discuss proper administration of preanesthetic medication by intramuscular injection 4. Discuss appropriate placement of an intravenous catheter 5. Discuss induction of general anesthesia by intravenous drug injection 6. Discuss process of placing an endotracheal tube 7. Discuss use an anesthetic machine for maintenance of inhalational anesthesia 8. Calculate perioperative fluid therapy

	<p>9. Discuss how to assess the depth and adequacy of anesthesia and intraoperative analgesia with and without the aid of monitoring equipment</p>
<p>4. Demonstrate proficiency in medical record writing and keeping</p>	<p>1. Write basic medical records (SOAPS, Surgery Reports, Anesthetic Record Sheet, and Discharge Instructions).</p>
<p>5. Professionally perform and contribute in a team environment</p>	<p>1. Demonstrate professional behavior 2. Demonstrate situational awareness 3. Contribute and collaborate in group assignments and provide constructive feedback to peers 4. Demonstrate maturity 5. Demonstrate that is safe to perform procedure</p>

Appendix 2. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	SGU SVM Program Level Outcome
<p>1. Present surgical cases and execute peri-operative case management for Castration and Spay laboratories including both anesthesia and surgical case rounds.</p>	<p>A. Core Medical Knowledge PLO:1,2,3,4,5, 6,7,8,9, 10, 11, 12 B. Core Professional Attributes PLO: 14,16,17,19,20 C. Core Clinical Competencies (Skills)</p>

	PLO: 22,23,24,25,26
2. Describe and perform a Castration and a Spay procedure (in a model as a surgeon)	A. Core Medical Knowledge PLO: 1,2,12 B. Core Professional Attributes PLO: 14,16,17, C. Core Clinical Competencies (Skills) PLO: 23
3. Describe sedation and or anesthesia in a model patient for Castrations and Spays	A. Core Medical Knowledge PLO: 1,2,3,4,5,6,7,8,9,12 B. Core Professional Attributes PLO: 13,14,16,17,19, 20 C. Core Clinical Competencies (Skills) PLO: 22,25,
4. Demonstrate proficiency in medical record writing and keeping	A. Core Medical Knowledge PLO: 1, 2,3,4,5,6,8,12 B. Core Professional Attributes PLO: 13,14,16,17,19, 20 C. Core Clinical Competencies (Skills) PLO: 24,26,27
5. Professionally perform and contribute in a team environment	A. Core Medical Knowledge PLO: 12 B. Core Professional Attributes PLO: 14,16,17

Please find a detailed description of Course Level Outcomes (CLOs) mapped to Program Level Outcomes (PLOs) at the end of the syllabus in Appendix 1.

1. Alignment of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)-Detailed Description (REMOTE STUDENTS)

Course Level Outcomes	SGU SVM Program Level Outcome
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1. Present surgical cases and execute peri-operative case management for Castration and Spay laboratories

A. Core Medical Knowledge

PL0 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.

PL0 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.

PL0 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.

PL0 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.

PL03 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.

PL0 4 Explain the relationship between disease processes and clinical signs.

PL0 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.

PL0 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine.

PL0 7 Evaluate and analyze normal versus abnormal animal behavior.

PL0 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.

PL0 9 Apply the principles of veterinary public health for the promotion of human and animal health.

PL0 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.

PL0 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.

PL0 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.

B. Core Professional Attributes

PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.

PLO 16 Demonstrate and model adaptability and resilience.

PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.

PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.

PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.

C. Core Clinical Competencies (Skills)

PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.

PLO 23 Analyze, design and execute appropriate plans for basic surgery and surgical case management.

PLO 24 Analyze, design and execute appropriate plans for medical case management.

PLO 25 Analyze, design and execute appropriate plans for emergency and critical care case management.

PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.

<p>2. Describe and perform a Castration and a Spay procedure in a model as a surgeon</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>B. Core Professional Attributes</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 16 Demonstrate and model adaptability and resilience.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>C. Core Clinical Competencies (Skills)</p> <p>PLO 23 Analyze, design and execute appropriate plans for basic surgery and surgical case management.</p>
<p>3. Describe sedation and or anesthesia in a model patient for Castrations and Spays</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p>

	<p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>B. Core Professional Attributes</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 16 Demonstrate and model adaptability and resilience.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p> <p>C. Core Clinical Competencies (Skills)</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 25 Analyze, design and execute appropriate plans for emergency and critical care case management.</p>
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<p>4. Demonstrate proficiency in medical record writing and keeping</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>B. Core Professional Attributes</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 16 Demonstrate and model adaptability and resilience.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p>
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	<p>C. Core Clinical Competencies (Skills)</p> <p>PLO 24 Analyze, design and execute appropriate plans for medical case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.</p> <p>PLO 27 Demonstrate and model effective client communication and ethical conduct.</p>
<p>5. Professionally perform and contribute in a team environment</p>	<p>A. Core Medical Knowledge</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>B. Core Professional Attributes</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 16 Demonstrate and model adaptability and resilience.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p>

Appendix 3: Course Schedule

Junior Surgery and Anesthesiology Lab

Week #	Date	Time	Lab
1	Tue 17-Aug	8:30-12:30	Anesthesia Intro/Review
	Thu 19-Aug	8:30-12:30	Anesthesia Intro/Review
	Fri 20-Aug	3:30-4:20	JSAL Lab PREP(1) Intro to Col
2	Tue 24-Aug	8:30-12:30	Sx Prep/Instruments
	Thu 26-Aug	8:30-12:30	Sx Prep/Instruments
	Fri 27-Aug	3:30-5:20	JSAL Lab PREP (2-3) Patients
3	Tue 31-Aug	8:30-12:30	Castration (#1)
	Thu 02-Sep	8:30-12:30	Castration (#1)
4	Tue 07-Sep	8:30-12:30	Castration (#1)
	Thu 09-Sep	8:30-12:30	Castration (#2)
5	Tue 14-Sep	8:30-12:30	Castration (#2)
	Thu 16-Sep	8:30-12:30	Castration (#2)
6	Tue 21-Sep	8:30-12:30	Castration (#3)
	Thu 23-Sep	8:30-12:30	Castration (#3)
7	Tue 28-Sep	8:30-12:30	Castration (#3)
	Thu 30-Sep	8:30-12:30	Spay Demo
8			MIDTERMS (NO
9	Tue 12-Oct	8:30-12:30	Spay (#1)
	Thu 14-Oct	8:30-12:30	Spay (#1)
10	Tue 19-Oct	8:30-12:30	Spay (#1)
	Thu 21-Oct	8:30-12:30	Spay (#2)
11	Tue 26-Oct		(NO LAB)
	Thu 28-Oct	8:30-12:30	Spay (#2)
	Fri 29-Oct	8:30-12:30	Dentistry Lab
	Fri 29-Oct	1:30-5:30pm	Dentistry Lab
12	Tue 2-Nov	8:30-12:30	Spay (#2)
	Thu 4-Nov	8:30-12:30	Spay (#3)
13	Tue 9-Nov	8:30-12:30	Spay (#3)
	Thu 11-Nov	8:30-12:30	Spay (#3)
14	Tue 16-Nov	8:30-12:30	Spay (#4)
	Thu 18-Nov	8:30-12:30	Spay (#4)
15	Tue 23-Nov	8:30-12:30	Spay(#4)
	Wed 24-Nov	8:30-12:30	Orthopedics Lab
	Thurs 25-Nov	8:30-12:30	Orthopedics Lab
	Thurs 25-Nov	4:30-5:20	LAB CLOSURE
Fri	29-Nov	8:30-12:30	Ophthalmology Lab
	30-Nov	1:30-5:30pm	Ophthalmology Lab

All laboratories are taught by Anesthesia faculty (Dr Restitutti, Dr Miccio, VP's and M Dr. Turitto, Dr Kalasi, Dr Rodriguez, Dr Janicke, Dr Paterson, Dr Blonk, Dr Morris, Dr

The JSAL prep lecture hours are taught by Dr Lanza-Perea, Dr. Turitto and Dr Kalas

The **OPHTHALMOLOGY lab** is taught by Dr. H Featherstone (VP)
The **DENTISTRY lab** is taught by Dr. Ivaldi and Mr. Jim Merrit (VP)

FEEDBACK SESSIONS:

The mandatory sessions will take place in the prep room wearing scrubs. They will be done in small groups to comment and guide you after you. The voluntary sessions will take place in the autoclave /tech room of the lab. The times for the mandatory sessions will be announced. The voluntary

Mon	06-Sep	Group A+ B	Mandatory
Fri	10-Sep	Group C	Mandatory
Mon	20-Sep	All groups	Voluntary
Thurs	30-Sep	All groups	Voluntary
MIDTERMS			
Fri	22-Oct	All groups	Voluntary
Fri	29-Oct	All groups	Voluntary
Fri	12-Nov	All groups	Voluntary
Fri	26-Nov	All groups	Voluntary

COURSE RUBRICS

In campus students (rubrics will be uploaded in Sakai)

Remote Students



Mock Castration Rubric.pdf



Surgery Report Rubric.pdf



JSAL Medical Records Rubric.pdf

Anesthesia Record Rubric

	Does not meet expectations	Occasionally meets expectations	Meets expectations most of the time	Meets expectations
Patient signalment and owner information	Student does not accurately record or fails to record more than four items within this category. <i>0 Points</i>	Student does not accurately record or fails to record no more than four items within this category. <i>10 Points</i>	Student does not accurately record or fails to record no more than three items within this category. <i>20 Points</i>	Student accurately records all pertinent information regarding the patient signalment as well as owner's full name. <i>30 Points</i>
Surgery procedure information	Inadequate Student does not accurately record or fails to record more than four items within this category. <i>0 Points</i>	Poor Student does not accurately record or fails to record no more than four items within this category. <i>10 Points</i>	Good Student does not record or fails to record no more than three items within this category. <i>20 Points</i>	Exceptional Student accurately records all pertinent information regarding the procedure including, date of the procedure, name of the procedure, complaint (if any), name of the surgeon as well as anesthetist, signature, and body position. <i>30 Points</i>
Pre-anesthetic assessment information	Student does not accurately record or fails to record more than four items within this category. <i>0 Points</i>	Student does not accurately record or fails to record no more than four items within this category. <i>10 Points</i>	Student does not accurately record or fails to record no more than three items within this category. <i>20 Points</i>	Student accurately records all pertinent information regarding TPR, bloodwork, hydration status, body condition score. <i>30 Points</i>
Current health information	Student does not accurately record or fails to record more than four items within this category. <i>0 Points</i>	Student does not accurately record or fails to record no more than four items within this category. <i>10 Points</i>	Student does not accurately record or fails to record no more than three items within this category. <i>20 Points</i>	Student accurately records all pertinent information regarding abnormalities detected during PE, current diseases and medications, ASA status, preoperative pain evaluation and resuscitation code. <i>30 Points</i>
Pre-anesthetic and induction drugs	Student does not accurately record or fails to record more than four items within this category. <i>0 Points</i>	Student does not accurately record or fails to record no more than four items within this category. <i>15 Points</i>	Student does not accurately record or fails to record no more than three items within this category. <i>25 Points</i>	Student accurately records pre-anesthetic and induction drugs (mg/kg, total mg, route, time). <i>40 Points</i>
Pre and post induction information	Student does not accurately record or fails to record more than four items within this category. <i>0 Points</i>	Student does not accurately record or fails to record no more than four items within this category. <i>15 Points</i>	Student does not accurately record or fails to record no more than three items within this category. <i>25 Points</i>	Student accurately records all pertinent information regarding quality of sedation and induction, type of breathing system, ET tube size, cuff, intubation and extubation time, NSAIDs, CRI, epidural, nerve/tissue block, fluids, IV catheter. <i>40 Points</i>
Monitoring information	Student does not accurately record or fails to record more than four items within this category. <i>0 Points</i>	Student does not accurately record or fails to record no more than four items within this category. <i>30 Points</i>	Student does not accurately record or fails to record no more than three items within this category. <i>70 Points</i>	Student accurately records physiological parameters (DART sim), as well as isoflurane (%) and oxygen (L/min) information. Time of isoflurane on/off, start/end of surgery procedure, accumulated fluids. <i>100 Points</i>
Notes	Student does not accurately record or fails to record more than four items within this category. <i>0 Points</i>	Student does not accurately record or fails to record no more than four items within this category. <i>20 Points</i>	Student does not accurately record or fails to record no more than three items within this category. <i>40 Points</i>	Student accurately records drugs (total mg, route, time) administered after induction, during the procedure and during recovery, fluid boluses, and any other relevant event. <i>60 Points</i>
Complications, comments and recovery	Student does not accurately record or fails to record more than four items within this category. <i>0 Points</i>	Student does not accurately record or fails to record no more than four items within this category. <i>15 Points</i>	Student does not accurately record or fails to record no more than three items within this category. <i>25 Points</i>	Student records any complication occurred during the anesthetic procedure as well as quality of recovery and TPR at recovery. <i>40 Points</i>

Obs: The points on the rubrics have been multiplied by 100 due limitations on Sakai not accepting decimal points. The Anesthesia record grade is therefore the sum of each row divided by 100. This grade will be added to the Quiz grade on the Gradebook

Anesthesia round rubric

	Does not meet expectations (0 points)	Inconsistently meets expectations (1 point)	Meets expectations most time (2 points)	Meets expectations (3 points)
Ability to present the case prior the procedure	The student is not able to demonstrate the ability to communicate abnormalities resulting from the physical examination or laboratory results. The student does not demonstrate knowledge regarding drugs included in the anesthesia protocol. The student is not able to predict potential complications that may arise during the procedure.	The student inconsistently demonstrates the ability to communicate abnormalities resulting from the physical examination or laboratory results. The student demonstrates knowledge regarding drugs included in the anesthesia protocol, but he/she does not clearly know how to use this information to predict potential complications that may arise during the procedure.	The student demonstrates the ability to communicate any abnormalities resulting from the physical examination or laboratory results. The student demonstrates knowledge regarding drugs included in the anesthesia protocol and is able to use this information to predict potential complications that may arise during the procedure.	The student demonstrates an exemplary ability to communicate any abnormalities resulting from the physical examination or laboratory results. The student demonstrates adequate knowledge regarding drugs included in the anesthesia protocol and is able to use this information to predict potential complications that may arise during the procedure.

Intratesticular block technique

	Does not meet expectations (0 points)	Meets expectations (1 point)
Syringe handling technique	The student holds the syringe in an inappropriate manner and does not properly stabilize the testicle and/or breaks sterility.	The student holds the syringe in an appropriate manner while stabilizing the testicle with the other hand maintaining a sterile technique.
Needle insertion	The student does not insert the needle into the caudal pole of the testicle and/or does not direct the needle along the long axis of the testicle.	The student inserts the needle into the caudal pole of the testicle, directing it to the cranial pole along the long axis of the testicle.
Injection technique	The student does not apply negative pressure to ensure no flashback before injecting and/or does not palpate the testicle to feel its turgidity.	The student applies negative pressure before injecting to ensure no flashback, and then injects until the testicle feels turgid.

Obs: This assignment will not be graded and the points marked will **NOT** be reflected on the Gradebook

IV catheter placement

	Does not meet expectations (0 points)	Occasionally meets expectations (1 point)	Meets expectations (2 points)
Cleaning technique /Site prep	The student does not prepare the catheter site consistent with the aseptic technique. (as demonstrated in the IV catheterization video)	2Student does not consistently maintain the aseptic technique (as demonstrated in the video) when prepping the IV catheter site.	The student preps the catheter site consistent with the aseptic technique (as demonstrated in the IV catheterization video).
Catheter handling	The student initiates and executes less than 5 out of 7 tasks, required for IV catheter handling.	Student initiates and executes at least 5 out of 7 steps required for IV catheter handling.	The student holds the catheter and stylet together. Inserts the catheter in the vein using the correct angle. Reduces the angle between catheter and skin. Inserts catheter and stylet for 1-2mm. Advances catheter until catheter hub touches the skin. Student occludes the hub of catheter appropriately.
Sterility	The student does not maintain sterility during the procedure.	Student secures the catheter in the vein by demonstrating 4 out of 5 steps of the taping technique, outlined in the expected area.	The student did not touch the area that was already aseptically prepared. Did not touch the end of the catheter that remains in the vein of the patient. The student occluded the hub of the catheter with the appropriate port. maintains sterility during the procedure.
Taping	The student does not secure the catheter appropriately and did not demonstrate at least 4 of the 5 steps of the taping technique outlined in the IV catheterization video.	Student secures the catheter in the vein by demonstrating 4 out of 5 steps of the taping technique, outlined in the expected area.	The student cuts 3 lengths of tape - 1 length of 1"tape and 2 lengths of 1/2" tape. Student secures the catheter by placing the first 1/2" tape, sticky side facing down, in the angle between skin and hub of the catheter, then wrapped around the leg of the patient. Student places the second length of 1/2" tape sticky side up in the angle between the hub of the catheter and skin, wraps tape around the hub of the catheter then wraps tape around the leg of the patient. Student places 1" tape, sticky side facing down, beneath the hub of the catheter and wrapped around the leg. Student tapes catheter securely with 1/2 of the hub left exposed (without tape).

Obs: This assignment will not be graded and the points marked will **NOT** be reflected on the Gradebook



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Small Animal Medicine and Surgery Department

INTRODUCTION TO CLINICAL ROTATIONS SYLLABUS (2 credits)

SAMS 528 TERM 6

Fall 2021

I. Course Faculty and Staff Information

Wayne Sylvester, DVM, MSc

Associate Professor

Email Address: WSylvester@sgu.edu

Telephone: 444-4175 Ext:3600

Office Location: Small Animal Clinic

Office Hours: By appointment

Alfred Chikweto, BVM, MSc, PhD

Associate Professor

PathoBiology Department

Email Address: achikweto@sgu.edu

Telephone: 444-4175 Ext: 3345

Office Location: Small Animal Clinic

Office Hours: By appointment

Kerri Nigito, DVM, CPH, MPH, DABVP (Food Animal Practice)

Assistant Professor

Large Animal Medicine and Surgery Department

Email Address: knigito1@sgu.edu

Telephone: 444-4175 Ext: 3839

Office Location: LARF

Office Hours: By appointment

II. Course location

Small Animal Clinic

LARF or Private Farms

Necropsy Laboratory

Clinical Pathology Laboratory
Parasitology: Bacteriology Laboratory
Zoom for online students

III. Prerequisite and/or co-requisite courses

Current 6th term student

IV. Required resources

Notes from previous terms.

Necessary resources will be posted on SAKAI by faculty members responsible for each section.

Large Animal Internal Medicine, Bradford P. Smith, 5th edition.

Material covered in previous courses (example: anatomy, physiology, LAMS 501, LAMS 502, LAMS 503, LAMS 516, LAMS 519, SAMS 520, SAMS 522, SAMS 515, SAMS 526, SAMS 527, SAMS 514) is considered appropriate material

V. Recommended resources

Textbook of Veterinary Diagnostic Radiology	D. Thrall	6th ed., 2013
Textbook of Veterinary Diagnostic Radiology (E-Book)	D. Thrall	6th ed., 2013
Small Animal Internal Medicine	R. Nelson & C.G. Couto	5th ed., 2014
Small Animal Internal Medicine (E-Book)	R. Nelson & C.G. Couto	5th ed., 2014
Textbook of Veterinary Internal Medicine Expert Consult	S.J. Ettinger & E.C. Feldman	7th ed., 2010
Textbook of Veterinary Internal Medicine (E-Book)	S.J. Ettinger & E.C. Feldman	7th ed., 2010
Fundamentals of Small Animal Surgery	F.A. Mann, G.M. Constantinescu & Hun-You	2011
Fundamentals of Small Animal Surgery (E-Book)	F.A. Mann, G.M. Constantinescu & Hun-You	2011
Small Animal Surgery	T. Welch Fossum	4th ed., 2013
Small Animal Surgery with Expert Consult Access	T. Welch Fossum	4th ed., 2013
Small Animal Surgery (E-Book)	T. Welch Fossum	4th ed., 2013
Veterinary Surgical Preparation and Protocol	C. Pasquini	2011

Veterinary Medicine: A Textbook of the Diseases of Cattle, Sheep, Pigs, Goats and Horses	Otto M. Radostits; et.al	10 th ed.
Sheep and Goat Medicine	Pugh and Baird	2 nd ed.
Farm Animal Surgery	Fubini and Ducharme	2004
The Merck Manual	Merck & Co. Inc.	8 th ed.
Veterinary Laboratory Medicine, Interpretations and Diagnosis	Meyer, D. J. and Harvey, J. W	2 nd ed., 1998
Veterinary Laboratory Medicine	Latimer, K. S. et al	4 th ed., 2003
Atlas of Veterinary Hematology	Harvey, J. W.	2001
Necropsy: Procedures and basic diagnostic methods	Strafuss, A. C.	1988
The Necropsy Book	King, J. M.; et. al	2000
Veterinary Parasitology - Reference Manual	Foreyt, W. J.	5 th ed., 2001
Fundamentals of Veterinary Clinical Pathology	Stockham and Scott	2 nd Ed
EClinPath Website at Cornell University	https://eclinpath.com/	

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Supplies, attire and etiquette expected, and schedules for each rotation may be found within the individual rotation content.

Companion Animal Medicine Rotation (SAC) - pg. 16

Surgery and Anesthesia Rotation – pg. 18

Emergency and Critical Care Rotation – pg. 22

Radiology – pg. 28

Ambulatory – pg. 31

Diagnostics – pg. 36

VIII. Course rationale

This revised course is a combination of 3 courses (Laboratory diagnostics, Ambulatory Services, and Small Animal Clinical Services) previously offered by 3 different departments. This will be a 2 credit course giving students exposure to the

practical aspects of laboratory diagnostics (necropsy, clinical pathology, and parasitology), large animal medicine and surgery, ambulatory services, small animal medicine and surgery, emergency medicine, and shelter medicine. Teaching will be conducted in small groups of about 10 students predominantly in a laboratory format contrasting to regular didactic lectures. This applied course will build on the concepts from theoretical lecture and lab courses covered in terms 1-5 and aims to prepare 6th term students for their year 4 clinical rotations at the associated schools/colleges. Students will rotate through several different areas, mentioned above, over 10 weeks throughout the term.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Perform and interpret physical exams on farm and small animals and apply the appropriate diagnostic and treatment plans.
2. Demonstrate effective client and colleague communication in a professional and concise manner.
3. Prepare and deliver a case presentation using clinical cases.
4. Manage cases including history taking and client interaction, physical examination, diagnostic work-up, problem solving, development and implementation of therapeutic plan.
5. Describe radiographs using standard terminology, propose a diagnosis, and recommend further diagnostic tests and treatment.
6. Perform a complete necropsy and collect samples for histopathology and other ancillary diagnostic tests.
7. Make a morphologic diagnosis and generate a list of differential diagnosis.
8. Perform fecal, blood, urine, body fluid and cytologic examinations for parasitology and clinical pathology, make a diagnosis and recommend treatment and control strategies.

X. Lesson Learning Outcomes

<p>Companion Animal Medicine (SAC)</p>	<ol style="list-style-type: none"> 1. Take an accurate and complete history 2. Perform a complete physical examination 3. Prioritize problem list and list of differential diagnoses 4. Develop a diagnostic plan and interpret diagnostic test results appropriately 5. Complete medical records in the appropriate format (problem oriented & SOAP format) 6. Complete medical records accurately, completely and in a timely manner 7. Recognize personal limitations in knowledge, ability, and equipment 8. Develop an appropriate treatment plan 9. Demonstrate technical competency including: venipuncture, restraint, and other technical procedures, such as FNA, U/A, cystocentesis, ear/skin cytology 10. Demonstrate appropriate knowledge base of internal medicine 11. Conducts him/herself professionally and ethically in his/her approach to cases 12. Demonstrate professional demeanor at all times, e.g., work ethic and punctual 13. Exhibit expertise in professional reporting of cases to clinicians 14. Demonstrate ability to work in a team 15. Demonstrate professionalism in interacting with clients, peers, faculty and staff
<p>Surgery and Anesthesia</p>	<ol style="list-style-type: none"> 1. Take an accurate and complete history, perform a complete physical examination including specialty exams 2. Demonstrate appropriate knowledge of orthopedic disease processes and diagnosis 3. Prioritizes the problem list and list of differential diagnoses, develops a diagnostic plan and interprets diagnostic test results 4. Demonstrates adequate laboratory interpretation skills 5. Utilize the Problem Oriented Medical Record and SOAP format, maintain organized and complete medical records 6. Write a complete surgery report

7. Write complete discharge instructions
8. Develop an appropriate treatment plan
9. Demonstrate knowledge in rounds
10. Perform an accurate presurgical assessment of patient
11. Demonstrate knowledge of surgical principles and techniques, instrument identification and handling, surgical tray organization
12. Perform suture patterns appropriately
13. Perform ligatures appropriately
14. Maintains a complete anesthesia record
15. Develops and administers an appropriate drug therapy to include drug dosages, routes of administration, and dosing intervals
16. Prioritizes problem list and lists anticipated anesthetic complications
17. Demonstrates procedural skills (intubation, catheterization, instrumentation)
18. Demonstrates appropriate knowledge and use of anesthesia delivery equipment
19. Demonstrates appropriate knowledge and interpretation of anesthesia monitoring
20. Recognizes changes in patient status and anesthesia depth and responds appropriately
21. Recognizes personal limitations in knowledge, ability, and equipment and refers patient as appropriate: communicate staff/clinician when something is wrong with patient
22. Demonstrates understanding of applied pharmacology of drugs
23. Is able to appropriately assist patient in anesthesia recovery
24. Is able to assess animal pain and discuss appropriate therapies
25. Initiates an appropriate plan for postoperative patient care
26. Effectively communicate medical issues and demonstrates empathy with clients (written and/or oral discharge)
27. Exhibit expertise in orally reporting clinical cases as well as professional reporting of cases
28. Demonstrate appropriate use of scientific language
29. Demonstrate knowledge and actively participate in rounds

	<ol style="list-style-type: none"> 30. Demonstrate professional demeanor and conducts him/herself ethically at all times, i.e. work ethic and punctuality 31. Demonstrate professionalism in interaction with students, staff, faculty, and clients
Emergency and Critical Care	<ol style="list-style-type: none"> 1. Develops and administers an appropriate drug therapy and includes drug dosages, routes of administration, and dosing intervals 2. Develops an appropriate fluid therapy plan for the patient 3. Obtains a concise, relevant history in an emergency setting 4. Recognizes changes in the clinical status in a critically ill patient using physical examination findings, as well as quantitative measures 5. Triage patients for immediate care, hospitalization, or outpatient care 6. Efficiently assesses vital signs in a critically ill animal 7. Demonstrates professionalism in interactions with clients, peers, faculty and staff 8. Exhibits proficiency in professional reporting of cases to clinicians 9. Conducts him/herself professionally and ethically in his/her approach to cases 10. Displays appropriate ECC knowledge base
Radiology	<ol style="list-style-type: none"> 1. Demonstrates adequate assessment of radiographic quality (positioning, centering, exposure, artefacts) 2. Appropriately interprets radiographs/ sonograms 3. Demonstrates adequate ability to form an appropriate (list of) differential diagnosis(es) 4. Recommends the appropriate further investigations / diagnostics 5. Communicates effectively and participates in rounds; including questions
LARF Session - Bovine	<ol style="list-style-type: none"> 1. Perform and interpret an advanced and complete physical exam on bovine patients 2. Define where to administer IV and IM injections 3. Practice proper restraint and technique involved in administering an oral medication or orogastric intubation 4. Demonstrate how to perform a California Mastitis Test (CMT) 5. Choose the correct instruments needed to perform these tasks
LARF Session - Equine	<ol style="list-style-type: none"> 1. Perform and interpret an advanced and complete physical exam on equine patients 2. Define where to administer IV and IM injections

	<ol style="list-style-type: none"> 3. Perform and interpret a basic lameness exam on an equine patient 4. Identify equipment used in a lameness exam and apply the tools correctly
Ambulatory Field Experience	<ol style="list-style-type: none"> 1. Collect a pertinent medical history 2. Perform and interpret a thorough physical exam on farm animal species 3. Extract a relevant problem list from observations made through history and physical exam 4. Determine reasonable differential diagnosis lists based on problem list 5. Formulate a realistic diagnostic plan and create a treatment plan on the individual patient and herd levels 6. Demonstrate the presentation of a case in a concise and informative way to a colleague 7. Prepare a complete and accurate medical record of each farm visit 8. Locate peer reviewed journal articles and apply that information to the farm visit 9. Understand the importance of further reading to improve knowledge base and proficiency in practice 10. Recognize and diagnose common disease processes seen in food animals 11. Perform basic clinical and surgical procedures under field conditions 12. Select and apply appropriate physical and chemical restraint in food animals 13. Demonstrate appropriate client communication and education along with basic herd management recommendations 14. Determine appropriate milk and meat withdrawal times based on the medications selected/given in treatment plan
Necropsy Rotation	<ol style="list-style-type: none"> 1. Perform a complete necropsy (any species). 2. Recognize and describe gross lesions 3. Make a morphologic diagnosis and generate a list of differential diagnosis 4. Collect specimens for histopathology and other supporting diagnostic tests. 5. Prepare a written necropsy report.
Clinical Pathology Rotation	<ol style="list-style-type: none"> 1. Identify laboratory data abnormalities and use correct terminology (eg. hyperkalemia) 2. Interpret laboratory data (eg. classify anemia or type of azotemia). 3. Describe pathogenesis for abnormal laboratory data
Parasitology Rotation	<ol style="list-style-type: none"> 1. Perform a fecal examination. 2. Perform a blood examination. 3. Identify the common parasites in feces, blood, urine, skin, and body fluids.

	<p>4. Make a diagnosis based on history, clinical signs and identification of the parasite(s).</p> <p>5. Recommend treatment and control strategies.</p>
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XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See Appendix for full table of CLO alignment to program level outcomes

XII. Course Schedule

- a. Introduction of SAMS 528 course. Wednesday, August 18th 2021 at Bourne Lecture Hall (subject to change) from 1:30pm-3:20pm. All 6th term students must be present.
- b. Please find the rotation schedule under “Syllabus” folder in Sakai
- c. ****Rotation-specific schedules and details can be found in their individual sections of this syllabus.**

XIII. Grading and assessment policy, and grading rubrics

The course will be graded Pass/Fail.
 100-69.5% = Pass
 <69.5% = Fail

Each rotation will assess all students for professionalism in addition to any graded assignments. All rotations will be graded using rubrics (please see appendix).

The importance of clinical skills in this course must be emphasized and recognized. Failure to participate in the OSCE can result in failure of the course (F Grade). Any Term 6 students that faculty may identify as having deficiencies in either clinical skills or professionalism may be held back from moving on to year 4 clinical rotations.

Evaluation	Weighted
Parasitology rotation	5%

Necropsy rotation	15%
Clinical Pathology Rotation	10%
Radiology	10%
Small Animal Medicine/Anesthesia/Surgery Rotations	30%
Ambulatory Rotation	30%
Total	100%

XIV. Recommended study strategies

The students should review the relevant subject matter pertaining to the rotation they will be completing. The student should refer to previous course notes and manuals and should refresh clinical skills as necessary to be able to successfully complete the rotation.

XV. Instructor’s expectations of the student

The student is expected to read the WHOLE syllabus before the orientation session and specific rotation information prior to rotation start.

Also please note:

- Recognition and repeated avoidance of acceptable technique (e.g. breaking aseptic technique without correcting the error or without asking for assistance) will be considered grounds for dismissal from surgery.
- The student is expected to have prepared for the farm visit by reading the provided resources as well as actively participate with their classmates and faculty throughout the afternoon.
- An informal evaluation will be given to any student that requires it after the week of rotation. Students who are not performing up to an adequate standard will be notified as soon as substandard performance is noticed. At that time, methods to improve the student's performance will be discussed and a date set for a follow-up meeting to discuss the student's subsequent performance.

- **Students that may be pregnant or are pregnant should immediately inform the Course Director and/or the Instructors.**
- If you suffer from **ANY disability** (physical or psychological) that may impair your performance, you should proceed in the same manner to be better assisted in clinical rotations.

XVI. Professionalism statement

Students are expected to carry themselves in a professional manner in accordance with the AVMA professionalism competency. Professionalism is graded in every rotation. Unprofessional behavior, attitude, attire or ethics will not be tolerated. Students will be publicly representing themselves, St. George's University and their profession; conducting themselves in an exemplary manner is expected. You are training to be veterinarians; a very high standard of professional conduct is expected of you.

XVII. Attendance/Participation Policy (refer student to the student manual page if applicable)

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Attendance to all rotation days is MANDATORY. An electronic medical excuse needs to be completed if the student is not able to attend on any rotation day. The course director and main contact of the rotation need to be informed as well.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) (achikweto@sgu.edu; knigito1@sgu.edu, wsylvester@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)

- d. Examsoft information page
- e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices

I. General Schedule and Location for All Rotations

Beginning of term Orientation

Orientation will take place Wednesday, August 18th from 1:30-3:20pm at Bourne Lecture Hall.

Location for Rotations:

- Companion Animal Medicine (SAC), Surgery and Anesthesia, and Emergency and Critical Care take place at the Small Animal Clinic.
- Radiology takes place at the SAC conference room.
- Ambulatory takes place at the LARF and private farms
- Parasitology takes place in the Bacteriology laboratory
- Necropsy takes place in the Postmortem/Histopathology laboratory
- Clinical Pathology takes place in the Clinical Pathology laboratory

Rotation Days and Times:

- Companion Animal Medicine (SAC): 1:30pm until done on Tuesday - Thursday
- Surgery/Anesthesia: 1:00pm until done on Tuesday-Friday
 - Students assigned to Tuesday surgery should evaluate surgical patients on Monday afternoon at 5:30pm or another time previously arranged for students in Monday afternoon selectives.
- Emergency and Critical Care:
 - Tuesday-Friday 5:00pm-8:00pm (*However, working with emergencies cases may take longer)
- Radiology: Thursday 1:30pm or 2:30pm -4:30pm before mid-term (Week 3-7) and then 12:45pm-3:30pm after midterm (Week 9-13)
- Ambulatory: Tuesday-Thursday 12:45pm - until done (see schedule in rotation section for more details)
- *Parasitology: Tuesday and Thursday 1:30 - 3:30pm
- *Clinical Pathology: Tuesday, Wednesday and Thursday or Friday 1:30pm - 3:30pm. For online students in groups 9 and 10 Clinical Pathology sessions are from 2.00pm to 4.00pm.
 - *Necropsy: Tuesday, Wednesday, Friday 1:30pm - 3:30pm
 - *However, on occasions, necropsy sessions may take slightly longer.

If there is any conflict between rotation dates and times and selectives, please let one of the Course Directors know as soon as possible at knigito1@sgu.edu, WSylvester@sgu.edu, or achikweto@sgu.edu.

ATTENDANCE AND PARTICIPATION IN ALL ROTATIONS ARE MANDATORY.

Companion Animal Medicine Rotation (SAC)

Clinicians:

Dr. India Paharsingh (main contact for rotation) *and SAC Clinicians*

Overall Rotation

Goal:

The primary objective of this rotation is to improve the student's ability to verbally present a case to both colleagues and clients in both informal and formal settings. This rotation is specifically intended to prepare students for rounds during their 4th year rotations. Under the supervision of the SAC clinical faculty and internal medicine specialists, students will be directly involved in all aspects of case management including history taking and client interaction, physical examination, diagnostic work-up, problem solving, and development and implementation of a therapeutic plan. Students will be divided into groups of four or five students per clinician.

Rotation Overview:

Tuesday-Thursday

- Students will rotate once through the Companion Animal Medicine (SAC) rotation during the term.
- Case receiving and patient rounds will take place promptly at 1:30pm and will end when all appointments and emergencies have been completed (generally between 4:30 and 5:30pm).
- Students will be assigned to work with a SAC clinician each day in groups of 4, 5 or 6 (depending on the number of outpatient appointments and attending clinicians).
- The student groups are expected to assist in the receiving of their clinician's scheduled appointments and/or walk-in emergencies.
- All students are expected to participate in the receiving of cases where each student will have primary responsibility for a minimum of one case.
- Each case received will be reviewed with the assigned clinician.
- Students will be responsible for writing medical records including history, physical examination findings and patient discharge summaries for outpatient visits.
- Treatment sheets, patient summaries and SOAPs may be required for hospitalized patients.

Supplies & Attire:

- Students are expected to bring supplies necessary for work in the clinic. These include, but are not limited to stethoscope, bandage scissors, calculator, pens, small notepad
- White coats must be worn over scrubs.
- Appropriate closed-toe shoes are required.

Other Important Information

- Responsibilities, protocols and procedures at the Small Animal Clinic are listed in the Small Animal Policies and Procedures Manual, which may be found on SAKAI.
- Experiences will vary among students depending upon the cases presenting to the SAC during the assigned week.
- Case and special topic discussions as well as radiograph reviews will be used to supplement instruction when needed.
- When students are not receiving cases, students are expected to perform diagnostic procedures, participate in rounds, provide medical care for hospitalized patients or perform other service duties.
- Please feel free to contact the course director or main contact of rotation with any concerns that you may have pertaining to your experience during the Medicine rotation.

Surgery & Anesthesia Rotation

Clinicians: *Dr. Francesca Ivaldi* (main contacts for surgery), *SAC clinicians*

Anesthesia Clinicians: *Dr. Miccio* (main contact for anesthesia)

Anesthesia Technician: *Naudia Dundas*

Surgery Specialists: *Dr. Guerrero and Dr. Bruhl-Day*

Anesthesia Specialist: *Dr. Restitutti*

Overall Rotation Goals:

The surgery and anesthesia rotation is designed to introduce students to the clinical surgical and anesthesia setting and to prepare them for their 4th year surgery and anesthesia rotations.

Surgery:

The four-day clinical rotation will focus on the clinical diagnosis and management of surgical problems observed in small animal practice using clinical cases presented to the Small Animal Clinic. Hands on experience will be provided primarily through assistance in major procedures, and through the performance of elective procedures. The student is reminded that this is **not** a surgery course and primary surgeries may be limited. Additional surgical training will be gained during the 4th year; and, for those interested in surgery, electives related to surgery should be selected.

Anesthesia:

Students will participate in induction, maintenance and recovery of the Small Animal Clinic surgical patients. Students will be expected to prepare an anesthetic protocol, discuss relevant anesthetic drugs, discuss possible complications, and perform anesthesia on a client-owned animal (including PAP dogs and cats) and/or feral cats under direct supervision.

Rotation Overview:

Monday 5:30pm

- Students will meet surgery patients Monday at 5:30 pm in the SAC treatment room. The anesthetist student will meet with Ms. Naudia Dundas for the anesthesia orientation. The student surgeons will meet with Dr. Ivaldi.

Tuesday-Thursday/Friday 1:00pm – until done

- Students will be working with client-owned patients. These patients will be either inpatients or patients that have been recently admitted by SAC clinicians.
- Surgeries will be assigned the surgery patients/cases on the Monday of their rotation.

Information regarding the patient's name and type of surgery will be provided. Surgeries are subject to change based on clinic need.

- Students may be assigned as surgeon, assistant surgeon, scrub nurse, or anesthetist on the following surgical procedures (including but not limited to):
 - Orthopedic procedures including fracture repair, patella luxation repair, cranial cruciate ligament repair
 - Soft tissue surgery including foreign body removal, intestinal biopsy, abdominal exploratory, cystotomy, etc.
 - Routine spay or neuter
 - Dental prophylaxis
 - Mass removal
- Students assigned to surgeries are expected to review the patient record at least the evening before the procedure and come to their clinical rotation prepared to discuss the patient, preoperative workup, surgical procedure, and plan for surgical recovery.
- Students will be responsible for reviewing class notes, textbooks and other study materials from all the relevant courses in preparation for the surgical and anesthetic procedures to be performed that day/week.
- Students will be expected to follow surgical protocols during the surgeries and perform appropriate pre-operative and post-operative duties as assigned by the clinician on the case.
- Students will be expected to discuss actual clinical cases and to participate in clinical rounds (including decision making and plan development) in both surgery and anesthesia.

ALL STUDENTS SHOULD BE PREPARED TO PERFORM ANY OF THE ROLES FOR ROUTINE SPAYS AND NEUTERS.

Friday

- Students come to the clinic at 1:30pm on Friday to check on in-house patients and finalize any medical record writing.
- Students talk to clinicians about the cases which the students want to present at the end of the term before finals.
- Students should discuss with clinicians if there is a need for the students to come in on Friday.

Groups:

- The group will be divided into 2 or 3 groups of 3 to 5 students.

Hours:

- Surgeries will take place on Tuesday, Wednesday, and Thursday afternoons as well as selected Fridays as determined by the main contacts for surgery. Students will meet their instructors at the Small Animal Clinic at 1:00 pm for rounds and assignment of duties. Students performing surgery on Tuesday are expected to evaluate their patient prior to arriving to their rotation on Tuesday. Students generally meet at the clinic on Monday at

5:30pm to evaluate the patient, perform preoperative blood work if not already performed, and surgical orientation. On Friday, in-patient follow-up and medical record writing should be finalized.

Patient Care and Case Load:

- Because this rotation is a clinical rotation, the patient and caseload depend on cases which present to the SAC.
- The specific surgeries performed will vary between weeks. There will be procedures scheduled every day of the rotation, but no surgical procedure can be guaranteed.

Medical Record Requirements:

- During this introduction to clinical surgery, the student is expected to prepare medical records documents that are relevant to the procedure performed.
- In the case of routine spays, neuters and mass removals, students are expected to complete all the following:
 - Physical examination form, surgery report, treatment sheet, discharge instructions.
- In the case of advanced soft tissue or orthopedic surgeries, the student is expected to complete a surgery report. Completion of discharge instructions will only be required if the patient is expected to be discharged the day after the surgery.
- Medical records for the patients will be the responsibility of the group in charge of the case and can be divided as the group sees fit. In general, most groups following these guidelines:
 - **Anesthetist:** Physical examination (recheck form), anesthesia record sheet, and post op treatment sheet.
 - **Assistant Surgeon/Scrub nurse:** Treatment sheets for pre-op day and surgery day, discharge form
 - **Primary surgeon:** Surgery report
- **General guidelines for record writing:**
 - Written records must be legible, meticulous, and complete.
 - Each form or document reporting patient information needs the correct date (day, month, and year).
 - The name or initials of the student must be reported legibly at the end of every note or page, and whenever requested.
 - Record keeping must be such that it is possible for anyone to retrieve the needed information at any time by just reading the records.
- The majority of medical records forms should be completed the same day and should remain in the patients file.
 - Surgery reports must be completed the evening after the surgery and will be typed into AVIMARK to incorporate them into the patient's electronic

record.

- If the patient's file is not easily located, any additional paperwork can go in Dr. Ivaldi's mailbox.
- Students should note that for controlled substance administration, the first and last name of the patient's owner must be reported on the anesthetic record sheet.
- The anesthetic record sheet must be completed in all its parts and handed in to the instructor in charge at the end of the procedure, once the patient has recovered from anesthesia. In the case that the anesthesia instructor is not available at this time, the anesthetic record should be placed in the patient's file.

Surgery Etiquette and Attire:

- Backpacks, food, or drink are not permitted in the clinic.
- Conversations should focus on the tasks at hand and kept to a reasonable volume to minimize disturbance to other faculty, staff, students, and patients.
- Since students (other than the anesthetist) will be standing for the entire surgery, good quality footwear is essential to minimize leg and back strain. Students are expected to wear surgical scrubs always and closed toe comfortable and protective footwear with hard soles. Crocs with holes are not permitted. Sneakers are acceptable.
- No one is allowed inside the surgery areas without a cap, mask, and booties.
- White lab coats are to be worn always when not in the surgery suite.
- It is highly recommended that students have lunch to prevent low glucose levels during surgery sessions.
- **The use of cellular phones is not permitted when on rotation in the Small Animal Clinic.** They must either be stored in the student's bag or, if they remain with the student, must be turned off or to vibrate (at minimum).
- Students are expected to behave and communicate among themselves, with faculty and staff in a professional manner.
- To demonstrate their knowledge and confidence, and to avoid ambiguity and misunderstandings leading to potentially catastrophic or fatal mistakes (e.g. wrong drug, route of administration or dose), students must strive to convey scientific and clinical information to colleagues, co-workers and clients in the most appropriate, correct, complete, and accurate manner.

Emergency and Critical Care Rotation

Faculty: SAC clinicians

Overall Rotation Goal:

The Emergency and Critical Care rotation is designed to increase the student's comfort level with assessment, monitoring, treatment, decision making, case management and care of in-house and emergency critical care patients.

Rotation Schedule Overview:

Tuesday-Friday

- All students rotate through the emergency and critical care rotation once during the term. Students on ECC rotation are graded on participation, motivation to learn. There are 7 possible emergency shifts available:
 - Tuesday – Friday 5:00pm – 8:00pm
 - **Each student needs to rotate at least twice.**

	Tues.	Wed.	Thurs.	Fri.
Group member #	6, 7, 8, 9, 10	1, 2, 3, 4, 5	6, 7, 8, 9, 10	1, 2, 3, 4, 5

Rotation Specifics:

This service is responsible for receiving walk- in emergencies and urgent referral cases as well as treating and monitoring of the in-house patients. **The emergency phone will be manned by the students from 5:00pm to 8pm on Tuesdays through Fridays.** After 8:00 pm, the phone will remain at the clinic with the technician on duty. The students will be on service and in the clinic every night until 8:00pm only. Students will be assigned groups and shifts, with at least 2 or more students on the clinic floor always.

This rotation will function as a **"team"** service and all clinicians and students should be familiar with all the cases in the hospital. Each student will be responsible for physical exams of each patient on the service. ICU orders prepared by the primary clinician will be posted for each case. It would be helpful to bring a thermometer, stethoscope, bandage scissors, pens, penlight, and a calculator. Please let the clinician know if you have any allergies (i.e. latex gloves, bleach, etc.)

While on service with the SGU emergency critical care medicine rotation you will be expected to be on **your best professional behavior**. The clinician will provide all emergency services with your assistance. As the caseload allows, each student will be assigned to a case. If you are assigned to a case, you will be responsible for knowing everything about that case; discuss exam findings and assessment, and develop a treatment plan, and writing a case transfer sheet. You will also be responsible for discussing the case with your colleagues. More than one student

may be assigned to one case. The clinician must approve all emergency cases and be present for any procedures. The clinician or technician will perform the diagnostic tests using laboratory machines. You should wear scrubs and closed toe shoes while on service and always act professionally. There should be no outside visitors. Food and drink should be kept in the clinic kitchen and only consumed there. There will be no removing of hospital supplies. Children and pets will not be permitted in the clinic. Report any incidents (breaks, spillages, injury) to the technician or clinician on duty.

Attendance is mandatory!

When not receiving cases, performing diagnostic procedures, participating in rounds, or otherwise performing service duties, all students should assist the technical staff in the treatment and monitoring of all patients. If time allows, "round table" type of discussions may occur on any area related to emergency and critical care.

Treatments:

The in-house patients will all have a treatment sheet attached to their cages. The treatments may include a TPR, walk outside (if possible), drug administration, and fluid monitoring. All the instructions should be clearly indicated on the flow sheet. You are to make **NO adjustments to the sheet**; this is the responsibility of the primary clinician (unless clearly indicated by a clinician). Please briefly record **ALL** findings on the treatment sheet along with your initials, after the treatments are performed, and notify the clinician of abnormalities. **If you have any concerns, please call the clinician.**

Rounds:

All students are expected to report to rotations at 5:00 pm Tuesday to Friday, rounds may be delayed depending on caseload and students should be prepared for that.

On Tuesday – Friday, all rounds will take place at 5pm for the respective small groups.

When rounding cases, the student should present the patients' signalment, history, important physical exam findings, active problem list, DDX, diagnostic plans, and any interventions / treatments and plans for the patient. They should also provide a summary of the patients' overall status (i.e. improving, stable, static, and declining). Cases should be discussed thoroughly yet **concisely**. Interventions discussed should be categorized as follows: *Fluid therapy, medications, diagnostics, monitoring, nutrition, nursing care, etc.*

ALL STUDENTS ASSIGNED TO THE SHIFT ARE EXPECTED TO BE READY AND ON TIME FOR ROUNDS. If a critical emergency is taking place at that time, the rounds may be delayed.

Receiving cases:

Students will be responsible for receiving phone calls from owners and veterinarians. It is essential that the emergency cell phone be answered when it rings. Make every effort to be polite, professional, and helpful always. Please answer the phone by saying "St George's University Small Animal Clinic Emergency Service", this is _____. How may I help you?" For each

call, fill out the phone log (in treatment room) with name, phone number, primary concerns and plan. You should discuss each phone call with the clinician on duty. More in-depth instructions for phone cases and receiving cases are in the SAC policies and procedures manual on Sakai. There will be shifts when cases arrive in a staggered fashion and shifts when several cases seem to arrive at the same time. When possible, more than one student should triage the patient, perform a primary survey, and welcome the owners.

Triage:

Each case should be triaged immediately upon arrival. When more than one case is presented to the service at one time, the student should categorize the severity of each case according to the principles of triage (taught to you in 4th term). **Follow the A, B, C's, then D's and E's:** animals with respiratory distress, tachycardia, inability to walk, active hemorrhage, abdominal distention, seizures or unconscious should be considered most critical and evaluated first. Animals with any of these problems are considered more critical than any patient free of these problems. Any patient showing any of these should be taken immediately to the treatment area.

Primary Survey:

A primary survey is a cursory, yet thorough physical exam that allows you to make an assessment of patient's vital signs. Emphasis is placed on mentation (neuro), cardiovascular stability, ventilator and respiratory competency; and renal parameters (can the patient urinate) and to uncontrolled hemorrhage. Based on the primary survey, you may choose to administer emergency supportive treatment either in the emergency room or in ICU/treatment area (by bringing the animal back prior to discussing the case with the clinician). Ideally, attempt to obtain a "brief history" before leaving the owners.

Client communication:

Please recognize that our patients are critically ill and family members and owners can be emotionally distraught at presentation. Be compassionate yet professional. If you feel it is in the best interest of the patient to remove the animal to the ICU/treatment area, please explain this to the owner and inform them that someone will be out to speak with them as soon as possible.

Following the primary survey and intervening with any necessary emergency support, a complete physical exam should be performed (secondary survey) and recorded and a thorough history should be obtained from the owner. At this time, one student should take primary receiving responsibility of the case and discuss the case (history, problems, assessment, and plan) with a clinician. If a second student is assisting, preparation of laboratory samples and instrumentation of the patient under guidance of the clinician can be addressed while the primary receiving student speaks with the owners.

PLEASE REMEMBER TO ALWAYS BE SAFE AND LISTEN CLOSELY TO THE RECOMMENDATIONS OF THE ATTENDING CLINICIAN.

WEAR GLOVES WHEN HANDLING ANY PATIENTS DEMONSTRATING CLINICAL SIGNS OF ZONOTIC DISEASES SUCH AS RABIES OR WHOSE VACCINATION STATUS IS UNKNOWN OR WHOSE PRIMARY DISEASE IS QUESTIONABLE.

KEEP CLINIC DOORS LOCKED ALWAYS AFTER HOURS AND ENTER THROUGH THE FRONT DOOR AND PLEASE MAKE ARRANGEMENTS TO HAVE A CAR AVAILABLE SO THAT THERE IS NO WALKING HOME ALONE AT NIGHT.

Appointment Flow for All Services at the SAC

1. Students review patient medical record if the appointment is for an existing client. (5)
2. Two students go and greet the client in the reception area. (1)
 - a. One student walks with the client to the examination room. (1)
 - b. One student takes the patient to take the weight. (1)

****Please note that in some instances the front desk team will perform Step 2, in that the front desk team will take the patient's weight and place the client and the pet into the examination.**

3. The clinician, a technician, and the other students meet the client in the room as the student and the client enter. (1)
4. Introduce yourself to the client and the pet and define your role.
5. One or two students start taking the history.
6. As the students are taking a history, the other students are listening and perform a physical exam on the patient. (5)
7. The clinician observes and asks any remaining history questions and performs a physical exam on the patient while talking to the students about the case, in the exam room with the client. (10)
8. The clinician and the students create a plan in the room and discuss the plan with the client. (5)
9. The technician listens to the plan and begins the estimate on the exam room computer, gets the necessary diagnostics ready in the examination room, and/or leaves to prepare the treatments or further diagnostics. (5)
10. Once the client has been updated on the plan, the estimate is approved and signed, the diagnostic tests that can be done in the treatment room are done by the necessary students and/or technician, and/or the patient gets taken to the treatment room for further diagnostics if needed. (5-10)
11. Clinician and students can further discuss the case while diagnostics are being performed, outside of the room. (5-10)
12. Technician collects diagnostic test results. (1)
13. One or two students fill out the necessary medical records. (5)
14. One or two students start to prepare discharge instructions. (5-10)
15. Technician adds charges to Avimark. (5)
16. Medications are requested and collected from the pharmacy. (10)
17. Clinician walks back to the room with available students to discuss results and the plan with the client. (5)
18. One student explains the discharge instructions to the client. (5)
19. One or more students administer medications to the patient if necessary. (5)
20. One or two students walk patient and client out to reception for payment. (1)
21. Clinician notifies front desk staff if a recheck appointment needs to be scheduled. (5)

22. Clinician and students get ready for the next appointment. (5)

Radiology

Radiology Specialists: Dr. Thomas Hanson (main contact)

Rotation Goals:

The aim of the rotation is to impart to the student the basics of the skills required to accurately describe imaging abnormalities on radiographs of various cases presented during the lab sessions. Some ultrasonography images, CT or MR images may also be given during this course. This rotation builds on the knowledge acquired during the 5th term lab sessions.

Rotation Objectives:

On completion of this course the student, using standard imaging terminology, will be able to verbally describe:

- The projections/image planes presented
- Analyze the images for artefacts or errors
- The relevant abnormal features present on the case images
- Recognize normal anatomical variants
- Compile a reasoned list of differential diagnoses
- Propose an imaging diagnosis consistent with the image findings
- Suggest further diagnostic tests or treatment.

Small group sessions:

There will be two sessions of one to three hours twice in the term. These practical sessions will include case discussions and film reading.

Grading for the rotation will be based on the student's performance in the session, including knowledge base and active participation. A radiographic case will be assigned to each student for presentation on the second session. Presentation duration will be 5 minutes.

Rotation dates, times and group information can be found on the next page.

SAMS 528 RADIOLOGY ROTATION SCHEDULE

Week	Day	Group number	Time	Faculty
3	Thurs	4, 5	1:30-4:30	TH
4	Thursday	3	1:30-4:30	TH
	Friday	2	1:30-4:30	TH
5	Thurs	1, 10	1:30-4:30	TH
6	Thurs	9	2:30-5:30	TH
	Friday	8	1:30-4:30	TH
7	Thurs	7	1:30-4:30	TH
	Friday	6	1:30-4:30	TH
8				
9	Thurs	3, 6	1:30-4:30	TH
10	Thurs	1, 4	3:30-6:30	TH
11	Thurs	2	1:30-4:30	TH
	Friday	7	1:30-3:30	TH
12	Thurs	9, 10	1:30-4:30	TH

13	Thurs	5, 8	1:30-3:30	TH
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TH = Thomas Hanson

Ambulatory Services

I. Course Schedule

There are effectively 3 groups (Groups A, B and C) during the ambulatory rotation weeks. Students will go out with the Ambulatory Service to local farms TWO days of each week; once with Bus #1 and once with Bus #2, and stay at the Large Animal Resource Facility (LARF) ONE day of each week (This will be with other supporting faculty).

Ambulatory service (Bus 1 and 2) will focus on herd management, preventative medicine, animal nutrition and the development of sustainable farming through client empowerment. Ambulatory services buses will depart promptly at 1pm from the LARF. However, please have at least half of the group arrive at **12:45pm** if you are going out on one of these buses. The rest of the group may arrive at 12:55pm.

LARF sessions start PROMPTLY at 1:30 pm and will include a review of large animal physical examination and clinical skills.

Punctuality is of tremendous importance to this course. In many instances travelling time may be protracted; consequently, it is important that everyone be on time to the LARF to have a timely return to base. If it is your job to stock the van, please be at the LARF at 12:45 pm.

Remember that the roads are steep and that there are a lot of sharp corners on the coastal roads. If you suffer from motion sickness, then it is recommended to take medication prior to your departure.

Bringing water is highly recommended!

Schedule: Fall 2021

Ambulatory 1st ROUND SCHEDULE (August 31st – September 30th)

Group	Tuesday	Wednesday	Thursday
A	Bus 1	Bus 2	LARF*
B	Bus 2	LARF*	Bus 1
C	LARF*	Bus 1	Bus 2

*Where the LARF session is Bovine PE and common clinical skills

Ambulatory 2nd ROUND SCHEDULE (October 12th - November 11th)

Group	Tuesday	Wednesday	Thursday
A	LARF*	Bus 1	Bus 2
B	Bus 1	Bus 2	LARF*
C	Bus 2	LARF*	Bus 1

*Where the LARF session is Equine PE and common clinical skills

Ambulatory ONLINE Student SCHEDULE (August 31st - November 11th)

Group	Tuesday	Wednesday	Thursday
A	Live Zoom LARF Session @ 1:30pm (optional if you have a clinical experience in place of it)	Live Zoom Case (Mandatory)	Live Zoom Case (Mandatory)
B		Live Zoom Case (Mandatory)	Live Zoom Case (Mandatory)

Ambulatory Rotation Groups – Fall 2021

Group Number 1&2- Weeks 3 and 9

A- Jessie Whitfield, Maxine Macpherson, Spencer Traynham, Richard Brown, Brian Greene, Lauren Goldman; Joelle Chami

B- Ryan Suchecki ; Elizabeth Russell ; Sara Hyman; Melanie Gouveia; Tiara Key; Dawson Ruschkowski; Adriana Kalaska

C- Kimberly Clark; Alexandra Hameline; Delaney Rohan; Hanna Andrews; Danica McGuire; Whitney McCoy

Group Number 3 & 4 - Weeks 7 and 13

A- Alice Gorlenko; Ashley Anderson; Vianca Hernandez; Devan Nealy; Anastacia Kilberg; Devin Curtsinger

B- Te Joon Kim; Rebecca Johnson; Devin Cruz-Gordillo; Nicole Sterling; Amanda MacDonald; Matthew Pickens

C- Corinne Ross; Alyssa Gasset; Adam Borsheim; Brian Previte; Jonathan Wang; Luke Pfund;
Colleen Courtney

Group Number 5 & 6 - Weeks 6 and 12

A- Paige James; Benjamin Gantz; Madison Lambert; Camila Julia Landron; Tess Talmage; Gemma Carter

B- Alexander Nunez-Hidalgo ; Iesha Clouden; Jennifer Klapko; Alyssa Ungemach; Briana Howard; Andrea Markham

C- Sarah Beckner; Erika Brewer; Gabrielle Wilson; Rob Oswald; Ashley Law; Erin Rickey

Group Number 7 & 8 - Weeks 5 and 11

A- Alexa Albam; Marc Bremmer; Naomi Marcheco; Karen Vergara; Justina Botros; Luca Mak

B- Louis Carusillo; Kiersten Yndestad; Courtney White; Ashley Wyman; Thomas Cronly; Victoria Iarrobino

C- Remington Campbell; Yeisly Canino; Rachel Book; Priyanka Mehta; Alicia Vega Rigau; ***Jessica Adam***

Group Number 9 & 10 (ONLINE) - Weeks 4 and 10

A-. Jessica Herrig; Erica Richards; Michael Beckham; Lindsay Brunet; Arashi Nakashima; Yadira Vega; Britney Kilgore; Amanda Picking; ***Jessica Adam***

B- Bahareh Ziai; Courtnie Seamans; Kristen Pleasants; Melissa Grasso; Cailin Winokur; Alexandra Keene Webb; Nadine Pearsall; Ghazal Sohrabi; ***Colleen Courtney***

The above schedule is subject to change due to availability of cases and extreme weather conditions.

It is designed to be as fair as possible to all students.

II. Grading

Medical records

20% of the grade will be attained from the medical records that are turned in after every ambulatory trip. Each student is expected to have their name on a minimum of four medical records for the semester. This grade will be generated as a group grade. Medical records are due the following afternoon by **1:30pm AST** when you return to the LARF for the next day of rotation (e.g. Tuesday afternoon group will hand in their records on Wednesday afternoon by 1:30pm). The grading of the medical records is part of the weekly assessment score and the relevant competencies will be explained to you in the beginning of term. **See grading rubrics posted in SAKAI for more details on expectations of your medical records.

Weekly assessments based on student performance

10% of the grading will be based on weekly assessments using the specific Professionalism grading rubric. On island students will receive formative feedback on their clinical skills using the Ambulatory Services Clinical Competency Form. This form was created using AVMA's nine clinical competencies. Participants/Attending veterinarians will each fill out grading/assessment forms for each student on a weekly basis, each student composite score will be published on ExamSoft for their exclusive access. The clinical competencies required of you will be provided in a rubric attached in your Resources tab on SAKAI.

**See helpful hints document posted in SAKAI

**Rubrics for Medical Records and Professionalism evaluations are provided on Sakai.*

OSCE EXAMINATION

A midterm and final OSCE examination will take place, however, they will NOT be included in the course grade. You will receive formative feedback and it is required that you participate as part of the professionalism evaluation of the course.

For online students: You will be required to video yourself demonstrating 3 skills for the midterm OSCE and 3 skills for the final OSCE during experiences in clinical practice. You will upload these videos into Panopto and will receive formative feedback on the execution of these skills.

III. Other requirements

It is imperative that students adhere to the following dress code. Failure to do so will result in the student being sent home. Please always be conscience of biosecurity. Please dress professionally; you will be dealing with members of the public and representing yourselves, the school and your profession. Please leave your jewelry, valuable electronic accessories, and valuable sunglasses at home as we are not responsible for their loss or damage.

The following is compulsory attire:

- a. Your nametag

- b. A clean pair of clean coveralls or a complete set of clean scrubs.
- c. Rubber boots OR Rubber pullover boots may also be worn if they are covering a pair of closed-toe shoes. They must be cleaned/disinfected between farm visits.
- d. A functional watch
- e. Each student must have their own stethoscope
- f. Notebook and pen
- g. It is also **strongly recommended** to bring a clipboard and thermometer.

Diagnosics

I. Detailed Diagnostic Laboratory outline

a. Necropsy

- Develop the student's skill and experience in performing necropsy examinations of the common domestic species. Students will perform a complete necropsy in groups of 4-5 per case.
- Develop the student's ability to recognize lesions in various diseases. During a necropsy session, one student will record all the findings in a necropsy form provided.
- Use necropsy cases to develop the student's ability to integrate clinical signs, clinical pathology data, radiology, and gross and microscopic lesions into pathophysiological concepts of disease, diagnosis and/or cause of death. At the end of necropsy each group will be asked to summarize the main findings in an assigned case and give a morphologic diagnosis and differential diagnosis based on the gross findings.
- Guide the student on how to write concise and complete necropsy reports. Each student will be expected to write one necropsy report on the case he/she participated in.

b. Clinical Pathology

- Critically interpret the results of laboratory tests in the light of history and clinical signs so as to form a rational diagnosis or differential diagnosis.
- Develop the ability to indicate further tests or course of action to reach a diagnosis.

c. Parasitology

- Learn to identify common parasites in feces, blood, urine, skin scrapings, and body fluids through appropriate procedures and tests.

- Interpret the significance of results in relation to history and clinical signs of cases submitted.
- Determine appropriate actions which may be suggested to the attending Clinician.

II. Other requirements

1. All students are expected to wear protective attire during the laboratory sessions including white laboratory coats, gloves, and closed toed shoes. For necropsy, the protective attire will include scrubs and protective rubber footwear (boots).
2. Identification badges should be worn during the laboratory session.
3. Leave your working place clean and tidy after the laboratory session.
4. Wash your hands thoroughly before leaving the laboratory.
5. Eating or drinking (except water) is strictly prohibited in the laboratory.

III. Course goals (Instructor's point of view)

- a. This course seeks to reinforce the student's practical necropsy and clinical laboratory skills, and to strengthen the student's ability to interpret necropsy and clinical laboratory results
- b. Emphasis will be placed on the importance of:
 - i. Correct sample collection and shipping of samples to laboratories.
 - ii. Provision of all relevant clinical information.
 - iii. Provision of clear directions on tests requested.

IV. Course Schedule

1. Necropsy

- **Tuesday, Wednesday and Friday** from 1.30 to 3.30 PM in the Postmortem room/Histopathology laboratory * However, on occasions, laboratories may take slightly longer.

2. Clinical Pathology

- **Tuesday, Wednesday, Thursday or Friday** 1.30 to 3.30 PM in the Clinical Pathology
- For online students in groups 9 and 10, Clinical Pathology sessions are from 2.00pm to 4.00pm.

4. Parasitology

- **Tuesday** (Clinical path. group) **and Thursday** (Necropsy group) from 1.30 to 3.30 PM in the Microbiology laboratory.

V. Grading and assessment policy, and grading rubrics

The final rotation grade will be determined by the total grade earned during the separate rotations.

- For necropsy, assessment will be based on attendance, participation, and a written necropsy report
- For Clinical Pathology, students will be assessed on attendance, participation, interpretation of several clinical pathology cases.
- For Parasitology, assessment will be based on participation during the rotation and a station on the Final OSCE.

Supporting Faculty and Staff for all rotations

Faculty Members:	Rank	Email Address
SAC Clinicians:		
Francesca Ivaldi, DVM, MS	Associate Professor	fivaldi@sgu.edu
Tara Paterson, DVM, MSc	Associate Professor	tpaterson@sgu.edu
Lucian Peters, DVM, MSc	Assistant Professor	lpeters2@sgu.edu
Amanda Marancik, DVM	Instructor	amaranci@sgu.edu
India Paharsingh, DVM	Instructor	IPaharsi@sgu.edu
Stacy Francis-Charles, DVM	Instructor	sfranci7@sguedu
Christiane Jordan, DVM	Instructor	cjordan@sgu.edu
Dexton St. Bernard, DVM	Visiting Professor	dstbern2@sgu.edu
Crystal Jerome Balbosa, DVM	Visiting Professor	cjeromeb@sgu.edu
Lara Berland, DVM	Visiting Professor	lberland@sgu.edu
Tomas Guerrero, DVM, Dipl. ECVS	Professor	tguerrero@sgu.edu
Anesthesia Clinicians:		
Mercedes Miccio, DVM,	Assistant Professor	MMiccio@sgu.edu
Anesthesia Specialist:		
Flavia Restitutti, DVM, PhD, ECVAA resident	Associate Professor	frestitu@sgu.edu
Anesthesia Demonstrator:		
Naudia Dundas, MIB	Instructor	NDundas@sgu.edu
Radiology Specialists:		
Thomas Hanson, DVM, MS	Professor	Thanson3@sgu.edu
Ambulatory Clinicians		
Rank		
Email Address		
Kerri Nigito, DVM, MPH, DABVP (Food Animal Practice)	Assistant Professor	knigito1@sgu.edu
Nyoni Winchester, DVM, MVS	Instructor	nwinches@sgu.edu
Jaelene Haynes, DVM	Instructor	jhaynes2@sgu.edu
Inga Karasek, DVM	Associate Professor	ikarasek1@sgu.edu
Bowen Louison, DVM	Associate Professor	blouison@sgu.edu
Heidi Janicke, DVM, PhD, MRCVS, Dipl. ECVS, SFHEA	Professor	Hjanicke@sgu.edu
Catherine Werners-Butler, DVM, PhD, MRCVS, Dipl. ECEIM, Dipl. RNVA	Professor	Cwerners@sgu.edu
Stacey Byers, DVM, MS, DACVIM(LA)	Associate Professor	Sbyers1@sgu.edu
Diagnostic Clinical Faculty		
Rank		
Email Address		
Camilla Dores, DVM, MSc, PhD	Associate Professor	cdores@sgu.edu
Alfred Chikweto	Associate Professor	achikweto@sgu.edu
Richard Kabuusu, BVM, MPH, CPH, PhD	Professor	rkabuusu@sgu.edu

Melinda Wilkerson, DVM, MS, PhD, ACVP	Professor	mwilkers@sgu.edu
Dawn Seddon BVSC, MSc, ACVP	Professor	dseddon@sgu.edu
Ms. Camille Coomansingh, BSc, MSc	Instructor	ccoomansingh@sgu.edu

PLO to CLO mapping

<i>Course Level Outcome</i>	<i>Program Level Outcome</i>
1. Perform and interpret physical exams on farm and small animals and apply the appropriate diagnostic and treatment plans.	<i>A: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11</i> <i>B: 1, 2, 5, 6, 7, 8</i> <i>C: 1, 2, 3, 4, 5, 6, 7, 8, 9</i>
2. Demonstrate effective client and colleague communication in a professional and concise manner.	<i>A: 4, 8</i> <i>B: 1, 2, 6, 8</i> <i>C: 8</i>
3. Prepare and deliver a case presentation using clinical cases.	<i>A: 1, 2, 3, 4, 5, 6, 7, 8, 11</i> <i>B: 1, 3, 4, 6, 8</i> <i>C: 1, 2, 5, 7, 9</i>
4. Manage cases including history taking and client interaction, physical examination, diagnostic work-up, problem solving, development and implementation of therapeutic plan.	<i>A: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11</i> <i>B: 1, 2, 3, 5, 6, 8</i> <i>C: 1, 2, 3, 4, 5, 6, 7, 8, 9</i>
5. Describe radiographs using standard terminology, propose a diagnosis, and recommend further diagnostic tests and treatment.	<i>A: 1, 4, 6, 11</i> <i>B: 1</i> <i>C: 1</i>
6. Perform a complete necropsy and collect samples for histopathology and other ancillary diagnostic tests.	<i>A: 1, 3, 4, 6, 7, 9, 11</i> <i>B: 1, 3, 4</i> <i>C: 7, 8, 9</i>
7. Correlate clinical signs with gross and histologic findings and generate a morphologic diagnosis.	<i>A: 1, 2, 3, 4, 6, 11</i> <i>C: 9</i>
8. Perform fecal, blood, urine, body fluid and cytologic examinations for parasitology and clinical pathology, make a diagnosis and recommend treatment and control strategies.	<i>A: 2, 3, 4, 5, 6, 9, 11</i> <i>B: 1, 4, 6</i> <i>C: 2, 5, 7, 8, 9</i>



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

SMALL ANIMAL MEDICINE AND SURGERY DEPARTMENT

CLINICAL REASONING IN VETERINARY MEDICINE (2 credits)

SAMS 530 TERM 6

Fall 2021

I. Course Faculty Information

Course Director:

Adria Rodriguez, DVM, MSc, CVA, CVCH, MS TCVM

Associate Professor, Small Animal Medicine and Surgery and Professional Development

Wellbeing, Diversity and Inclusion Officer, SVM

Email: AIRodriguez@sgu.edu

Office: Cassia Building Ground Floor (SGU Campus map #17)

Office Hours: By appointment

Collaborating Faculty: See schedule

II. Course location: ONLINE Live Zoom Seminars/Panopto ONLINE Sakai *Weekly Requirements*

III. Prerequisite and/or co-requisite courses:

Current Term 6 Student

IV. Required resources:

Software requirements: Sakai, Zoom, Panopto, Turning Point Mobile, Google Drive, Google Slides

V. Recommended resources: *Clinical Reasoning in Small Animal Medicine*; Madison, Volk and Church, 2015

VI. Accommodations

- A. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- B. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

Equipment: Desktop or laptop computer, and/or tablet or other smart mobile device;
functional camera, speakers and microphone
Reliable internet connection

VIII. Course rationale

This selective course for term six students will allow students to recall information learned in previous courses and will provide students with additional opportunities to successfully utilize the clinical reasoning approach will be explained and demonstrated by discussing selected clinical cases in different fields and specialties in veterinary medicine. A clinical case will be presented each week through lecture, skit or interactive session to facilitate group discussion. Each lecture will focus on a different area to assist students in collecting relevant clinical data, developing a problem list in order of significance, creating a differential list and diagnostic plan using an evidence based approach, and aiming to reach a diagnosis by the end of the lecture. The students will then work independently to create a treatment plan/ discharge summary and/ or a referral letter and/ or a case report for case presentation rounds. The main goal is to increase the students proficiency in utilizing the critical reasoning approach to analyze clinical cases information and demonstrate their understanding of the case by producing and/ or presenting a specified component of the patient medical record, while promoting the effective use of professional communication and interaction.

IX. Course-level outcomes

Upon successful completion of this course, the student will be able to: Successfully utilize the clinical reasoning approach when tackling veterinary clinical cases by way off 1) generating a problem list based on history and physical exam findings, 2) generating a differential diagnosis list, 3) practicing and enhancing clinical decision making process/skills, 4) demonstrating accurate, practical, and efficient case management, and 5) communicating professionally with clients, colleagues, and

while presenting and/or referring cases or providing feedback to peers and clients.

X. Lesson-level outcomes

1. Use clinical reasoning through discussions of small/ large animal veterinary clinical cases in different fields and specialties to extrapolate relevant clinical data
2. Create a problem list by applying the clinical reasoning approach
3. Utilize clinical reasoning to generate differential diagnosis lists
4. Select and interpret appropriate diagnostic tests derived through utilizing the clinical reasoning approach
5. Appropriately and accurately analyze clinical data, design an appropriate treatment plan, and determined the prognosis for different disease processes
6. Recognize emergency presentations, and apply clinical reasoning skills to manage these cases
7. Promote decision making skills
8. Communicate professionally when presenting or referring a case to other clinicians/specialist, and communicating with peers and clients

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	Program Level Outcome
<p>Successfully utilize the clinical reasoning approach when tackling veterinary clinical cases by way off:</p> <ol style="list-style-type: none"> 1) generating a problem list based on history and physical exam findings, 2) generating a differential diagnosis list, 3) practicing and enhancing clinical decision-making process/skills, 4) demonstrating accurate, practical, and efficient case management, and 5) communicating professionally with clients, colleagues, and while presenting and/or referring cases or providing feedback to peers and clients 	<p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p>

	<p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity and empathy.</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan (differential diagnosis list) and demonstrate problem solving skills to arrive at a diagnosis.</p> <p>PLO 21 Create comprehensive treatment plans including prognosis.</p> <p>PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 23 Analyze, design and execute appropriate plans for basic surgery and surgical case management.</p> <p>PLO 24 Analyze, design and execute appropriate plans for medical case management.</p> <p>PLO 25 Analyze, design and execute appropriate plans for emergency and critical care case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.</p> <p>PLO 27 Demonstrate and model effective client communication and ethical conduct.</p>
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XII. Course Schedule

See Appendix: SAMS 530 Lecture and Assignment Schedule

XIII. Grading and assessment policy, and grading rubrics

A. The course will be graded according to the SVM grading scale published in your gradebook. Grade will be determined by:

- i. Successful completion and timely submission of all assignments and peer assessments (see below)
- ii. Mandatory engagement in the course content which includes:
 1. Attendance of all synchronous Zoom sessions
 2. Completion of post discussion tasks by the due dates.

Unexcused absences are not allowed. Any absences or technical difficulties must be immediately addressed by emailing the course director (Dr. Adria Rodriguez at airodriguez@sgu.edu). Failure to attend mandatory lectures and/or engage in course content without following the appropriate reporting/excused absence protocols outlined in Section XVIII may result in course failure AND the student may be placed on non-academic probation by the CAPPS committee.

B. Course Assignments: Students will be responsible for completing a specific post case discussion task weekly (8 total). In addition, students will complete peer evaluations on the weekly task (8 total). Each weekly task should take the student 45 minutes to one hour to complete. Peer evaluations using a rubric should take approximately 15-30 minutes to complete. See course schedule for brief description of weekly post discussion assignments.

Open dates for weekly task are Monday after the lecture. The task is due and will close at 11:55pm AST on Friday of that week and the peer assessment is due and will close Sunday at 11:55pm AST. Please keep this in mind throughout the course.

XIV. Recommended study strategies

Course content will be released week by week. Students must visit the weekly requirements tab in Sakai to ensure they complete all the necessary requirements and use the checklist to aid in staying on track. Once all live lectures are attended/viewed and the different activities and assignments are completed, the student will have successfully attained the intended knowledge and will have achieved the course learning outcome.

XV. Instructor's expectations of the student

- A. The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and assignment submission.
- B. The student is expected to communicate with the Course Director professionally and in a timely manner in the event of technical difficulties, inability to attend lectures or turn in assignments on time for any reason.

XVI. Professionalism statement

Always exhibit professional and respectful behavior towards colleagues, faculty and staff. Please be on time and engaged in course content as directed. Student's may be asked to turn on their cameras during live sessions. Please be mindful of this regarding attire and surroundings. If you are asked to turn on your camera and you are not able to, please email your lecturer in advance prior to the live session.

XVII. Attendance/Participation Policy

All students (on and off island) are expected to be available during the standard 8:30am–5:30pm AST school day, to attend, engage with (online) content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation *is* graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Zoom Synchronous Seminar Attendance policy (ALL students): Attendance is **mandatory**. If a student has received an excused absence or there are external circumstances which are communicated to the course director in a timely manner, students will be required to view the video of the lecture by Sunday 11:55pm AST of the week of the missed lecture.

XVIII. Policy regarding failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or ExamSoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination.

Students who have technical issues during assignment submission MUST inform the Course Director (Dr. Adria Rodriguez airodriguez@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible for a remediation. Scheduling of remediations is at the discretion of the Course Director and the School.

Failure to adhere to attendance and engagement guidelines may result in course failure AND the student may be placed on non-academic probation by the CAPPS committee.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

XX. Copyright policy:

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices:

SAMS 530 Lecture and Post Discussion Task Schedule (All times in AST) will be added to syllabus once finalized. Latest draft available in Sakai.



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

DEPARTMENT OF SMALL ANIMAL MEDICINE AND SURGERY
ADVANCED CARDIOLOGY SELECTIVE SYLLABUS (1 credit)
SAMS 531 TERM 6 (Term 1-6)
Fall 2021

I. **Course Faculty and Staff Information**

Course Director: Anne Corrigan MS DVM MS DACVIM (SAIM), Professor.

Email: acorrigan@sgu.edu

Office Location: Cassia Bldg. 2nd floor, office phone #3441

Executive Secretary: Mrs. Frances Emmanuel, femmanuel@sgu.edu

Class Office hours via Zoom: Mondays during the 2nd half of the term. 1130-330 AST, from weeks 10-15 (Oct 18 - Nov 22nd) One on one office hours available upon request.

II. **Course location**

This course will be run completely online, using Sakai tools, Zoom, Panopto, Assignments, and Forums. There will be SYNCHRONOUS Zoom sessions on weeks 10-15. They will be recorded. You must participate in the zoom sessions, if you must miss a synchronous zoom you will have to make up the participation points in the forums. It is highly recommended that you attend the synchronous sessions. If there is a conflict email Dr. Corrigan.

III. **Prerequisite and/or co-requisite courses** Successful completion of the first 5 terms of the DVM curriculum at SGU.

IV. **Required resources**

Students will need a functional laptop and reliable internet connection.

Panopto lecture slides and/or lecture notes will be provided as pdf files, and will not be made available in hard copy. The slides will be accessible for digital notes. For certain lessons, scientific articles, videos, or other references will be assigned and will be provided via Sakai.

All lectures will be recorded and distributed via Panopto.

The main references for this course are:

Textbook of Veterinary Internal Medicine, Editor Ettinger, Publisher Saunders, 8th edition.

Small Animal Critical Care Medicine, Editors Silverstein & Hopper, Publisher Elsevier, 2nd edition.
JAVMA ECG's of the Month
ACVIM Cardiology Abstracts

V. Recommended resources

Videos and articles will be posted on SAKAI.

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None

VIII. Course rationale

To address special problems in Cardiology including: a review, critical evaluation and comparison of current literature and research topics. To practice advanced auscultation. To practice and evaluate electrocardiograms. To practice and evaluate echocardiograms. To review current interventional cardiac therapy, both surgical, medical and pharmaceutical management. To practice and become adept at CPR and the mean electrical axis. To practice case management and to present a full case in a professional format. To practice client communication.

IX. Course Learning Outcomes

Upon successful completion of the course the student should be able to:

1. Extrapolate relevant clinical data from presenting complaints, clinical signs, history, and physical examination for cardiology patients including emergency and critical care considerations.
2. Use relevant clinical data to create differential diagnosis list for cardiac conditions.
3. Use relevant clinical data to select and interpret appropriate diagnostic testing, including referral to diagnose a disease.
4. Use clinical data to design an appropriate treatment plan and determine the prognosis for diseases, including a consideration of antimicrobial resistance.
5. Recognize emergency presentations and considerations for cardiology patients.
6. Formulate appropriate client communications regarding history, diagnostics, treatment and prognosis.

7. Recognize zoonotic and contagious disease routes of transmission, associated risks in workspace, and select patients for isolation.
8. Discuss CPR on a model and discuss important patient considerations for appropriate CPR and crash carts.
9. Calculate the MEA.
10. Watch and discuss a cursory cardiac evaluation with the SAC ultrasound machine, be able to discuss the different views and measurements.
11. Practice auscultation skills.

X. Lesson Learning Outcomes

SAMS 531 LLO's

1. Recognize and utilize appropriate terminology, for both veterinary professionals and clients
2. Evaluate a current ACVIM Cardiology research abstract and construct a professional presentation
3. Evaluate a current ECG case report and construct a professional presentation
4. Discuss CPR, crash carts and appropriate teamwork
5. Interpret and discuss advanced ecg's, and be able to calculate the MEA
6. Understand EBVM: Appraise and discuss current research articles on interventional cardiology, the history of veterinary cardiology, cardiac drugs and appropriate use, echocardiography, and crash cart development
7. Discuss echocardiography skills
8. Understand and use appropriate scientific terms, abbreviations, and echocardiography views
9. Practice auscultation skills
10. Discuss signalment, clinical signs, relevant history, auscultation findings and diagnostic testing to diagnose a variety of cardiac diseases
11. Create a personal statement reflecting on the topics discussed.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Learning Outcome	SGUSVM Program Learning Outcome
1. Extrapolate relevant clinical data from presenting complaints, clinical signs, history, and physical examination for cardiology patients including emergency and critical care considerations.	1 2 3 4 7, 25
2. Use relevant clinical data to create differential diagnosis list for cardiac conditions.	1, 2, 3, 5, 6, 20
3. Use relevant clinical data to select and interpret appropriate diagnostic testing, including referral to diagnose a disease.	1 2 3 5 6, 20, 21, 25

4. Use clinical data to design an appropriate treatment plan and determine the prognosis for diseases, including a consideration of antimicrobial resistance.	3, 4, 5, 6, 21, 26
5. Recognize emergency presentations and considerations for cardiology patients.	1, 2, 3, 4, 5, 6, 25
6. Formulate appropriate client communications regarding history, diagnostics, treatment and prognosis.	12, 19, 27
7. Recognize zoonotic and contagious disease routes of transmission, associated risks in workspace, and select patients for isolation.	18, 26
8. Discuss CPR on a model and discuss important patient considerations for appropriate CPR and crash carts.	1,2, 5, 11, 14, 21, 25, 28
9. Calculate the MEA.	1, 2, 4, 6, 11, 23
10. Watch and discuss a cursory cardiac evaluation with the SAC ultrasound machine, be able to discuss the different views and measurements.	1, 2, 3, 4, 6, 11, 20
11. Practice auscultation skills.	1, 2, 3,
12. Practice professional presentations and EBVM	6, 11, 12,15, 28

XII. Course Schedule

Week	ZOOM DAYS	ACTIVITES	Expected time	Assessment
Week 10 1st week	Oct 18th 130-330 ZOOM	<p>Readings: Buchannan “History of Veterinary Cardiology” Gordon and Nelson et al</p> <p>To do:</p> <ul style="list-style-type: none"> • Post your FAVORITE BIT from the History of Veterinary Cardiology and post in Forums (5 points) AND • Comment on another students post • Post “What I had to look up” from Gordon and Nelson et al (5 points) • Read and post on a classmates/Ask a question on their “What I had to look up” (5 points) • Pick your abstracts on Sakai (you will present this on Week 10) <p>Zoom:</p> <ul style="list-style-type: none"> • Lecture: Course introduction and design and ECG Review (bring ECG homework from SAMS 524) • We will ASSIGN your ECG’s of the Week during this! (you will present this on week 11) <p>Discussion: Zoom Participation to discuss readings OR Forum Posts</p>	<p>2 hours</p> <p>1 hour</p> <p>5 min</p> <p>5 min</p> <p>5 min</p> <p>5 min</p> <p>2 hours</p>	<p>Forums posts:</p> <p>5 points</p> <p>5 points</p> <p>5 points</p> <p>5 points</p>
Week 12 2nd week	Nov 1st 130-330 ZOOM	<p>Readings:</p> <ul style="list-style-type: none"> • PERUSE Kittlesons’ ECG Chapter (lightly read this...I want you to realize how much you DO recognize! 20 min MAX) • Listen to Ettingers Cardiac Sounds <p>To Do:</p> <p>Participate in Zoom Discussion/Forums Post -if you cannot make the zoom it will be recorded for you and you can participate in the forum discussion.</p> <ul style="list-style-type: none"> • Murmur Forum: Research a murmur and create a forums post about the possible ruleouts. • ASK a question on anothers post. • Arrhythmia Forum: My favorite arrythmia and WHY? 	<p>20 minutes MAX!!</p> <p>30 min</p> <p>15 min</p> <p>5 min</p> <p>15 min</p>	<p>5 Points</p> <p>5 points</p> <p>5 points</p>

		<p>Zoom: Lecture and Laboratory: MEA and Advanced ECG's</p> <p>Discussion:</p> <ul style="list-style-type: none"> Advanced ECG lab participation Forum posts 	<p>2 hours</p>	
<p>Week 13 3rd week</p>	<p>Nov 8th 130-330 ZOOM</p>	<p>Readings: ACVIM Canine and Feline Consensus statements</p> <p>To Do: prepare your abstract presentation, post on Forums, LIVE ZOOM presentation</p> <p>Forums post: ACVIM Consensus statements what I had to look up/interesting points</p> <p>Zoom: Presentations Abstracts (grading rubric)</p> <p>Discussion: you MUST ask a question of each presentation. This is to promote discussion and understanding</p>	<p>2 hours</p> <p>2 hours</p> <p>5 min</p>	<p>5 points</p> <p>Abstract Presentation: 15 points</p> <p>Discussion Question: 5 points</p>
<p>Week 14 4th week</p>	<p>Nov 15th 130-330 ZOOM</p>	<p>Readings: Boswood et al 2016 EPIC study</p> <p>To Do: prepare your ECG presentation, post on forums and LIVE ZOOM presentation</p> <p>Forums post: What I had to look up/Interesting points of the EPIC study</p> <p>Zoom: Presentations ECG of the Month</p> <p>Discussion: ALL must ask a question of the presenter!!!!</p>	<p>1 hour</p> <p>2 hours</p> <p>5 min</p> <p>2 hours</p>	<p>5 points</p> <p>ECG presentation: 15 points</p> <p>Discussion Question: 5 points</p>
<p>Week 15 5th week</p>	<p>Nov 22nd 12-2 ZOOM</p>	<p>Readings:</p> <ul style="list-style-type: none"> Echo Chapter on VIN** PERUSE(20 min max!) Crash cart article <p>To Do: write your personal reflection assessment, complete the crash cart homework assignment</p> <p>Lecture: Echo Teaching Video</p>	<p>20 min MAX</p> <p>2 hours</p> <p>1 hour</p>	<p>Crash Cart homework: 10 points</p> <p>Personal Reflection: 5 points</p>

		<p>Zoom: FINAL EXAM questions Discussion!!! last meeting to catch up and talk about clinical year</p> <p>Discussion: crash cart article, Echo chapter, Heart Sounds</p>	2 hours	
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XIII. Grading and assessment policy, and grading rubrics

Grading scale complies with SGU and SVM assessment guidelines:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Total grade in the course will be based on 100 total points:

- Presentations:30 Points
- Discussion Questions: 10 points
- Crash Cart Assignment: 10 points
- Zoom/Forum discussions: 45 points
- Self Reflection: 5 points
- NOTE the engagement rubric and the presentation rubrics in appendices

Instructions for Assignments:

ECG's of the Month

- Individual powerpoint presentations
 - 1 slide of signalment and history
 - 1-2 slides of ECG
 - 1 slide of diagnosis
 - 1-2 or 3 slides with bullet points of explanation
 - 1 slide of your discussion of new information,
 - What I had to look up!!
 - **5 minutes!!!!**
- **ACVIM Abstracts**
 - Pick 1 abstract , sign up day 1
 - Present the abstract
 - **5 minutes !!!**
 - 1-2 slides major concepts
 - 1-2 slides about new information
 - 1-2 slides about words/drugs/concepts That you had to look up!!!

- 1 slide of how this could/will increase our knowledge/why is this important
- **Writing Assignment**
 - Written paragraph (~250 words) submitted electronically
 - New concepts you encountered/ new ideas that were interesting to you
 - New topics that you will continue to pursue in the literature
 - Any topic that was discussed in an abstract that you think should be included in the SAMS 524 course.
 - Can add in a course critique to help me make the course better
- **Discussions**
 - You **MUST** read your assigned article **AHEAD** of time
 - I will post them electronically on SAKAI
 - You will be called on to discuss a portion of the paper with the class
 - You will have to show your knowledge base and discuss:
 - Introduction
 - Materials and methods
 - Discussion
 - Problems you had with the paper
 - Content/ Experimental Conclusions
 - Application to clinical practice
 - Things that you had to look up to understand

XIV. Recommended study strategies

This is a completely online course was devised with your flexibility in mind. **Assignment and due dates are fixed, but if you fall ill, or have an excused medical absence, you will have until the last day of the term to complete assignments, you will lose points for late assignments.** Please submit excuses via the Dean of Students (Dr. Bhaiyat) and he will notify the course director. The material in this course will be integrating much of what you have learned in other courses, so get out your old course material and refer back to it for best learning.

- Read the assigned readings and come prepared to discuss them, participate in class discussions, review the Ettinger cardiac sound recordings. Please discuss any concerns with Dr. Corrigan.
- Office hours attendance and participation are recommended many points are based on discussion.

XV. Instructor's expectations of the student

Please read all assigned readings ahead of time, this course is primarily a discussion course so Zoom participation will be necessary. Zoom sessions will be used for your presentations, be attentive and polite to the other speakers. If you must miss a

zoom you can make up the participation points in the forums. You must deliver your presentations live on zoom.

XVI. Professionalism statement

Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior.

The Code of Conduct includes student comportment and the honor code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University.

Abuses of this Code, outlined in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct.

XVII. Attendance/Participation Policy

Students are expected to be available during the standard 8-5am AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

Attendance and active participation in ALL zoom sessions is expected. Attendance, engagement, and participation WILL be recorded at every academic activity,

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM

POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

No exams using Examsoft will be utilized in this course.

XX. Copyright policy (if applicable):

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Engagement/Professionalism Rubric:

Criteria	Expected	-5%	-10%	-15%
Panopto/Zoom Lectures Checklist	Attends all Zoom lectures.	Miss one zoom lecture	Miss 2 zoom lectures.	Miss more that 2 Zoom lectures.
Forums Posts	Completes all the forums discussions tasks and follows all directions.	Miss one forums discussions tasks and/or follows most directions.	Misses 2 of the forums discussions tasks and follows most to some directions.	Misses > 2 forums discussions tasks or doesn’t follow directions.
Assignments	Completes all the course Assignments for the term in a timely manner and	Completes most (90%) of the Assignments for the term in a timely manner and	Completes some (70-89%) of the Assignments for the term in a timely manner, and/or shows	Completes less than 70% of the Assignments for the term in a timely manner, or shows little

	shows integration of thought of course material.	shows integration of thought of course material.	partial integration of thought of course material.	integration of thought of course material.
--	--	--	--	--

Presentation Grading Rubric:

Category	Exemplary (A)	Proficient (B)	Developing Skills (C)	Insufficient (F)
Completed assignment in time. (20%)	Assignment submitted on time.	Assignment submitted <48 hours past deadline with no documented excuse.	Assignment submitted 48 hours to 1 week late with no documented excuse.	Assignment submitted >1 week late with no documented excuse.
Followed assignment instructions. (20%)	Assignment instructions were followed thoroughly.	Most of the assignment instructions were followed thoroughly.	Some of the assignment instructions were followed thoroughly.	Less than acceptable following of assignment instructions occurred.
Integration of knowledge into answers. (20%)	Answers showed superb integration of knowledge.	Answers showed proficient integration of knowledge.	Answers showed average integration of knowledge.	Answers showed poor integration of knowledge.
Organization and clarity of formatting. (20%)	Presentation was clearly organized, easy to read, with clear formatting and font/writing.	Presentation was mostly organized, mostly easy to read, with mostly clear formatting and font/writing.	Presentation was somewhat organized, but some issues made reading unclear, or unclear formatting, font, or writing.	Presentation was not organized, were difficult to read, due to font, writing, or formatting.
Correct Terminology and "What I had to look up" complete (20%)	Correct Terminology and "What I had to look up" 80% complete	Correct Terminology and "What I had to look up" 70% complete	Correct Terminology and "What I had to look up" 60% complete	Correct Terminology and "What I had to look up" incomplete
FINAL SCORE:				



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

Special topics in small animal orthopedic surgery
SAMS 534 Term 6
Fall 2021

I. Course Faculty and Staff Information

Tomas Guerrero PD Dr. med vet Dipl ECVS, Professor

Email: tguerrero@sgu.edu

Office location: Cassia Building ground floor. Office hours can be made by appointment.

II. Course location

Online location—Sakai resources being used (ie. Panopto, Lessons, Assignments, etc.) and any other.

III. Prerequisite and/or co-requisite courses

Current 6th term SVM student

IV. Required resources

Your small animal surgery notes and handouts from 5th term.

Any small animal surgery text, e.g. Fossum or Tobias & Johnston

V. Recommended resources (texts, journal articles, course notes, laptop specs, etc.)

VI. Special accommodation

a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

VIII. Course rationale

This course provides an in depth sight on common ortopedic problems that students will face on a daily basis during the fourth year small animal surgery rotations. It consists of 15 hours of lectures of relevant topics in small animal surgery. These lectures will be presented in an interactive format to stimulate the students' active and enthusiastic participation. Principles of diagnosis, treatment, and outcome of orthopedic problems in small animals will be taught and discussed. Clinical cases will be presented and analyzed. The course present common complaints, history, clinical signs, PE findings and specific diagnostic testing with the goal of students being able to learn about problem lists, make differential diagnoses, and introduce veterinary methods for case work up.

IX. Course-level outcomes

Upon successful completion of this course, the student will be able to recognize the most common orthopedic problems in small animal surgery and the state of the art procedures and implants needed to treat those disorders.. Students will be able to analyze and work out orthopedic clinical cases.

X. Lesson-level outcomes

See bellow

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SGUSVM program level outcome
1. Demonstrate in-depth knowledge of common orthopedic problems in small animals	PLO1 ,PLO2, PLO3, PLO4, PLO6, PLO7, PLO8, PLO11 PLO12, PLO13, PLO17, PLO19 PLO20, PLO27, PLO28
2. Plan treatment options for patients affected with fractures and common orthopedic problems	PLO3, PLO4, PLO6, PLO12, PLO13, PLO17, PLO19, PLO20, PLO21, PLO23, PLO24, PLO26, PLO27

XII. Course Schedule

Lecture N°/ Date/ Time	Topic	Goals	Learning objectives	Course online Format
1 Date 16-20 August	Bone structure, blood supply and fracture healing under stable and unstable conditions	Review of bone anatomy. Introduce the concepts of relative and absolute stability, and how changes in movement affects bone healing.	Recognize the effect of different fixation techniques in fracture healing.	ALL Lectures via Panopto ALL Lecture PowerPoint pdfs to go with lectures supplied on MyCourses/ Resources
2 Date/ 23- 27 August	Postoperative fracture assessment	Introduce students to a systematic approach to evaluate fracture healing (AAAA)	Be able to systematically evaluate bone healing in serial radiographic examinations	ALL Lectures via Panopto ALL Lecture PowerPoint pdfs to go with lectures supplied on MyCourses/ Resources
3-5 Date	Case discussions	Computer-based discussion of clinical fracture-patients	Be able to discuss patient-fracture score, choose the best treatment	ALL Lectures via Panopto

30. August-3 September		using the AAAA system	option, and evaluate healing in radiographs	<p>Cases to discuss will be provided as PDF. Students are expected to work the cases out during the week and submit them for assessment.</p> <p>Feedback will be provided via email/Zoom</p>
6 & 7 Date 6-10 Sept.	<p>Evolution of internal fixation in small animals.</p> <p>Locking plate systems.</p>	Review of the history and evolution of the internal fixation of fractures in small animals.	Know and understand the changes regarding fracture treatment occurring in the last decade, moving from rigid fixation and absolute stability towards a more elastic and biological fixation.	<p>ALL Lectures via Panopto</p> <p>ALL Lecture PowerPoint pdfs to go with lectures supplied on MyCourses/Resources</p>
8 & 9 Date 13-17 Sept	<p>Cranial cruciate ligament disease in the dog</p> <p>Stifle biomechanics.</p> <p>Biomechanics of TTA and TPLO techniques</p>	Introduce to the pathophysiology and the most common techniques to treat this disease.	Understand the biomechanical basis of dynamic methods, and be able to explain the differences between commonly used procedures.	<p>ALL Lectures via Panopto</p> <p>ALL Lecture PowerPoint pdfs to go with lectures supplied on MyCourses/Resources</p>
10 Date 20-24 Sept	TTA/ TPLO planning	Demonstrate how the techniques are planned in radiographs.	Be able to do the preoperative measurements for a TTA and for a TPLO	<p>ALL Lectures via Panopto</p> <p>Zoom Lab Time TBD</p>

				<p>ALL Lecture PowerPoint pdfs to go with lectures supplied on MyCourses/ Resources</p>
<p>11-12 Date 27 Sept- 1 Oct</p>	<p>Total Hip Replacement in small animals</p>	<p>Introduce to different systems, principles, surgical technique and outcome.</p>	<p>Understand the principles behind total hip replacement in the dog; know the most commonly used systems, its inherent complications and what can be expected from this surgery.</p>	<p>ALL Lectures via Panopto</p> <p>ALL Lecture PowerPoint pdfs to go with lectures supplied on MyCourses/ Resources</p>
<p>13 Date 11-15 Oct-</p>	<p>Limb alignment</p>	<p>Introduce to principles of corrective osteotomies and limb alignment procedures.</p>	<p>Be able to diagnose a misaligned limb, to know the specific terminology, and to plan the needed required osteotomies.</p>	<p>ALL Lectures via Panopto</p> <p>ALL Lecture PowerPoint pdfs to go with lectures supplied on MyCourses/ Resources</p>
<p>14 Date 18-22 Oct</p>	<p>Joint luxations</p>	<p>Introduce to elbow and shoulder luxations.</p>	<p>Be able to diagnose these problems and to offer a rationale option of treatment.</p>	<p>ALL Lectures via Panopto</p> <p>ALL Lecture PowerPoint pdfs to go with lectures</p>

				supplied on MyCourses/ Resources
15 Date TBD	Final exam with Examsoft and ExamMonitor			

XIII. Grading and assessment policy, and grading rubrics

Grading scale There will be 1 final examination worth a **total of 100% of the class grade**. The exam material will come from lectures and in class discussions. Students will be graded on a A to F Scale based on a final exam. All questions will be multiple choice or true-false, and of equal value. There will be approximately 30 questions.

Pictures, radiographs and /or drawings may be included in the exam. Excuses to attend special meetings will be considered upon the student's performance. SGU policy: no wristwatches will be allowed into exams, not on wrists or on the desk top. Exams and quizzes are sequestered. The only time when questions can be viewed is during the exam. Any make-up exams may be given in an ESSAY or Short-Answer Format and will take place using ExamSoft and ExamMonitor.

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

- Grading Scale

>89.5%	A
84.5-89.4	B+
79.5-84.4	B

74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

- All other exam policies are followed according to the SGU Examination Policy and the Student handbook.

XIV. Recommended study strategies

Active preparation for classes and participation in classes is expected.

XV. Instructor’s expectations of the student

The student is expected to read the handouts and related uploaded materials.

XVI. Professionalism statement

XVII. Attendance policy

Students are expected to be available during the standard 8-5am AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students’ lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other

extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (tguerrero@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call *****) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of “0” points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University’s Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examssoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.

7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A ExamSoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The ExamSoft student perspective video 30mins](#)
 - c. [The ExamSoft/ExamID FAQ](#)
 - d. ExamSoft information page
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

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Appendices (if applicable): Course Schedule

CLOs

LLOs

PLO to CLO mapping Rubrics

Please be aware that this syllabus is just a simple guide. Some lectures may take more and others less than stated pending on the students' interest, participation and involvement for debate. Also is highly recommended to read from your required text books section.



ST GEORGE'S UNIVERSITY

SCHOOL OF VETERINARY MEDICINE

DEPARTMENT

ADVANCED TOPICS IN SMALL ANIMAL DERMATOLOGY (1 credit)

SAMS535 TERM 6

FALL 2020

I. Course Faculty and Staff Information

Course Director: Tara Paterson, DVM, MSc., Associate Prof
Email: tpaterson@sgu.edu

Visiting Professor: Andrea Lam, DVM, DACVD
Email: alamdaevd@gmail.com

Office Hours: by appointment only

II. Course location

Sakai: All course material will be available on the SAMS535 course Sakai site. Sakai Lessons will be used for weekly organization of tasks with direct links to resources and tasks as needed.

III. Prerequisite and/or co-requisite courses

SAMS515 (Vet. Physical Diagnosis I)
LAMS503 (Introduction to Clinical Medicine)
SAMS522 (Small Animal Medicine I)

IV. Required resources

All required materials will be provided in electronic form on the course Sakai site

V. Recommended resources

Kirk & Muller's Small Animal Dermatology (7th ed). Miller, Griffin & Campbell (2013).

VI. Special accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

No special materials are needed for the course apart from access to an electronic device that will enable access to view lectures, participate in live Zoom sessions, and has word processing & presentation (Powerpoint) software.

VIII. Course rationale

Since one half of the cases presenting to the Small Animal general practitioner are related to dermatologic disease, it is vitally important that the new graduate be well-trained in the diagnosis and management of common dermatologic disease. The goal of this course is to further enhance the student's confidence and understanding of dermatology and their diagnostic approach to dermatologic disease.

This selective course is designed to enhance the student's knowledge of Small Animal Dermatology and will build upon the foundations of veterinary dermatology laid in Term 2 (SAMS515), Term 4 (LAMS503) and Term 5 (SAMS522). The course will focus on the diagnosis and management of small animal dermatologic diseases. In this remote version of the course, clinical experience will be replaced by virtual cases that will provide students an opportunity to work-up a case from start to finish. The course will be delivered through a collaborative effort between SVM faculty and a visiting veterinary dermatologist. Use of peer-reviewed literature will be encouraged to enable students to familiarize themselves with the current literature in veterinary dermatology.

IX. Course-level outcomes

See Appendix 1.

X. Lesson-level outcomes

See Appendix 2.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See Appendix 3.

XII. Course Schedule

See Appendix 4.

XIII. Grading and assessment policy, and grading rubrics

Grading scale:

The current SGU SVM grading scale applies to this course.

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Course assessment:

Student assessment will be based on two quizzes, one group assignment & one group presentation based on a virtual case, and one homework assignment.

Quiz #1	25%
Quiz #2	25%
Clinical case – work-up	10%
Clinical case – presentation	15%
Clinical case - assignment	15%
Homework	10%

Course quizzes:

All materials covered in the course are examinable material.

Group virtual case assignment:

Students will work in small groups (of 3 or 4) on a virtual case. Each group will be assigned a virtual case for which they will be responsible for conducting a virtual work-up, preparing a written case report and delivering a short Powerpoint presentation. More detailed instructions will be provided to the students on Sakai.

Homework:

There will be one homework assignment to assist in preparation for the Cytology lab. This homework assignment will be posted on Sakai and must be completed prior to the scheduled lab.

XIV. Recommended study strategies

Although this e-course will not be given in the usual condensed format, time management and keeping with the weekly schedule will enable the student to perform optimally on all course assessments and assignments. While no formal office hours will be scheduled, both the course director and visiting professor will be available for consultation by appointment only. All topics discussed in lecture and lab are examinable material. Students should refer to the Lesson/Laboratory Level Outcomes (Appendix 3) to guide their quiz preparations.

XV. Instructor's expectations of the student

The student is expected to make an effort to attend any real-time lectures, labs and case presentations wherever possible as the live interactive nature of these sessions are designed to enhance the student learning experience. It is expected that assessments and assignments will be completed within the given time frame and students will reach out to the course director in the event that a deadline is not realistic. Upon completion of this course, it would be appreciated if the student would take the time to complete the course & instructor evaluations – this is of particular importance this term as this is the first e-offering of the course. Your thoughts, comments and constructive criticisms are extremely important and valuable to us as we continue to develop and improve this course.

XVI. Professionalism statement

Professional behavior in the virtual classroom is expected at all times. The use of cellphones, social media or other entertainment media are not permitted during real-time lectures/labs. Further, the student is expected to approach all assessments and assignments in a professional and honest manner.

XVII. Attendance/Participation Policy

Students are expected to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation may be graded randomly. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

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2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
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7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
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APPENDICES

Appendix 1. CLOs

Upon successful completion of this e-course, the student is expected to be able to:

CLO1: With regards to common small animal dermatoses (discussed within the course), the student is expected to be able to recognize symptoms, discuss disease pathogenesis and list the therapeutic options.

CLO2: Obtain a thorough dermatologic history from a client and interpret the significance of physical and dermatologic exam abnormalities in a dog or cat.

CLO3: Generate an appropriate list of differential diagnoses based on a patient's history, physical & dermatological examination, select the most appropriate dermatologic diagnostic test(s) and interpret the results.

CLO4: Identify key diagnostic features on cytologic evaluation for select dermatologic conditions.

CLO5: Based on a virtual clinical case, the student is expected to prepare a detailed case report and brief oral presentation using at least one peer-reviewed publication and one veterinary textbook to research their topic.

Appendix 2. LLOs

Lecture/Surgical Skills Learning Outcomes	Course Learning Outcome Number(s)
LECTURE: Pemphigus foliaceus [Lam]	
Explain the pathogenesis of pemphigus foliaceus (PF)	1
List the key clinical features of PF	1
Describe the diagnostic steps required to make an accurate diagnosis	3
Cite the key diagnostic features of a cytologic sample	4
Discuss general treatment options	1
LECTURE: Canine pyoderma [Lam]	
List differential diagnoses for diseases causing folliculitis	3
Discuss the predisposing factors leading to the development of canine pyoderma	1
Describe the clinical signs associated with pyoderma	1
Differentiate between superficial and deep pyoderma based on clinical signs and cytologic characteristics	1, 4
Select appropriate diagnostic tests for suspected cases of pyoderma	3
Develop an appropriate treatment plan for the treatment of pyoderma	1
Explain the importance of practicing sound stewardship of antibiotic use	1
LECTURE: Canine atopic dermatitis [Lam]	

Discuss the intrinsic and extrinsic components that lead to the pathogenesis of atopic dermatitis	1
List the clinical signs associated with canine atopic dermatitis and how this differs from other pruritic skin diseases of the dog, particularly other hypersensitivity reactions	1
Describe the process of reaching a definitive diagnosis of canine atopic dermatitis	3
Develop individualized management plans which include both systemic and topical treatment options based on clinical presentation; cite the pros and cons of different treatment options and how to optimize their use	1
LECTURE: Clinical approach to otitis [Lam]	
Discuss the primary, predisposing, and perpetuating factors involved in the pathogenesis of otitis	1
Discuss the strategic use of diagnostic tests during different stages of disease management	3
Discuss treatment options and length of therapy	1
LECTURE: Skin nodules [Lam]	
List the differential diagnoses for all categories of nodular skin disease	3
Discuss the approach to diagnosing skin nodules including when to apply certain diagnostic tests	3
LECTURE: Non-endocrine alopecia [Lam]	
Discuss the stages of hair cycling	1
Discuss causes of alopecia unrelated to endocrinopathies	1
Explain how to make a diagnosis of non-endocrine alopecia	3

Cite the supportive management therapies for non-endocrine alopecia	1
LECTURE: Feline dermatoses [Lam]	
Discuss specific dermatologic diseases unique to cats	1
Recognize clinical patterns of feline dermatoses	1
Describe the appropriate diagnostic steps to manage feline-specific skin diseases	3
LAB: Virtual clinical case	
Obtain a thorough dermatologic history from a client/simulated client.	2
Describe how to conduct a dermatological exam and interpret the significant of physical and dermatologic exam abnormalities in a dog or cat.	2
Develop a list of differential diagnoses based on history and clinical presentation.	2
Based on the differential diagnoses, select appropriate dermatological diagnostics and accurately interpret their results.	3, 4
Based on your diagnosis/presumptive diagnosis, formulate an appropriate therapeutic plan.	1
Write discharge instructions based on the clinical case.	5
LAB: Cytology lab	
Identify key cytological diagnostic features of common dermatologic diseases of small animals.	4

Appendix 3. PLO to CLO mapping

Course level outcome	SGUSVM program level outcome
CLO1: With regards to common small animal dermatoses (discussed within the course), the student is expected to be able to recognize symptoms, discuss disease pathogenesis and list the therapeutic options.	SGU PLOs: 2, 3, 4, 5, 6
CLO2: Obtain a thorough dermatologic history from a client and interpret the significance of physical and dermatologic exam abnormalities in a dog or cat.	SGU PLOs: 2, 3, 12, 20, 24, 27
CLO3: Generate an appropriate list of differential diagnoses based on a patient's history, physical & dermatological examination, select the most appropriate dermatologic diagnostic test(s) and interpret the results.	SGU PLOs: 3, 6, 20, 24
CLO4: The student is expected to be able to identify key diagnostic features on cytologic evaluation for select dermatologic conditions.	SGU PLOs: 3, 6, 20, 24
CLO5: Based on a virtual clinical case, the student is expected to prepare a detailed case report and brief oral presentation using at least one peer-reviewed publication and one veterinary textbook to research their topic.	SGU PLOs: 1, 2, 3, 4, 5, 6, 11, 12, 14, 20, 21, 24, 27

Appendix 4. Course schedule

Week #	Date	Lecture	Lab	Assignment
1	Aug 17-23	Canine pyoderma [WED AUG 19 @ 2:30p]		
2	Aug 24-30	Pemphigus foliaceus [WED AUG 26 @ 3p]	Cytology [FRI AUG 28, 1-3p]	Cytology ¹ [Due: THURS AUG 27]
3	Aug 31 – Sept 6	Canine atopic dermatitis		
4	Sept 7-13	Clinical approach to otitis		Quiz #1
5	Sept 14-20	Skin nodules OR Non-endocrine alopecia		
6	Sept 21-27	Feline dermatoses Clinical cases		Quiz #2
7	Sept 28 – Oct 4	Group clinical case presentations ³ [MON SEPT 28, noon-2p]		Group clinical case assignment

¹ Assignments due by 11:59pm on Thursday Aug 27

² Quizzes must be completed by Sunday Sept 13 & Sunday Sept 27 @ 11:59pm

³ Date/time of group presentation to be confirmed.

Appendix 5. Rubrics

Work in progress...



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

DEPARTMENT OF SMALL ANIMAL MEDICINE AND SURGERY

EMERGENCY AND CRITICAL CARE SELECTIVE SYLLABUS (1 credit)

SAMS 536 TERM 6

Fall 2021

I. Course Faculty and Staff Information

Course Director: Talia Guttin, VMD, DACVIM (SAIM), M.Ed. Associate Professor

Email: tguttin@sgu.edu; Office Hours via Zoom by appointment.

Executive Secretary SAMS Department: Ms. Emmanuel, femmanuel@sgu.edu.

II. Course location

This course will be run completely online, **asynchronously**, using Sakai tools Panopto, Assignments, and Quizzes.

III. Prerequisite and/or co-requisite courses

Successful completion of the first 5 terms of the DVM curriculum at SGU SVM are required.

IV. Required resources

Students will need a functional laptop and reliable internet connection.

Panopto lecture slides will be provided as pdf files. For certain lessons, scientific articles, videos, or other references will be assigned and will be provided via Sakai.

The main references for this course are:

Small Animal Critical Care Medicine, Editors Silverstein & Hopper, Publisher Elsevier, 2nd edition.

Fletcher, et al. RECOVER CPR Guidelines. Journal of Emergency and Critical Care, 22(S1); 2012: S102-131.

V. Recommended resources: Videos and articles will be posted on Sakai.

VI. Accommodations

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.

b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

None.

VIII. Course rationale

This is a one credit course aimed at providing students with an introduction to topics pertinent to the specialty of Emergency and Critical Care. The course offers laboratory hands-on training in a simulation environment and with live animals on relevant topics. The course will cover both small and large animal species.

IX. Course Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Utilize evidence-based resources to guide emergency room decisions, diagnostics, and treatments.
2. Use relevant clinical data to guide emergency assessment, treatment decisions, and discuss prognosis for selected emergency conditions.
3. Explain the indications for and steps to perform common diagnostic and therapeutic emergency procedures and techniques.
4. Discuss moral and ethical conundrums associated with emergency and critical care medicine.

X. Lesson Learning Outcomes

See Appendices XXI

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See Appendices XXI

XII. Course Schedule

See Appendices XXI

XIII. Grading and assessment policy, and grading rubrics

Grading scale complies with SGU and SVM assessment guidelines:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Total grade in the course will be out of 100 points, based on:

- Assignments X4 (10 points each) = 40 points
 - o A rubric and/or model answer will be provided for each assignment
- Quizzes X3 (10 points each) = 30 points
- Forum discussion on ethics in critical care = 10 points
- Professionalism = 20 points
 - o Please see Professionalism Rubric, Appendix XXI
 - o Note that late assignments/quizzes will be accepted, but will be deducted points on the professionalism grade
 - o Attendance at the 2 mandatory sessions

Note: only medical excuses approved by the Dean of Students (Dr. Bhaiyat) will be accepted for mandatory sessions and due dates.

XIV. Recommended study strategies

The most important aspect to approaching this coursework is pacing yourself and staying on schedule. Make a schedule for yourself at the beginning of the term, and stick to it. The material in this course will be integrating much of what you have learned in other courses, so get out your old course notes and refresh your memory!

XV. Instructor's expectations of the student

Students are expected to create and stick to a schedule on their own. This course is really driven by your motivation to learn as much as you can about emergency and critical care. You will get out of it what you put into it.

Attendance is mandatory to the 2 live sessions, whether this is in person for students in Grenada, or on Zoom for remote students.

XVI. Professionalism statement

Students attending St. George's University are expected to conduct themselves with integrity, dignity, and courtesy, according to a code of conduct that defines the

interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong academic skills, but also to cultivate students with positive professional attributes, who are well adjusted to the norms of social graces and good social behavior.

The Code of Conduct includes student comportment and the honor code, as well as those actions that warrant disciplinary action. The University reserves the right to take any action that it sees fit to protect the rights of the student body, as well as the reputation of the University.

Abuses of this Code, outline in the student manual, will result in disciplinary action, which may include suspension or dismissal. It is the responsibility of all students to know the University Code of Conduct. It is required that all students abide by the terms of the University Code of Conduct.

XVII. Attendance/Participation Policy

Students are expected to be available during the standard 8am-5pm AST school day, to attend, engage with in-person/online content, and participate in all classes and clinical rotations for which they have registered. Employment is not an excusable absence. Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation is graded for mandatory sessions. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of "0" points for the examination. Students who have technical issues during examinations MUST inform the Course Director (tguttin@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu) OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of "0" points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. ExamSoft policy: No exams will be given via ExamSoft in this course.

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George’s University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

XXI. Appendices:

Course Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Utilize evidence-based resources to guide emergency room decisions, diagnostics, and treatments.
2. Use relevant clinical data to guide emergency assessment, treatment decisions, and discuss prognosis for selected emergency conditions.
3. Explain the indications for and steps to perform common diagnostic and therapeutic emergency procedures and techniques.
4. Discuss moral and ethical conundrums associated with emergency and critical care medicine.

Mapping CLOs to PLOs:

Course Learning Outcomes	SGU-SVM Program Learning Outcomes
Course Learning Outcome 1	6, 11, 15, 16, 20, 26, 28
Course Learning Outcome 2	1, 2, 3, 4, 5, 6, 7, 10, 20, 21, 22, 23, 24, 25, 26, 27
Course Learning Outcome 3	4, 5, 6, 10, 15, 16, 21, 26
Course Learning Outcome 4	6, 7, 8, 12, 13, 14, 15, 16, 17, 19, 27

Lesson Learning Outcomes

Point-of-Care Ultrasound:

1. Define a focused ultrasound exam and describe its utility in the ER setting
2. Describe and practice the AFAST3, TFAST3, and VetBlue exam landmarks
3. Apply the AFS scoring system to a patient and understand the utility of serial AFS scores

4. Compare and contrast the utility and limitations of each type of exam
5. Reinforce basic knowledge of ultrasound with regard to fluid, tissue, and air echogenicity and artifact.

Hemodialysis:

1. Identify the indications for dialysis
2. Discuss dialysis complications and prognosis
3. Describe the function of dialysis and the different methods of performing dialysis

Cardiac versus respiratory case:

1. Apply previous knowledge from core SVM coursework in cardiac and respiratory medicine to emergency scenarios
2. Use evidence-based veterinary medicine resources to create a diagnostic and treatment plan for a respiratory distress case.

Central Venous Catheters:

1. Practice a situation where a medical procedure must be learned from a textbook, article, and/or video resources
2. Identify the indications and complications of central venous catheters in small animal patients
3. Understand the Seldinger technique and the application of this technique in multiple settings

Ethics of Critical Care:

1. Identify the moral and ethical conundrums of emergency and critical care medicine
2. Discuss these moral and ethical issues with classmates, exhibiting professionalism and communication skills
3. Reflect on the discussions

Crash Carts and CPR:

1. Review RECOVER guidelines
2. Utilize evidence-based resources to design a crash cart
3. Practice using the RECOVER guidelines for medical math

Endocrine Emergencies:

1. Identify a patient with an endocrine emergency based on signalment, relevant history, and PE findings
2. Triage and assess affected organ systems for each endocrine emergency, including prioritizing emergency treatment
3. Discuss the prognosis with the owners

Septic Patient Care:

1. Identify a patient with sepsis based on signalment, relevant history, and PE findings
2. Discuss emergency diagnosis, treatment, and monitoring of septic patients.
3. Discuss the prognosis of sepsis with the owners

Neurologic emergencies:

1. Utilize evidence-based resources to answer questions about neurologic emergencies

Advanced Fluid Therapy:

1. Identify patients that may have special fluid therapy considerations (ie. hypoalbuminemia, vasculitis, AKI)
2. Discuss the fluid therapy treatment plans for these patients.
3. List methods of monitoring fluid therapy.
4. Utilize evidence-based articles to learn and practice how to calculate constant rate infusions

Course Schedule SAMS 536 ECC Selective Fall 2021:

On-your-own work in **ORANGE**

In-person/Zoom **MANDATORY** Sessions in **PURPLE**

DUE DATES in **YELLOW**

Recommended weekly schedule	Topic	To Do For That Topic
Week 1 Aug 16-22	Intro to the course, Point-of-care ultrasound in the ER	1. Panopto lecture: Point-of-care ultrasound in the ER. 2. YouTube videos embedded in lecture. 3. Sakai Quiz #1
Week 2 Aug 23-29	Hemodialysis lecture + quiz	1. Panopto lecture: Hemodialysis. 2. Quiz #2
Week 3 Aug 30-Sept 5	Respiratory distress case	1. Respiratory Case Article: https://todaysveterinarypractice.com/approach-to-respiratory-distress-in-dogs-and-cats/ Assignments #1: use the article to make an emergency triage treatment plan and a diagnostic plan to differentiate respiratory from cardiac causes of respiratory distress.
Week 4 Sept 6-12	Crash Cart Homework	Assignments #2: Crash Cart Homework with article + assignment
Due dates for Sakai quiz 1 & 2, and Sakai assignments 1 & 2 is Sunday, Sept 12, by 11:55pm.		
Week 5 Sept 13-19	Sept 13 th 1:30-2:20pm	In-person/Zoom discussion of Weeks 1-4 material: KB Taylor Blue
Week 6 Sept 20-26	Central Venous Catheters	1 & 2. Sakai Resources: Central Venous Catheter folder: Video & article. 3. Sakai quiz #3.
Week 7 Sept 27-Oct 3	Advanced fluid therapy: Fluid conundrums and CRI calculations.	1. Panopto Lecture: AKI and Fluid Conundrums. 2. CRI article and practice problems ON YOUR OWN: https://www.atdove.org/article/medical-math-constant-rate-infusion CRI article below and practice problems on your own: https://www.theveterinarynurse.com/review/article/how-to-calculate-and-manage-constant-rate-infusions If videos work better for you: https://www.atdove.org/video/titratable-cri-math A video of how a CRI is mixed up, FYI: https://www.atdove.org/video/constant-rate-infusion-cri-preparation
Weeks 8 &	MIDTERMS WEEKS- NO SELECTIVES	
Week 10 Oct 18-24	Critical Care Ethics Discussion on FORUMS, part 1	1. Mini-Panopto lecture: Critical Care Ethics. 2. Sakai Resources: Read ONE of the 2 articles posted. 3. First Forums Post: Answer 3 questions on Sakai Forums by Sunday, Oct 24th by 11:55pm (or earlier).

Week 11	HOLIDAY- NO SELECTIVES	
Week 12 Nov 1-7	Critical Care Ethics Discussion on FORUMS, part 2 Neurologic Emergencies	Second Forums Post: Read and reply to 2 classmates' posts by Nov 7th by 11:55pm, (or earlier). Sakai Assignments #3: Neurologic Emergencies article + assignment
Due dates for Sakai Quiz 3, Sakai Assignment 3, and Forums Posts are Sunday, November 7, by 11:55pm		
Week 13 Nov 8-14	Nov 8 th 1:30-3:20pm Guest lecture: What is a criticalist? Open format talk with questions for Dr. Fernandez, followed by In-person/Zoom discussion of Weeks 6-12 material: KBT Blue	
Week 14 Nov 15-21	Septic Cat	Panopto lecture: Septic Cat Sakai Assignments #4 (pick this OR endocrine ER treatment sheet)- submit treatment sheet.
Week 15 Nov 12-21	Endocrine emergencies	Panopto lecture: Endocrine Emergencies. Sakai Resources: Endocrine ER VCNA paper. Sakai Assignments #4 (pick this OR septic cat treatment sheet)- submit treatment sheet.
Due dates for Sakai Assignment 4 is Saturday, November 20. You will get individual feedback on these assignments instead of a live discussion, but a Zoom session to discuss treatment sheets can be scheduled if requested.		

Student Professionalism Rubric: Professionalism= 20 points → It is assumed that students will exhibit professional behavior, so students earn these 20 points unless the following occur:

Criteria	Did not meet expectations
Punctuality for assignments, quizzes, forums	Failed to submit assignments or quizzes on time unless excused by SVM DOS Deduction of 2 points for each assignment/quiz that is late.
Attendance at 2 in person/Zoom live sessions	Failure to attend one session will result in a 5-point deduction.
Appropriate professional communication (example: excused late assignments/quizzes)	If a student did not email a faculty member regarding an excused lateness in a timely manner, or did not respond to a faculty email in a timely manner: Deduction of 2 professionalism points.
Other Professionalism (optional Forums posts, Zoom office hours attendance, completing assignment revisions when asked)	If a student was asked to resubmit an assignment, and the student did not do so: Deduction of 2 professionalism point.



ST GEORGE'S UNIVERSITY
SCHOOL OF VETERINARY MEDICINE
DEPARTMENT
***SMALL ANIMAL CLINICAL NUTRITION* (1 credit)**
SAMS537 TERM 6
FALL 2020

I. Course Faculty and Staff Information

Course Director: Tara Paterson, DVM, MSc., Associate Prof
Email: tpaterson@sgu.edu

Visiting Professor: Cecilia Villaverde, BVSc, PhD, DACVN, DECVCN
Email: cvillaverde@expertpetnutrition.com

Office Hours: by appointment only

This course is provided via the Mark Morris Institute (MMI), a non-profit organization with a focus on veterinary nutrition education (www.markmorrisinstitute.org).

II. Course location

Sakai: All course material will be available on the SAMS537 course Sakai site. Sakai Lessons will be used for weekly organization of tasks with direct links to resources and tasks as needed.

III. Prerequisite and/or co-requisite courses

ANPH502 (Nutrition)
SAMS522 (Small Animal Medicine I)

IV. Required resources

All required materials will be provided in electronic form on the course Sakai site

V. Recommended resources

- Small Animal Clinical Nutrition, 5th Edition by Hand, Thatcher, Remillard, Roudebush & Novotny, published 2010 (available online at www.markmorrisinstitute.org)
- Small Animal Clinical Nutrition Quick Consult by Hand, Zicker, Novotny, published 2011.

- Applied Veterinary Clinical Nutrition by Fascetti AJ and Delaney SJ, published 2012. Wiley-Blackwell. (New edition coming soon).
- Nutritional Management of Hospitalized Small Animals, 1st edition by Daniel L. Chan, published 2015. Wiley Blackwell.

VI. Special accommodation

- a. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- b. Information can be found at mycampus.sgu.edu/group/saas

VII. Other requirements

No special materials are needed for the course apart from access to an electronic device that will enable access to view lectures, participate in live Zoom sessions (where possible), and has word processing software.

VIII. Course rationale

The objective of this course is to provide students with advanced training in small animal clinical nutrition through the use of lectures, clinical cases and practical exercises that will help to prepare the student for veterinary practice. The goal of the course is to train students to critically evaluate every patient based on nutritional needs so that they may incorporate nutritional management into their daily practice upon graduation. Students will also learn how to use nutrition resources as well as the importance of incorporating evidenced-based science into their veterinary practice.

IX. Course-level outcomes

See Appendix 1.

X. Lesson-level outcomes

See Appendix 2.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

See Appendix 3.

XII. Course Schedule

See Appendix 4.

XIII. Grading and assessment policy, and grading rubrics

Grading scale: The current SGU SVM grading scale applies to this course.

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

Course assessment:

Topic quizzes (3% per quiz)	27%
Topic assignments (8% each)	16%
Nutrition case assignment	22%
Final exam	35%

Topic quizzes: Students will be asked to complete one post-topic quiz consisting of 3-4 MCQs per lecture topic. There will be a total of 9 quizzes. These will be posted on Sakai on Mondays in Quizzes & Tests on Sakai and must be completed by Sunday of that week.

Topic assignments: Students will be asked to complete two nutritional recommendation assignments based on clinical cases provided. This assignment is designed to provide the student with *real-world experience* that will include selection of the most appropriate diet for the patient and performing pet food math to accurately calculate the daily energy requirements and amount of food to be fed. The assignments will be posted on Sakai on Mondays in Assignments and must be completed by Sunday of that week.

One assignment will be based on the topic, Obesity, and will incorporate body condition scoring which is typically taught as a lab in this course. Students will be asked to perform a body condition assessment on their own pet (where possible). If the student deems their pet to be over-conditioned, they will have the opportunity to use their own pet to complete the assignment rather than use the case provided. For those students without access to a pet OR in those instances where a weight loss plan is not indicated for their perfect pet, a clinical case will be provided for the topic assignment.

Nutrition case assignment: Each student will complete a nutritional recommendation based on the template used throughout the course. Students will

select a specific condition/disease where nutrition plays a role in its management *that was not covered in the course*. The assignment will consist of:

- Discussion of the role of nutrition in the selected disease
- Development of a fictitious case with an appropriate patient signalment, history and diagnostic work-up
- Preparation of a nutritional recommendation including selection of an appropriate therapeutic diet, calculation of DER and daily feeding recommendation (and any other nutritional recommendations that may be relevant).

XIV. Recommended study strategies

Although this e-course will not be given in the usual condensed format, time management and keeping up with the weekly schedule will enable the student to perform optimally on all course assessments and assignments. While no formal office hours will be scheduled, the visiting professor will be available for consultation by appointment only. All topics discussed are examinable material. Students should refer to the Lesson Level Outcomes (Appendix 3) to guide their quiz and final examination preparations.

XV. Instructor's expectations of the student

The student is expected to make an effort to attend any real-time lectures wherever possible as the live interactive nature of these sessions are designed to enhance the student learning experience. It is expected that assessments and assignments will be completed within the given time frame and students will reach out to the Course Director and the Dean of Students if a deadline cannot be met. Upon completion of this course, it would be appreciated if the student would take the time to complete the course & instructor evaluations. Your thoughts, comments and constructive criticisms are extremely important and valuable to us as we continue to develop and improve this course. In addition, the Mark Morris Institute (MMI) typically administers a pre- and post-course survey. Students are expected to comply with MMI's request to complete these surveys.

Most importantly, we ask students to take care of their mental & physical health during these trying times.

XVI. Professionalism statement

Professional behavior in the virtual classroom is expected at all times. The use of cellphones, social media or other entertainment media are not permitted during real-time lectures/labs. Further, the student is expected to approach all assessments and assignments in a professional and honest manner.

XVII. Attendance/Participation Policy

Students are expected to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered. Although attendance, engagement, and participation may not be recorded at every academic

activity, attendance, engagement, and participation may be graded randomly. Students' lack of attendance, engagement, and participation may adversely affect their academic status as specified in the grading policy.

If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

XVIII. Policy regarding missing examinations and/or failure of submission of assignments

Students who fail to attend an examination or submit an assignment by the deadline without a valid reason [see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS] will receive a score of "0" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (Dr. Tara Paterson, tpaterson@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu OR call *****) during the open period for the examination. Failure to do so immediately will result in the student receiving a score of "0" points for the examination.

Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the School.

XIX. ExamSoft policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).

5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. [Examsoft information page](#)
 - e. [The general Reminders/Guidelines](#)

XX. Copyright policy

The materials (such as slides, handouts and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Slides/materials are also property of Dr. Cecilia Villaverde but also in some cases MMI. Students should not duplicate these materials unless permission is granted by Dr. Villaverde and/or MMI. Any other reproduction in whole or in part is prohibited.

APPENDICES

Appendix 1. Course Learning Outcomes

Upon successful completion of this e-course, the student is expected to be able to:

Course level outcome (CLO)
CLO1: Explain the overall importance of nutrition to animal health and its role in the management of a variety of diseases and physical conditions affecting canines and felines.
CLO2: Pet food math - Accurately perform calculations for nutrient conversion and be able to determine a dog/cat's daily energy requirements (DER) and the necessary adjustments required to achieve a therapeutic goal.
CLO3: Describe the nutritional goals of management of specific canine and feline diseases (including key nutritional factors) and develop an appropriate nutritional management plan.
CLO4: Describe the pathophysiology of certain small animal diseases which have recognized nutritional linkages.
CLO5: Discuss the importance of routine evaluation of body condition and perform describe how to perform a body condition assessment on a dog and cat. [Amended for 2020 COVID distance learning]
CLO6: Review basic pet food nutrition and explain how over-the-counter, therapeutic, homecooked and raw food diets differ

Appendix 2. Lesson Learning Outcomes

Lecture Learning Outcome (LLO)	Course Learning Outcome (CLO)
Introduction to Clinical Nutrition	
Estimate energy requirements for dogs and cats of various life stages and lifestyles and calculate a dose of a given food	2
Discuss the limitations of the Guaranteed Analysis including potential issues with the way that nutrients are measured	6
Convert nutrient concentrations in foods to a calorie basis and compare between different products	2
Explain what makes a veterinary therapeutic diet different from an over-the-counter diet in terms of both regulatory and practical aspects	6
Alternative Diets	
Discuss the pros and cons of homecooked diets	6
Perform a basic evaluation of a homecooked pet food recipe	6
Discuss pros and cons of raw diets	6
Myths & Client Communication	
Discuss with clients why therapeutic diets are necessary in specific cases	1, 6
Describe where to obtain reliable and science-based nutrition information regarding diet and nutrition	1, 6
Critical Care Nutrition	
Identify cases where nutritional support is appropriate	1, 3
List pros and cons of various forms of assisted feeding including common types of feeding tubes	3
Select a diet and calculate feeding amounts for a specific patient	2
GI Disease	
Describe the nutritional approach to pets with chronic GI disease	1, 3, 4
Explain the purpose of and outline the steps of a diet elimination trial for adverse food reaction	3
Obesity Management & Prevention	

Select an appropriate diet for weight loss for a specific pet	1, 3, 4
Design a weight loss plan taking into account owner factors and pet factors and including diet, calorie goals, goal weight loss rate, treats, and follow-up	2, 3
Body condition scoring	
Describe how to assign body condition scores and muscle condition scores	5
Estimate ideal body weight based on body condition scoring and morphometric measurements	5
Urolithiasis	
Outline the critical nutrients and strategies for calcium oxalate, struvite, and urate stones	1, 3, 4
Select an appropriate diet for a patient with a history of uroliths	3
Diabetes mellitus	
Explain general nutritional strategies for management of diabetes	1, 3, 4
Contrast the nutritional management of diabetes in cats vs dogs	4

Appendix 3. Alignment of Program Learning Outcomes to Course Learning Outcomes

Course level outcome (CLO)	SVM Competency
CLO1: Explain the overall importance of nutrition to animal health and its role in the management of a variety of diseases and physical conditions affecting canines and felines.	10
CLO2: Pet food math - Accurately perform calculations for nutrient conversion and be able to determine a dog/cat's daily energy requirements (DER) and the necessary adjustments required to achieve a therapeutic goal.	10
CLO3: Describe the nutritional goals of management of specific canine and feline diseases (including key nutritional factors) and develop an appropriate nutritional management plan.	5, 10, 21, 24, 26
CLO4: Describe the pathophysiology of certain small animal diseases which have recognized nutritional linkages.	1, 3
CLO5: Discuss the importance of routine evaluation of body condition and perform describe how to perform a body condition assessment on a dog and cat. [Amended for 2020 COVID distance learning]	10
CLO6: Review basic pet food nutrition and explain how over-the-counter, therapeutic, homecooked and raw food diets differ	10

Appendix 4. Course schedule

SAMS537 SMALL ANIMAL CLINICAL NUTRITION

COURSE SCHEDULE FALL 2020

SGU Week #	Date*	Topic	Assignment
8	Oct 6 th (2 hours)	Introduction & Pet food math Alternative diets	
9	Oct 13 th (2 hours)	Nutritional myths Critical care	
10	Oct 20 th	Obesity & body condition scoring	Obesity assignment (Due: Sunday Oct 25 th)
11	Oct 27 th	Urolithiasis: Intro & struvite uroliths	
12	Nov 3 rd	Urolithiasis: Other urolith types	
13	Nov 10 th	Diabetes mellitus	DM assignment (Due: Sunday Nov 15 th)
14	Nov 17 th	Intestinal disease	Final course assignment (Due: Sunday Nov 22 nd)
15	Nov 24th	FINAL EXAM	

* All lectures will be live streamed on Zoom at 1pm AST. Recordings will be posted on Sakai for viewing at a later date/time



St. George's University

SCHOOL OF VETERINARY MEDICINE

Grenada, West Indies

SMALL ANIMAL MEDICINE AND SURGERY

SHELTER MEDICINE SELECTIVE (1.0 Credit)

SAMS 539 (TERM 6)

FALL 2021

I. Course Faculty and Staff Information

Course Directors:

Ms. Elizabeth Peach
LVT/CVT, Demonstrator IV
epeach@sgu.edu

and

Dr. Marta Lanza-Perea
DVM, MsC, Associate Professor
mperea@sgu.edu

Office: Ray and Sis Hall, Ground Floor, VSL

Office: Cassia building, 2nd Floor

Office Hours/Communication:

- General course communication will occur within Sakai Email or Sakai Announcements.
- Please utilize the Weekly Lessons tool in Sakai for a detailed plan of the week, including lectures, assignments/assessments, due dates, and student time commitment guidelines.
- Course Directors are available via email, response time within 24-48 hours.
- Office Hours will be held every Monday from 2:30 PM-3:30 PM AST via Zoom or in person or by appointment.

Visiting Professors in their Respective Fields of Shelter Medicine:

- Dr. Melissa Bain, DVM, DACVB, MS, DACAW
- Dr. Jennifer Bolser, DVM
- Dr. Joellen Bruinooge, DVM.
- Dr. Katherine Polak, DVM, MPH, MS, DACVPM
- Dr. Elise Gingrich, DVM, MPH, MS
- Ms. Consie von Gontard

GSPCA:

- Dr. Nicki Davis, Veterinarian
- Ms. Luanna Levy, President and Executive Director
- Ms. Paula Lehov, Kennel Coordinator, Education Officer, Behaviorist
- Shelter Veterinarians, Technicians, Kennel Assistants, Administrative and Support Staff, Volunteers

VSL Faculty and Staff:

- Dr. Emily Turitto, Veterinarian, Assistant Professor eturitt1@sgu.edu
- Mr. Jakobus Louw, Veterinary Technician jlouw@sgu.edu
- Mr. Quacy Matthew, Veterinary Technician qmatthew@sgu.edu
- Mr. Jude Modeste, Veterinary Technician jmodeste@sgu.edu

II. Course Location

- The course will utilize a Hybrid Model (Online Lectures and In-Person Clinical Wet Labs).
- Lectures (9) will be both Live (synchronous) and Recorded (asynchronous). Live Lectures will be held via Zoom. All lectures will be recorded and available in Sakai via Panopto.
- Clinical Wet Labs (2) will be held at the GSPCA and JSAL. For those students that are remote, an alternative assignment will be arranged.
- Sakai Resources being utilized include but not limited to Announcements, Weekly Lessons, Calendar, Resources, Assignments, Tests and Quizzes, and Discussions (Forums).

III. Prerequisite and/or Co-Requisite Courses

Current 6th Term SGU SVM Student

IV. Required Resources

- The Association of Shelter Veterinarians (ASV) Guidelines for Standards of Care in Animal Shelters, 2010.
- ASPCA Shelter Care Checklists: Putting ASV Guidelines into Action, 2014.
- The Association of Shelter Veterinarians (ASV) Veterinary Medical Care Guidelines for Spay-Neuter Programs, 2016.
- Fear Free Shelters Program Website <https://fearfreeshelters.com/> (Resource for Fear Free Shelter Program Certification)
- Computer/laptop with reliable broadband connection to the internet and functional speakers, microphone, and camera.
- Students will be provided with a list of “Required Readings” for each lecture/lab in Sakai.

V. Recommended Resources

- Access to a shelter or rescue organization for observation and opportunities for practical application of lesson learning outcomes is highly encouraged, especially remote students, but not required.
- Students will be provided with a list of “Additional Resources” for each lecture/lab in Weekly Lessons in Sakai. These additional resources are meant as supplemental material or additional information for students particularly interested in that module. These “Additional Resources” are not required readings.

Textbooks

- *Shelter Medicine for Veterinarians and Staff, Second Edition*, Lila Miller and Stephen Zawistowski (Editors), Wiley-Blackwell Publishing, 2013.
- *The Best Practice Playbook for Animal Shelters*. Sara Pizano, Team Shelter, LLC, 2019.
- *Strategies for Successful Animal Shelters 1st Edition*. Laura A. Reese, Academic Press, 2018.
(<https://auth.elsevier.com/ShibAuth/institutionLogin?entityID=http://stsr4l.who.int/adfs/services/trust&appReturnURL=https://www.sciencedirect.com/book/9780128160589/strategies-for-successful-animal-shelters>)
- *Field Manual for Small Animal Medicine*, Katherine Polak and Ann Therese Kommedal (Editors), Wiley-Blackwell Publishing, 2018.
- *Infectious Disease Management in Animal Shelters*, Kate Hurley and Lila Miller (Editors), Wiley-Blackwell Publishing, 2009.
- *Veterinary Forensics: Animal Cruelty Investigations, Second Edition*, Melinda D. Merck (Editor), Wiley-Blackwell Publishing, 2013.
- *Low Stress Handling, Restraint, and Behavior Modification of Dogs and Cats: Techniques for Developing Patients Who Love Their Visits*, Sophia Yin, Cattle Dog Publishing, 2009. (+Videos)
- *Handbook of the Behavior Problems of the Dog and Cat, Second Edition*, G. Landsberg, W. Hunthausen, L. Ackerman, Elsevier/Saunders Publishing, 2003.
- *Animal Behavior for Shelter Veterinarians and Staff*, Emily Weiss, Heather Mohan-Gibbons, Stephen Zawistowski (Editors), Wiley-Blackwell Publishing, 2015.
- *Veterinary Disaster Response*, Wayne E. Wingfield and Sally B. Palmers (Editors), Wiley-Blackwell Publishing, 2009.
- *Animals in Disaster*, Green, Dick, Elsevier Publishing, 2019.

Journals

- *Clinician's Brief* <https://www.cliniciansbrief.com/>
- *dvm360 Magazine* <https://www.dvm360.com/>

Websites

- <https://www.sheltervet.org/> (Association of Shelter Veterinarians)
- <https://abvp.com/> (American Board of Veterinary Practitioners)
- <https://www.virmp.org> (Veterinary Internship and Residency Matching Program)
- www.sheltermedicine.vetmed.ufl.edu/ (Maddie's Shelter Medicine Program-College of Veterinary Medicine University of Florida)
- <https://onlinesheltermedicine.vetmed.ufl.edu/> (University of Florida Shelter Medicine Distance Education Program-Graduate Certificate and Masters Programs)

- www.sheltermedicine.com (Koret Shelter Medicine Program-UC Davis College of Veterinary Medicine)
- <https://www.vet.cornell.edu/hospitals/maddies-shelter-medicine-program> (Maddie's Shelter Medicine Program-Cornell University School of Veterinary Medicine)
- <https://www.uwsheltermedicine.com/> (University of Wisconsin-Madison Shelter Medicine Program)
- <https://www.aspcapro.org/> (ASPCAPro)
- <https://www.asPCA.org/humane-alliance> (ASPCA Spay/Neuter Alliance)
- <https://www.animalsheltering.org> (HumanePro)
- <https://www.humanesociety.org/> (Humane Society of the United States)
- <http://www.humanesociety.org/about/departments/pets-for-life/> (HSUS Pets for Life)
- <https://www.ruralareavet.org/> (HSVMA/Fund for Animals Rural Area Veterinary Services)
- www.hsvma.org (Humane Society Veterinary Medical Association)
- <http://wvs.academy> (Worldwide Veterinary Services Academy)
- <https://bestfriends.org/> (Best Friends Animal Society)
- www.avma.org (American Veterinary Medical Association)
- <https://www.aaha.org/> (American Animal Hospital Association)
- <https://catvets.com/> (American Association of Feline Practitioners)
- www.wsava.org (The World Small Animal Veterinary Association)
- <https://theaawa.org/> (The Association for Animal Welfare Advancement))
- www.acc-d.org (Alliance for Contraception in Cats and Dogs)
- www.americanhumane.org (American Humane)
- www.maddiesfund.org (Maddie's Fund)
- <https://shelteranimalscount.org/> (Shelter Animals Count National Database)
- <http://scsheltering.org> (Socially Conscious Animal Community)
- <https://lowstresshandling.com/> (Sophia Yin/ Low Stress Handling University)
- <https://fearfreeselters.com/> (Fear Free Shelters Program)
- <https://fearfreepets.com/> (Fear Free Clinics and Veterinary Team Training)
- <https://training.fema.gov/> (FEMA Disaster Response Training)
- <https://www.ready.gov/> (Disaster Preparedness)
- <https://www.alleycat.org/> (Alley Cat Allies)
- <https://www.millioncatchallenge.org/> (Million Cat Challenge)

Additional Notes:

- **Additional Resources will be provided specific to each module by faculty and visiting professors.**
- **SAMS 539 has a small but comprehensive library of textbooks available to loan to students for academic use. Please contact your course directors for access to these resources.**

VI. Accommodations

- Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Dean of Students Office.
- Information can be found at mycampus.sgu.edu/group/saas

VII. Other Requirements

Models and videos will be utilized for the wet lab on High-Quality High-Volume (HQHV) Spay and Neuter Surgical Techniques and Medical protocols.

VIII. Course Rationale

This course will introduce students to the concept of Shelter Medicine and increase their knowledge of this emerging field, including such topics as herd health management, behavioral health, Fear Free handling techniques, access to veterinary care, applying metrics to shelter populations, veterinary forensics, animal welfare, public health, disease prevention, transboundary diseases and zoonosis, population control, disaster preparedness, euthanasia protocols, and compassion fatigue. The field of shelter medicine is recognized by the AVMA as a specialty and valued for the benefits it can provide to animals, people, and the surrounding communities. The course will empower students with tools, resources, and skills to best practice shelter medicine in a variety of clinical settings upon graduation, following the Association of Shelter Veterinarians (ASV) guidelines. The course will also present new career opportunities, both in the US and internationally, in the field of shelter medicine, such as overpopulation management, community outreach and education, non-profit administration and management, behavior consultation, animal welfare and legal advocacy, public health, research, and veterinary forensics.

IX. Course Learning Outcomes

Upon successful completion of this course, the student will be able to:

1. Discuss current topics and emerging trends in the field of shelter medicine.
2. Utilize resources to provide appropriate and humane care for shelter animals and communities.
3. Identify the variety of career paths associated with shelter medicine.

X. Lesson Learning Outcomes

Lecture/Lab	Lesson Learning Outcomes
1. Shelter Animal Physical Health and Management	<ol style="list-style-type: none">1. Define the term shelter.2. List the Five Freedoms and explain their significance to shelter medicine.3. Identify the functions of a modern shelter.4. Compare and contrast the different types of shelter models.5. Describe the importance of physical and behavioral well-being in the shelter environment.6. Define the term capacity for care.7. Utilize guidelines to calculate capacity for care for a specific shelter model example.8. Explain the principles of herd health management.

	<ol style="list-style-type: none"> 9. Explain the value of vaccinations in a shelter and design an appropriate vaccine protocol for animals in a shelter environment. 10. Discuss the term access to veterinary care. Identify methods the veterinary profession can utilize to increase access to veterinary care for pet owners in all socioeconomic groups. 11. Discuss Shelter Medicine as an ABVP Specialty and identify career opportunities in the field of shelter medicine. 12. Review the ASV Guidelines for Standards of Care in Animal Shelters and identify their application in a shelter. 13. Perform an analysis of a shelter utilizing the Association of Shelter Veterinarians (ASV) guidelines. Draft SOPs to implement changes for best practice.
<p>2. Shelter Animal Behavioral Health</p>	<ol style="list-style-type: none"> 1. Complete the Fear Free Shelter Program Certification. 2. Define how animals learn. 3. Discuss dog and cat training techniques, including clicker training. 4. Explain and describe Low-Stress Handling and Restraint techniques. 5. Explain and describe Fear Free Handling and Restraint Techniques. Observe and practice techniques from the Fear Free Shelter Program. 6. Explain and identify animal warning signs for stress, fear, and aggression. 7. Explain, identify, and design techniques and examples to incorporate enrichment into the shelter environment. 8. Evaluate behavior assessments in dogs, including SAFER. 9. Evaluate behavior assessments in cats, including Feline-ality. 10. Discuss adoption criteria and candidacy for animals with behavioral problems, including behavior disclosures and post-adoption support. 11. Discuss common behavioral problems in dogs and cats and successful behavior modification in the shelter and home environment. 12. Discuss pharmaceutical management for common behavioral problems in dogs and cats. 13. Identify advanced career opportunities in animal behavior.
<p>3. Models of Sheltering and Population Statistics</p>	<ol style="list-style-type: none"> 1. Define the terms open admission and limited admission. 2. Discuss advantages and disadvantages of open versus limited admission shelter models.

	<ol style="list-style-type: none"> 3. Define the term No-Kill. Explain the No-Kill Movement's impact upon shelters and communities. 4. Define the term Socially Conscious Animal Sheltering and understand what defines a Socially Conscious Animal Community. 5. Discuss different methods of data collection and statistical analysis utilized by shelters, including shelter management software. 6. Explain the Asilomar Accords definitions: healthy, treatable-rehabilitatable, treatable-manageable, unhealthy-untreatable. 7. Classify examples of medical or behavioral conditions using the Asilomar Accords definitions. 8. Explain the Pet Evaluation Matrix. 9. Define the term live release rate. 10. Calculate live release rate for a shelter. 11. Define the term non-profit organization. 12. Compare a non-profit versus a for-profit business model. 13. Discuss the benefits and challenges of a nonprofit shelter model. 14. Discuss sources of funding for different shelter models, including grant proposals and fund-raising tips. 15. Discuss the positive and negative role public and social media can play in the reputation of the shelter in the public eye.
<p>4. Animal Welfare, Animal Cruelty and Neglect, and Veterinary Forensics</p>	<ol style="list-style-type: none"> 1. Define the term veterinary forensic sciences. 2. Define the terms animal cruelty and animal neglect. 3. Identify examples of animal abuse for individual cases and large-scale cases. 4. Discuss the link between animal abuse and domestic violence, elder abuse, and child maltreatment. Explain the Macdonald Triad. 5. Describe the role of the veterinarian in animal cruelty/neglect cases. 6. Describe how to perform a proper forensic medical examination, including evidence collection. 7. Describe how to write a proper forensic medical report, including written and photographic documentation. 8. Discuss animal cruelty and neglect laws and state to state differences. Explain the role of law enforcement in cruelty/neglect cases. 9. Design SOPs for a hospital/shelter setting for neglect/cruelty cases.

	<ol style="list-style-type: none"> 10. Design SOPs for large scale animal cruelty/neglect cases in the field. 11. Discuss and analyze case examples of animal cruelty and neglect, including international animal welfare issues. 12. Discuss ways to prevent animal cruelty and legal advocacy efforts by individuals and larger animal organizations. 13. Identify advanced career opportunities in animal forensics and animal welfare/advocacy.
<p>5. Management of Feline Overpopulation in Communities</p>	<ol style="list-style-type: none"> 1. Define the term community cat and classify the different types of community cats. 2. Describe the different methods for managing community cats, including TNR, TNVR, SNR, RTF. 3. Discuss the key components of setting-up and managing successful TNR, SNR, and RTF programs from a shelter perspective and a community perspective. 4. Describe safe and humane handling techniques for community cats in the spay/neuter clinic environment. 5. Explain best practices for medical and management protocols of community cats in the clinic environment. 6. Discuss arguments against TNR and opposition faced by TNR advocates and programs. 7. State FeLV/FIV testing recommendations for community cats in a TNR clinic. 8. State vaccination recommendations for community cats in a TNR clinic. 9. Review and discuss scientific studies and case examples of TNR programs. 10. Practice effective community outreach techniques, including appropriate language, to educate the public about humane methods for managing community cats. 11. Discuss the benefits and success of TNR/SNR/RTF programs for individual cats, cat colonies, the community, and the shelter. 12. Design feline population management control plans for local shelters and communities.
<p>6. Shelter, Community, and Public Health</p>	<ol style="list-style-type: none"> 1. Define the term zoonotic disease. 2. List examples of zoonotic agents in the shelter. 3. Identify factors contributing to zoonoses in a shelter environment. 4. Explain the impact of zoonotic agents in the shelter. 5. Identify methods to prevent and/or manage zoonotic outbreaks.

	<ol style="list-style-type: none"> 6. Discuss the emergence of transboundary disease in the shelter and the impact of transporting animals domestically and internationally. 7. Identify effective and appropriate sanitation agents and procedures for the shelter. 8. Understand the risks shelter animals can pose to immunocompromised people. 9. Analyze a case example of a zoonotic agent in the shelter environment. 10. Recognize techniques for Rabies prevention, effective diagnosis, and quarantine protocols for Rabies positive species. 11. Demonstrate effective communication techniques for public education related to public health. 12. Describe the role of the veterinarian as it relates to public health.
<p>7. Disaster Preparedness</p>	<ol style="list-style-type: none"> 1. Name different types of disasters, including natural and man-made. 2. Define the term co-location shelter and explain the concept. 3. Recognize the importance of disaster preparedness. 4. Define the term ICS (Incident Command Structure) and explain the concept. 5. Discuss how disasters can impact animals in a community and the shelter environment. Use case examples. 6. Identify steps that individual pet owners, communities, and shelters can take to mitigate disaster, prepare for a disaster, and recover from a disaster. 7. Review examples of Disaster Plans for Shelters and discuss their design and recommendations based on individual shelter needs. 8. Design an evacuation plan for an animal shelter in case of a disaster. 9. Design a plan to set-up a temporary animal shelter in case of a disaster. 10. List courses (including FEMA) and resources for additional hands-on training in disaster response.
<p>8. Spay and Neuter Programs</p>	<ol style="list-style-type: none"> 1. Define the terms ovariohysterectomy, castration, and neuter. 2. Identify trends and advancements of the spay and neuter movement. 3. Compare and contrast the pros/benefits and the cons/negatives to spay/neuter. 4. Define the term pediatric spay/neuter. Explain

	<p>pediatric surgical and anesthetic considerations and discuss the benefits and disadvantages of the procedure.</p> <ol style="list-style-type: none"> 5. Review and discuss scientific studies on spay/neuter, including age and breed recommendations based on findings. 6. State appropriate spay/neuter age recommendations for shelter animals, owned cats, owned dogs, community cats, and free roaming dogs, based on current resources/evidence. 7. Discuss barriers to access to care and spay/neuter resources for the general public. Identify methods the veterinary profession can utilize to increase access to veterinary care related to spay and neuter services for pet owners in all socioeconomic groups. 8. Identify different spay/neuter clinic models. Provide examples for each clinic model. 9. Compare and contrast the advantages, disadvantages, and target audience for the different spay/neuter clinic models. 10. Describe the ASV Medical Care Guidelines for Spay and Neuter and discuss their application to all spay/neuter clinic models. 11. Identify strategies, community outreach techniques, and public education, for effective spay/neuter outreach. 12. Present students with internship/externship/volunteer opportunities for spay and neuter clinics in the US and internationally.
<p>9. High-Quality High-Volume (HQHV) Spay and Neuter Surgical Techniques and Medical Protocols</p>	<ol style="list-style-type: none"> 1. Review the ASV Medical Care Guidelines for Spay and Neuter and discuss their application to all spay/neuter clinic models. 2. Define the term High-Quality High-Volume Spay/Neuter (HQHV) clinics. 3. Discuss High-Quality High-Volume Spay/Neuter techniques, including incision site placement, suture on a reel, pediatric patients, pedicle ties for feline spays, ovariectomies, flank spays, and scrotal approach to castrations. Cite specific examples related to surgical techniques and medical and management protocols. 4. Demonstrate proficiency in performing Miller's knots, pedicle ties in female cats, and figure-8 instrument ties in male cats. 5. Discuss management of surgical complications in a HQHV Spay and Neuter clinic setting, pre-operatively, intra-operatively, and post-operatively.

	<ol style="list-style-type: none"> 6. Discuss AFAST Abdominal Ultrasound Techniques for Hemoabdomens. 7. Discuss autotransfusion protocols and practical application of the technique. 8. Discuss anesthetic protocol considerations in HQHV Spay and Neuter clinics. 9. Review CPR/Emergency Protocols. 10. Discuss identification techniques for spayed/neutered patients. 11. Discuss non-surgical forms of sterilization in dogs and cats, including chemical castration of canines. Explain indications, contra-indications, and practical application of non-surgical techniques. 12. Present students with internship/externship/volunteer opportunities for spay and neuter clinics in the US and internationally.
<p>10. Euthanasia and Emotional Well-Being in the Shelter Environment</p>	<ol style="list-style-type: none"> 1. Cite approved euthanasia techniques based on the AVMA Guidelines for Euthanasia. 2. Discuss approved alternative euthanasia methods caused by drug shortages. 3. Identify legal and technical aspects of euthanasia. 4. Compare and contrast euthanasia protocols in a shelter versus private practice. 5. Determine best practice techniques for euthanasia in a shelter environment. 6. Discuss the role of the shelter veterinarian in euthanasia, including legal, technical, and emotional components. 7. Analyze case scenarios of euthanasia decisions from both a technical and emotional perspective. 8. Discuss additional stressors and the emotional impact working in a shelter environment has upon the psyche of veterinarians, staff, and volunteers. 9. Define the terms burnout, compassion fatigue, and ethical/moral fatigue. 10. Develop healthy and appropriate techniques for stress management and self-care. 11. Identify resources, tools, and professional programs to help veterinary students and veterinary professionals positively manage their emotional well-being.

XI. Alignment of Course Learning Outcomes with Program Learning Outcomes

XII. Course Level Outcome (CLOs)	SGU SVM Program Level Outcome (PLOs)
CLO 1. Discuss current topics and emerging trends in the field of shelter medicine.	<p>A. Core Medical Knowledge PLOs 1,2,3,4,5,6,7,8,9,10,11</p> <p>B. Core Professional Attributes PLOs 12,13,15,17,18,19</p> <p>C. Core Clinical Competencies (Skills) PLOs 22,23,24,25,26,27,28</p>
CLO 2. Utilize resources to provide appropriate and humane care for shelter animals and communities.	<p>A. Core Medical Knowledge PLOs 1,2,3,4,5,6,7,8, 9,10,11</p> <p>B. Core Professional Attributes PLOs 12,13,14,15,17,18,19</p> <p>C. Core Clinical Competencies (Skills) PLOs 20,21,22,23,24,25,26,27,28</p>
CLO 3. Illustrate the variety of career paths associated with shelter medicine.	<p>A. Core Medical Knowledge PLOs 7,8,9,11</p> <p>B. Core Professional Attributes PLOs 12,13,14,15,16,17,18,19</p> <p>C. Core Clinical Competencies (Skills) PLOs 23,24,25,26,27,28</p>

Note: Please find a detailed description of Course Level Outcomes (CLOs) mapped to Program Level Outcomes (PLOs) at the end of the syllabus in the Appendix.

XII. Course Schedule

- **All Live Lectures will be held on Mondays from 1:30-2:30 PM AST via Zoom. All lectures will be recorded, and attendance is not mandatory but strongly encouraged.**
- **The two Clinical Wet Labs will be held on Mondays, September 6th and November 1st, from 1:30-4 PM AST. Attendance is mandatory. For those students who are remote, an alternative assignment will be arranged.**
- **All Assignments will be due on Fridays by 5 PM AST. Please see the schedule below or calendar in Sakai for due dates.**

SAMS 539 Fall 2021 Course Schedule

WEEK	DATE	LECTURE/LAB/ MODULE	LECTURER/ INSTRUCTOR	ASSIGNMENT/ ASSESSMENT	STUDENT TIME COMMITMENT
Week #1	Aug. 16- Aug. 20 (Monday, 1:30-2:30 PM AST- Live Lecture)	Shelter Animal Physical Health and Management	Dr. Marta Lanza and Ms. Liz Peach	None	Lecture=1.0 Hour
Week #2	Aug. 23- Aug. 27 (Recorded Lecture)	Shelter Animal Behavioral Health	Dr. Melissa Bain	1. Forum Post for Personal Introduction (Due Aug. 27) 2. Fear Free Shelters Module 1 (Due Aug. 27)	1. Lecture=1.0 Hour 2. Forum Post=15.0 Minutes 3. Fear Free Shelters Module 1=1.0 Hour
Week #3	Aug. 30- Sept. 3 (Monday, 1:30-2:30 PM AST- Live Discussion with Dr. Bolser/ Recorded Lecture)	Models of Sheltering and Population Statistics	Dr. Jennifer Bolser	Fear Free Shelters Module 2 (Due Sept. 3)	1. Lecture=1.0 Hour 2. Fear Free Shelters Module 2=1.0 Hour

Week #4	Sept. 6- Sept. 10 (Monday, 1:30-4 PM AST- Live Wet- Lab) Location: GSPCA	GSPCA Visit/Virtual Visit and Interview with GSPCA Vets and Staff	GSPCA Vets and Staff, Ms. Luana Levy, Ms. Paula Lehov	Fear Free Shelters Module 3 (Due Sept. 10)	1. Wet Lab=2.5 Hours 2. Fear Free Shelters Module 3=1.0 Hour
Week #5	Sept. 13- Sept. 17 (Recorded Lecture)	Animal Welfare, Animal Cruelty and Neglect, and Veterinary Forensics	Dr. JoEllen Bruinooge	Short Answer Assignment for Lectures from Weeks 2, 3, and 5 (Due Sept. 17)	1. Lecture=1.0 Hour 2. Short Answer Assignment=30.0 Minutes
Week #6	Sept. 20- Sept. 24 (Recorded Lecture)	Management of Feline Overpopulation in Communities	Dr. Katherine Polak	SOPs/ASV Group Presentation Assignment (Due Sept. 24)	1. Lecture=1.0 Hour 2. SOP/ASV Group Presentation Assignment=1.0 Hour
Week #7	Sept. 27- Oct. 1 (Recorded Lecture)	Shelter, Community, and Public Health	Dr. Elise Gingrich	1.Fear Free Shelters Module 4 (Due Oct. 1) 2.Fear Free Shelter Program Certificate Upload/Course Completion (Due Oct. 1) 3.Enrichment Activity/Toy Design for JSAL (Due Oct. 1) 4. Forum Post for SOPs/ASV Guidelines Assignment (Due Oct. 1)	1. Lecture=1.0 Hour 2.Fear Free Shelters Module 4=1.0 Hour 3.Fear Free Shelter Program Certificate Upload=5.0 Minutes 4.Enrichment/ Toy Activity=30.0 Minutes 5. Forum Post=15.0 Minutes

Week #8	Oct. 4- Oct. 8	No Lecture	NA	Midterms	None
Week #9	Oct. 11- Oct. 15 (Monday, 1:30-2:30 PM AST- Live Lecture)	Disaster Preparedness	Ms. Consie von Gontard	Short Answer Assignment for Lectures from Weeks 6, 7, and 9 (Due Oct. 15)	Short Answer Assignment=30.0 Minutes
Week#10	Oct. 18- Oct. 22 (Monday, 1:30-2:30 PM AST- Live Lecture)	Spay and Neuter Programs	Dr. Marta Lanza and Ms. Liz Peach	None	Lecture=1.0 Hour
Week #11	Oct. 25- Oct. 29	No Lecture	NA	None	None
Week #12	Nov. 1- Nov. 5 (Monday, 1:30-4 PM AST- Live Wet Lab) Location: JSAL	HQHV Spay and Neuter Surgical Techniques and Medical Protocols	Dr. Marta Lanza and Ms. Liz Peach	Multiple Choice Quiz for Lectures from Weeks 10 and 12 (Due Nov. 5)	1. Wet Lab=2.5 Hours 2. Multiple Choice Quiz=30.0 Minutes
Week #13	Nov. 8- Nov. 12 (Monday, 1:30-2:30 PM AST- Live Lecture)	Euthanasia and Emotional Well- Being in the Shelter Environment	Dr. Elise Gingrich	Wellness Case Scenarios Group Assignment (Due Nov. 12)	1. Lecture=1.0 Hour 2. Wellness Assignment=30.0 Minutes
Week #14	Nov. 15- Nov. 19	No Lecture	NA	Short Answer Final Exam (Due Nov. 19)	Short Answer Final Exam=1.0 Hour

Week #15	Nov. 22- Nov. 26	No Lecture	NA	None	None
Week #16	Nov. 29- Dec. 3	No Lecture	NA	Finals	None
Week #17	Dec. 6- Dec. 10	No Lecture	NA	Finals	None
Week #18	Dec. 13- Dec. 17	No Lecture	NA	CAPPS	None

XIII. Grading and Assessment Policy, and Grading Rubrics

➤ **Grading Scale:**

This course is graded with letter grade in accordance with the SGUSVM grading scale:

>89.5%	A
84.5-89.4	B+
79.5-84.4	B
74.5-79.4	C+
69.5-74.4	C
64.5-69.4	D+
59.5-64.4	D
<59.4	F

➤ **Assessments and Assignments (Total Point Value =100.0 Points):**

Assignment/Assessment	Point Value/Percentage of Total Grade
1. Short Answer Final Exam	30.0 / 30%
2. Fear Free Shelter Program Certification	15.0 / 15%
3. Standard Operating Procedure (SOP) Protocols for Shelters Group Assignment	10.0/ 10%
4. Discussions (Forum) Posts x 2	10.0 / 10% (5.0/5% Each x 2)
5. Short Answer Assignments x 2	10.0 / 10% (5.0/5% Each x 2)

6. Multiple Choice Quiz	10.0 / 10%
7. Wellness and Euthanasia Case Scenarios Group Assignment	10.0 / 10%
8. Enrichment Activity/Toy Design for JSAL	5.0 / 5 %

➤ **Final Grade:**

- The course grade will be based on a total of 100 points, weighted as described above.
- All assignments should be submitted via Sakai Assignments, Tests and Quizzes, and Discussions (Forums) as described below on the specified due date.
- Students are required to sign and adhere to the honor code for all assignments and assessments.
- Class participation is included in your final grade as part of your Discussions Posts and Group Assignments in Sakai.
- There is a clinical skills grade component for this course. The importance of clinical skills in this course must be emphasized and recognized. Attendance to the two in-person clinical wet labs is required. Points will be deducted in your final grade for missing these wet labs/assignments (5 points for each wet lab/assignments missed). For those students that are remote, an alternative assignment (s) will be arranged.
- Feedback on all assignments and assessments will be provided within a week after submission via Sakai.
- Final grades will be posted in the Sakai Gradebook and released within one week of submission of the Short Answer Final Exam.

➤ **Detailed Description of Assignments/Assessments:**

1. Short Answer Final Exam= 30 Points (30%)

- The final exam will consist of 5 short answer, open-book questions.
- The questions are designed to summarize the course learning outcomes.
- Material covered includes lectures and Required Readings for each module.
- The Exam Questions will be posted in Sakai 3 weeks prior to the submission date to allow students adequate time to complete the assignment.
- The Short Answer Final Exam will be posted and submitted in Sakai under Tests and Quizzes, “Short Answer Final Exam.”
- Please see the Grading Rubric at the end of the Syllabus in the Appendix.

2. Fear Free Shelter Program Certification=15 Points (15%)

- Information and a link for the Fear Free Shelter Program can be found at: <https://fearfreeshelters.com/>
- Registration for the course is free with proof of veterinary student status.
- The course is related to the Fear Free Veterinary Professional Program, but more shelter specific.
- The skills you will learn will help reinforce many of the things we learn in class as well as assist you in clinics. Many clinics and shelters are

encouraging/requiring their employees and volunteers to have completed this course.

- The Fear Free Shelter Program consists of 4 online modules, each approximately 1.0 hours in length, followed by a short quiz.
- You have been given weekly guidelines in the course schedule for the completion of each module and to help you manage your time efficiently.
- You will receive a certificate upon the completion of the course. Please upload the certificate to Sakai under Assignments, “Fear Free Shelter Program Certification,” by the due date.
- Please also feel free to add this certification to your resume/CV.

3. Standard Operating Procedure (SOP) Protocols for Shelters=10 Points (10%)

- The assignment is designed as an exercise for the practical application of The Association of Shelter Veterinarians (ASV) Guidelines for Standards of Care in Animal Shelters and a critical analysis of a real shelter setting example.
- This is a Group Assignment.
- Your SOP will be shared with the entire class and receive feedback from both course directors and peers.
- One Standard Operating Procedure (SOP) needs to be drafted in written form. You can choose from one of the three options to write an SOP for:
 1. The GSPCA *
 2. A shelter/rescue of your own choosing.
 3. Improvements can also be drafted for an existing Standard Operating Procedure (SOP) at a shelter/rescue facility.
- ***The GSPCA has specifically requested SOPs for the following topics:**
 - Management of Coccidia and a Coccidia Outbreak
 - Foster Program Guidelines for both the shelter and foster parents, including initial intake to shelter, tips and guidelines (medical and behavioral) for foster parents, and post-foster/return to shelter
- Please reach out to shelters/rescues in your communities that students of the group are affiliated with for ideas to write SOPs.
- Each group will be required to submit the following:
 1. A Standard Operating Procedure (SOP) written as a simple, step-step description to present to the shelter for inclusion in their daily operations.
 2. A 500 word or less **OR** a 10 minute video presentation or less which details the current existing conditions of the shelter and summarizes your recommendations.
- A consultation/strategy session with veterinarians/staff from the GSPCA and/or Course Directors will be set-up prior to the submission of the assignment to help guide you in the development of your SOPs.
- The assignment will be submitted in Sakai under Assignments, “Standard Operating Procedure (SOP) Protocols for Shelters” or in Panopto under “Standard Operating Procedure (SOP) Protocols for Shelters.” Please one submission per group.
- Please see the Grading Rubric at the end of the Syllabus in the Appendix.

4. Discussions Post (Forums) x 2 Posts = 10 Points (10%)

- **Personal Introduction Post=5 Points (5%)**

Please provide an introduction about yourself. Your response should include the following:

1. Your background in shelter medicine/veterinary medicine.
2. What interests you about shelter medicine?
3. Why you have chosen to participate in this selective?
4. What you hope to gain from this course?
5. Any new topics/ideas discussed during Lecture 1 that piqued your interest or were new topics in shelter medicine for you?
6. Anything else you would like to share with the class.

- You are required to:

1. Post your own personal response to this question(s).
2. Reply to one post made by your fellow classmates/course directors to encourage class engagement and discussions.

- **Standard Operating Procedure (SOP) Protocols for Shelters SOP/ASV Guidelines Assignment Post=5 Points (5%)**

Please select one of the group presentations submitted by your classmates to review (written and/or video format). Please include in your response the following:

- One thing you learned from the SOP.
- One recommended area of improvement, medically or presentation style.

- Your Discussion Posts will be shared with the entire class and course directors.
- Your Discussion Posts should be made to Discussions (Forums) in Sakai, “Personal Introductions” and “Standard Operating Procedure (SOP) Protocols for Shelters.”
- Please see the Grading Rubric at the end of the Syllabus in the Appendix

5. Short Answer Assignment x 2 Assignments=10 Points (10%)

- **Short Answer Assignment for Lectures from Weeks 2, 3, and 5=5 Points (5%)**

Please identify and describe 3 main concepts in total you learned or were impacted by from the Lectures from Weeks 2, 3, and 5. Please refer to the lecture learning outcomes for assistance.

- **Short Answer Assignment for Lectures from Weeks 6, 7, and 9=5 Points (5%)**

Please select **one** of the articles listed under Required Readings or Additional Resources for **one** of the Lectures from Weeks 6, 7, or 9 and identify 2 main concepts in total you learned or were impacted by from the resource. Please refer to the lecture learning outcomes for assistance.

- The assignment will be submitted in Sakai under Assignments, “Short Answer Assignment for Weeks 2, 3, and 5” and “Short Answer Assignment for Weeks 6, 7, and 9.”
- Please see the Grading Rubric at the end of the Syllabus in the Appendix.

6. Multiple Choice Quiz= 10 Points (10%)

- **Multiple Choice Quiz for Lectures (Spay and Neuter Programs AND High-Quality High-Volume (HQHV) Spay and Neuter Surgical Techniques and Medical Protocols)**
- The quiz consists of 15 multiple choice questions and will be open book/notes.
- Please refer to the lecture learning outcomes as a guideline for the material to review.
- The Multiple Choice Quiz will be posted and graded within Sakai Test and Quizzes, “Multiple Choice Quiz for Spay and Neuter Modules.”
- There is no Grading Rubric for this assignment. The total points will be based on the number of questions answered, at a value of one point per question. Partial credit will not be given for any questions answered incorrectly.

7. Wellness and Euthanasia Case Scenarios Assignment=10 Points (10%)

- This is a Group Assignment.
- Please select one scenario from the three examples provided to write a position paper on a Euthanasia Decision.
- Each group will be required to submit a 500 word or less description that summarizes your decision. The position statement should include:
 1. The emotional impact of the euthanasia decision on veterinarians, support staff, volunteers, the community, and the public image of the shelter.
 2. Justification in support of euthanasia.
 3. Justification against euthanasia.
 4. Any legal or technical considerations of euthanasia relevant to your arguments.
 5. Exploration of alternative options to euthanasia.
- The assignment will be submitted in Sakai under Assignments, “Wellness Assignment-Position Paper on a Euthanasia Decision.” Please one submission per group.
- Please see the Grading Rubric at the end of the Syllabus in the Appendix.

8. Enrichment Activity/Toy Design for JSAL=5 Points (5%)

- Please design an enrichment activity or “manufacture” a “toy” utilizing affordable and available house-hold items.
- The enrichment activity/toy is to be utilized by members of the JSAL Team for surgical patients housed at the VSL for 5 th and 6 th term student rotations.
- The enrichment activity/toy should satisfy physical, medical, and behavioral standards set forth by the Association of Shelter Veterinarians (ASV) Shelter Care Guidelines for Standards of Care in Animal Shelters and The Association of Animal Welfare Advancement’s (AWA) Animal Enrichment Best Practices.
- A written description/drawing/or short video detailing your design will be submitted in Sakai under Assignments, “Enrichment Activity/Toy Design for JSAL” or in Panopto under “Enrichment Activity/Toy Design for JSAL.”
- Please see the Grading Rubric at the end of the Syllabus in the Appendix.

➤ **Detailed Description of Alternative Assignment for Clinical Wet Labs (Remote Students):**

1. Shelter Visit and Analysis Utilizing the ASPCA Shelter Care Checklists : Putting the Association of Shelter Veterinarians Guidelines for Standards of Care in Animal Shelters into Action

- **Grade=Pass/Fail (5 Points off Total Grade for Non-Completion of Assignment)**
- Students will be responsible for visiting an accessible shelter in their community. The definition of shelter is very broad (Municipal Facility, Animal Control Facility, Private Non-Profit Humane Society, Rescue, Sanctuary, Foster Centric Model). Students can choose the type of facility they visit.
- Students should bring with them digital or hard copies of *The ASPCA Shelter Care Checklists: Putting ASV Guidelines into Action* and *The Association of Shelter Veterinarians Guidelines for Standards of Care in Animal Shelters*.
- A recommendation prior to your visit is to contact a member of the shelter team to provide a “tour” and answer any questions you may have the day of your visit. Alternatively, you can visit and make your personal observations and then follow-up with specific questions to a member of the shelter team.
- Students are required to select **Two Sections** from the ASV Guidelines to analyze and discuss. Identify, using the appropriate terminology (“must,” “should,” “ideal,” and “unacceptable”) areas in which the shelter has satisfied the requirements and areas where improvements are needed.
- Students will discuss your observations with the course directors during mandatory scheduled office hours.
- Please remember you are also required to draft a **Standard Operating Procedure (SOP) Protocol for a Shelter** as one of your Group Assignments. Please see the description in the Syllabus and in Sakai. Students can utilize this visit to identify deficiencies in protocols and where a new SOP would be beneficial.

2. HQHV Spay and Neuter Surgical Techniques and Medical Protocols Lab

- **Grade=Pass/Fail (5 Points off Total Grade for Non-Completion of Assignment)**
- Students will be able to participate in the clinical wet lab Live via Zoom.
- As a backup in case of technological challenges, the recorded version of the lecture from Spring of 2021 has been uploaded to Sakai under Panopto Recordings.
- Students are required to:
 1. Identify **Two New Techniques** learned during the lab
 2. Describe how these techniques satisfy the description of being high quality and high volume in a clinical setting
- The description should be no more than 250 words.
- The assignment will be submitted in Sakai under Assignments, “HQHV Spay and Neuter Surgical Techniques and Medical Protocols Lab.”
- Please see the Grading Rubric at the end of the Syllabus in the Appendix.

- Students will also be responsible for completing the **Multiple Choice Quiz for Lectures (Spay and Neuter Programs AND High-Quality High-Volume (HQHV) Spay and Neuter Surgical Techniques and Medical Protocols)**. Please see the description in the Syllabus and Sakai.

XIV. Recommended Study Strategies

- Please utilize the Weekly Lessons tool in Sakai to assist you in time management and developing an effective plan for your coursework for the week.
- The student should watch all lectures and labs utilizing Panopto and/or Zoom, including live and recorded sessions.
- The student should adapt to the online learning format and set aside appropriate time and draft a calendar to “attend” lectures and complete all assignments and assessments on time.
- The student should utilize the required and recommended resources provided by course directors and lecturers.
- Access to a shelter or rescue organization for observation and opportunities for practical application of lesson learning outcomes is highly encouraged but not required.
- Contact your Professor/s if there is a need for further clarifications related to the lecture material or assignments. The course directors are always available for discussions via e-mail, Zoom scheduled office hours, or by appointment: Ms. Peach (epeach@sgu.edu) or Dr. Lanza (mperea@sgu.edu).

XV. Instructor’s Expectations of the Student

- **The student is expected to read/skim the “Required Readings” prior to class in preparation for that lecture or lab.**
- Students will be provided with a list of “Additional Resources” for each lecture/lab in Sakai. These additional resources are meant as supplemental material or additional information for students particularly interested in that module. These “Additional Resources” are not required readings.
- The student is expected to familiarize themselves with the technology being utilized for the course and reach out to the Office of Information Technology and/or the course director(s) for assistance if needed.
- The student is expected to submit all assignments and assessments on time. If there is an issue, students are required to reach out to the course director(s) via email: Ms. Peach (epeach@sgu.edu) or Dr. Lanza (mperea@sgu.edu).

XVI. Professionalism Statement

- Students are expected to conduct themselves in an appropriate professional manner in their interactions with lecturers and fellow students via the online format, group assignments, and during wet labs. Please be respectful, courteous, and open to other people’s opinions and ideas.
- Cell phones should be switched off or silenced during lectures and labs that are live (synchronous) sessions.

- Please arrive on time for lectures and labs if the session is live (synchronous) and dress appropriately.
- Closed toe shoes and scrubs are required for both clinical wet labs.

XVII. Attendance/Participation Policy

- Students are expected to be available during the standard 8-5 pm AST school day, to virtually attend, engage with online content, and participate in all classes and clinical rotations for which they have registered.
- Employment is not an excusable absence.
- Students are required to engage in the course material, that is to participate in the learning tools provided (Panopto lectures, Zoom lectures, Discussions (Forums), Tests and Quizzes, and Assignments).
- Class participation is included in your final grade as part of your Discussions (Forums) Posts and Group Assignments in Sakai.
- If failure to attend, engage, or participate in individual classes, examinations, and online activities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.
- **Live Lecture Zoom Sessions Attendance Policy:**
 - For attendance of Live sessions, students are strongly encouraged but not required to turn on their cameras to increase class engagement and interaction.
 - Live Sessions are not mandatory. All Live Sessions will be recorded.
- **Wet Lab Attendance Policy:**
 - Attendance to the two in-person clinical wet labs is required. Remote students will be provided with an alternative assignment. Points will be deducted in your final grade for missing these wet labs or assignments (5 points for each wet lab/assignments missed).

XVIII. Policy Regarding Missing Examinations and/or Failure of Submission of Assignments

- Students who fail to attend an examination (Sakai quiz/test or Examsoft) or submit an assignment by the deadline without a valid reason (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS) will receive a score of “0” points for the examination.
- Students who have technical issues during the examination MUST inform the Course Director (s) (epeach@sgu.edu or mperea@sgu.edu) and IT (tellexaminationservices@sgu.edu OR support@sgu.edu) OR call 1-631-665-8500 ext. 4444 (US, NU, International) OR 1-473-439-2000 ext. 4444 (Grenada), AND Dean of Students (DOS@sgu.edu) during the open period for the examination. Failure to do so immediately will result in the student receiving the highest score recorded at the time, but NOT being eligible to take a completion examination.
- Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.

XIX. ExamSoft Policy

All students are responsible for knowing and complying with the University's Code of Conduct and the guidelines. Students must read and then sign the Honor Code statement at the start of examinations to indicate that they will comply with the University Code of Conduct.

Prior to Exam Day

1. Each student is required to have a laptop for the purpose of taking computer-based examinations (e-Exams) at SGU. Students must ensure that their laptops meet the current minimum system requirements prior to exam day:
2. Examinees must use their MY SGU Member Center username and password to access the Custom Home Page (www.examsoft.com/sgu) created by ExamSoft for the University.
3. Examinees are responsible for downloading and registering the latest version of Examplify on their laptop prior to exam day. Once Examplify has been successfully downloaded, examinees are strongly encouraged to familiarize themselves with the software by downloading and taking practice exams.
4. Examinees are responsible for setting their laptop up for ExamMonitor prior to the exam (see links below).
5. Examinees will be notified via MyCourses, of all exam related information. Email notifications will also be sent from ExamSoft Support to examinees, notifying them of examinations available for downloading.
6. Examinees experiencing difficulties with their laptop are encouraged to visit the IT department for assistance prior to exam day. Examinees needing a laptop must visit the Office of Institutional Advancement (OIA) to request an exam loaner.
7. Examinees should visit the following information to familiarize themselves with the online proctored exam format and set up their baseline photo.
 - a. [A Examsoft/ExamID quick guide for students](#) (Please note that the current Examplify version is **2.3.8**)
 - b. [The Examsoft student perspective video 30mins](#)
 - c. [The Examsoft/ExamID FAQ](#)
 - d. Examsoft information page
 - e. [The general Reminders/Guidelines](#)

A grade reduction of 5% will be applied to the exam if the student does not observe the following parameters during exams monitored online:

1. Avoid talking out loud.
2. Avoid looking away from the monitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during the exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

All other exam policies are followed according to the SGU Examination Policy (<https://mycampus.sgu.edu/unified-mydrive/open/file/download/SGUPROD/60cb7112ec12c400185be4fa/latest>) and the Student Handbook.

XX. Copyright Policy

The materials (such as slides, handouts, and video recordings) provided to students who are taking courses at St. George's University (SGU) are the intellectual property of the Faculty and/or Administration of SGU. Students are free to duplicate these materials *solely* for the purpose of group or individual study. Any other reproduction in whole or in part is prohibited.

Appendices:

1. Alignment of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)-Detailed Description

Course Level Outcome	SGU SVM Program Level Outcome
<p>CLO 1. Discuss current topics and emerging trends in the field of shelter medicine.</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis, and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.</p>

	<p>B. Professional Attributes</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues, and responsible authorities.</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity, and empathy.</p> <p>PLO 15 Model lifelong continuing education and professional development.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>C. Core Clinical Competencies (Skills)</p> <p>PLO 22 Analyze, design, and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 23 Analyze, design, and execute appropriate plans for basic surgery and surgical case management.</p> <p>PLO 24 Analyze, design, and execute appropriate plans for medical case management.</p> <p>PLO 25 Analyze, design, and execute appropriate plans for emergency and critical care case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety, and biosecurity.</p> <p>PLO 27 Demonstrate and model effective client communication and ethical conduct.</p> <p>PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.</p>
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<p>CLO 2. Utilize resources to provide appropriate and humane care for shelter animals and communities.</p>	<p>A. Core Medical Knowledge</p> <p>PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.</p> <p>PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.</p> <p>PLO3 Recall, understand, and adequately utilize knowledge of etiology, pathogenesis, and pathology of common infectious, non-infectious, and zoonotic diseases, including biosafety and biosecurity considerations.</p> <p>PLO 4 Explain the relationship between disease processes and clinical signs.</p> <p>PLO 5 Recall, understand, and adequately utilize knowledge of and apply principles of therapeutic agents and their application, including relevant legislation and guidelines on the use of medicines.</p> <p>PLO 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions.</p> <p>PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.</p> <p>B. Core Professional Attributes</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues, and responsible authorities.</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care</p>
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	<p>and client relations, such as, honesty, respect, integrity, and empathy.</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork, and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 15 Model lifelong continuing education and professional development.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p> <p>C. Core Clinical Competencies (Skills)</p> <p>PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.</p> <p>PLO 21 Create comprehensive treatment plans.</p> <p>PLO 22 Analyze, design, and execute appropriate plans for anesthesia and pain management considering patient welfare.</p> <p>PLO 23 Analyze, design, and execute appropriate plans for basic surgery and surgical case management.</p> <p>PLO 24 Analyze, design, and execute appropriate plans for medical case management.</p> <p>PLO 25 Analyze, design, and execute appropriate plans for emergency and critical care case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety, and biosecurity.</p> <p>PLO 27 Demonstrate and model effective client communication and ethical conduct.</p>
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	<p>PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.</p>
<p>CLO 3. Illustrate the variety of career paths associated with shelter medicine.</p>	<p>A. Core Medical Knowledge</p> <p>PLO 7 Evaluate and analyze normal versus abnormal animal behavior.</p> <p>PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.</p> <p>PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.</p> <p>PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.</p> <p>B. Professional Attributes</p> <p>PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues, and responsible authorities.</p> <p>PLO 13 Demonstrate, evaluate, and model ethical and responsible behavior in relation to animal care and client relations, such as, honesty, respect, integrity, and empathy.</p> <p>PLO 14 Demonstrate, evaluate, and model leadership, teamwork, and conflict resolution skills as a member of a multidisciplinary team.</p> <p>PLO 15 Model lifelong continuing education and professional development.</p> <p>PLO 16 Demonstrate and model adaptability and resilience.</p> <p>PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.</p> <p>PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity.</p> <p>PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.</p>

	<p>C. Core Clinical Competencies (Skills)</p> <p>PLO 23 Analyze, design, and execute appropriate plans for basic surgery and surgical case management.</p> <p>PLO 24 Analyze, design, and execute appropriate plans for medical case management.</p> <p>PLO 25 Analyze, design, and execute appropriate plans for emergency and critical care case management.</p> <p>PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety, and biosecurity.</p> <p>PLO 27 Demonstrate and model effective client communication and ethical conduct.</p> <p>PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.</p>
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2. Grading Rubrics for Assignments/Assessments

A. Short Answer Final Exam Grading Rubric

5	A+
4	A
3	B
2	C
1	D
0	F

	Poor		Average		Excellent
1. Completeness Student directly answers each question and provides required number of examples.	1.0	2.0	3.0	4.0	5.0
2. Knowledge Student correctly defines key terms and concepts and makes appropriate reference to guidelines and standards from veterinary medicine, and shelter medicine specifically.	1.0	2.0	3.0	4.0	5.0
3. Analysis Student clearly and concisely describes analytical thought process, provides clear explanations, and utilizes appropriate examples to support points.	1.0	2.0	3.0	4.0	5.0
4. Written Skills and Communication Student utilizes scientific and professional language, minimal errors in grammar and spelling.	1.0	2.0	3.0	4.0	5.0
Total Score and Comments					

B. Standard Operating Procedure (SOP) Protocols for Shelters Grading Rubric

5	A+
4	A
3	B
2	C
1	D
0	F

	Poor		Average		Excellent
1. Completeness <ul style="list-style-type: none"> • Student (s) provides a thorough analysis of the current protocols and practices being utilized at the shelter. • Student (s) provides shelter with appropriate and practical recommendations for improvements to their current protocols. 	1.0	2.0	3.0	4.0	5.0
2. Knowledge <ul style="list-style-type: none"> • Student (s) correctly defines key terms and concepts and makes appropriate reference to guidelines and standards from veterinary medicine, including the Association of Shelter Veterinarians (ASV) Guidelines for Standards of Care in Animal Shelters. 	1.0	2.0	3.0	4.0	5.0
3. Analysis <ul style="list-style-type: none"> • Student (s) clearly and concisely describes analytical thought process, provides clear explanations, and utilizes appropriate examples to support points. 	1.0	2.0	3.0	4.0	5.0
4. Written/Verbal Skills and Communication <ul style="list-style-type: none"> • Student (s) utilizes scientific and professional language, minimal errors in grammar, spelling, pronunciation. • Student (s) drafts an SOP in a concise, simple step-step description that can be followed by all staff and volunteers at the shelter. Pictures can also be included. • Student (s) also includes a written 500 words or less summary OR 10 minutes or less video presentation of their recommendations. 	1.0	2.0	3.0	4.0	5.0

Total Score and Comments					
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C. Discussions (Forums) Posts Grading Rubric

5	A+
4	A
3	B
2	C
1	D
0	F

	Poor		Average		Excellent
1. Completeness Student provides a thorough and complete response to address all components of the discussion prompt.	1.0	2.0	3.0	4.0	5.0
2. Knowledge <ul style="list-style-type: none"> • Student correctly defines key terms and concepts and makes appropriate reference to guidelines and from veterinary medicine. • Student applies class content (lecture/lab material) in an appropriate manner to post. 	1.0	2.0	3.0	4.0	5.0
3. Analysis Student clearly and concisely describes analytical thought process, provides clear explanations, and utilizes appropriate examples to support points.	1.0	2.0	3.0	4.0	5.0
4. Written Skills and Communication <ul style="list-style-type: none"> • Student utilizes scientific and professional language, minimal errors in grammar and spelling. • Student adheres to word limit (250 words or less). 	1.0	2.0	3.0	4.0	5.0

5.Student Engagement <ul style="list-style-type: none"> • Student respond to 1-2 other posts, with professional, insightful, constructive, relevant feedback. • Student provides relevant and constructive feedback and recommendation to one group presentation. • Students encourages further discussion in the post through a built upon/refuted point or additional question. 	1.0	2.0	3.0	4.0	5.0
Total Score and Comments					

D. Short Answer Assignments Grading Rubric

5	A+
4	A
3	B
2	C
1	D
0	F

	Poor		Average		Excellent
1. Completeness Student directly answers each question and provides required number of examples.	1.0	2.0	3.0	4.0	5.0
2. Knowledge Student correctly defines key terms and concepts and makes appropriate reference to guidelines and standards from veterinary medicine, and shelter medicine specifically.	1.0	2.0	3.0	4.0	5.0
3. Analysis	1.0	2.0	3.0	4.0	5.0

Student clearly and concisely describes analytical thought process, provides clear explanations, and utilizes appropriate examples to support points.					
4. Written Skills and Communication Student utilizes scientific and professional language, minimal errors in grammar and spelling.	1.0	2.0	3.0	4.0	5.0
Total Score and Comments					

E. Wellness and Euthanasia Case Scenarios Assignment

Grading Rubric

5	A+
4	A
3	B
2	C
1	D
0	F

	Poor		Average		Excellent
1. Completeness <ul style="list-style-type: none"> • Student (s) explains and details argument in support of and against euthanasia. • Student (s) provides a thorough and complete response to address all components of the discussion prompt. <ol style="list-style-type: none"> 1. The emotional impact of the euthanasia decision on veterinarians, support staff, volunteers, the community, and the public image of the shelter. 2. Justification in support of euthanasia. 3. Justification against euthanasia. 4. Any legal or technical considerations of euthanasia relevant to your arguments. 5. Exploration of alternative options to euthanasia. 	1.0	2.0	3.0	4.0	5.0

2. Knowledge <ul style="list-style-type: none"> • Student (s) correctly defines key terms and concepts and makes appropriate reference to guidelines and from veterinary medicine. • Student (s) applies class content (lecture/lab material) in an appropriate manner to post. 	1.0	2.0	3.0	4.0	5.0
3. Analysis Student (s) clearly and concisely describes analytical thought process, provides clear explanations, and utilizes appropriate examples to support points.	1.0	2.0	3.0	4.0	5.0
4. Written Skills and Communication <ul style="list-style-type: none"> • Student (s) utilizes scientific and professional language, minimal errors in grammar and spelling. • Student (s) adheres to word limit (500 words or less). 	1.0	2.0	3.0	4.0	5.0
Total Score and Comments					

F. Enrichment Activity/Toy Design for JSAL Grading Rubric

5	A+
4	A
3	B
2	C
1	D
0	F

	Poor		Average		Excellent
1. Completeness <ul style="list-style-type: none"> • Student provides a thorough analysis of the physical, medical, and behavioral needs of JSAL patients. • Student provides a thorough analysis of JSAL housing conditions. 	1.0	2.0	3.0	4.0	5.0

<ul style="list-style-type: none"> • Student provides JSAL Team Members with appropriate and practical recommendations, taking into account safety, affordability, and accessibility of household items. 					
2. Knowledge <ul style="list-style-type: none"> • Student correctly defines key terms and concepts and makes appropriate reference to guidelines and standards from veterinary medicine, including the Association of Shelter Veterinarians (ASV) Guidelines for Standards of Care in Animal Shelters and The Association for Animal Welfare Advancement’s (AWA) Animal Enrichment Best Practices. 	1.0	2.0	3.0	4.0	5.0
3. Analysis <ul style="list-style-type: none"> • Student (s) clearly and concisely describes analytical thought process, provides clear explanations, and utilizes appropriate examples to support points. 	1.0	2.0	3.0	4.0	5.0
4. Written/Verbal Skills and Communication <ul style="list-style-type: none"> • Student (s) utilizes scientific and professional language, minimal errors in grammar, spelling, pronunciation. • Student describes the enrichment activity/toy design in a concise, simple step-step description that can be followed by all JSAL Team Members. Pictures can also be included. • Student includes a written 250 words or less summary OR 5 minutes or less video presentation of their recommendations. 	1.0	2.0	3.0	4.0	5.0
Total Score and Comments					

G. HQHV Spay and Neuter Surgical Techniques and Medical Protocols Lab Grading Rubric

5	A+
4	A
3	B
2	C

1	D
0	F

	Poor		Average		Excellent
1. Completeness <ul style="list-style-type: none"> • Student directly answers each question: <ol style="list-style-type: none"> 1. Identifies two new techniques learned during the lab 2. Describes how these techniques satisfy the description of being high quality and high volume in a clinical setting. • Student provides required number of examples (2). 	1.0	2.0	3.0	4.0	5.0
2. Knowledge Student correctly defines key terms and concepts and makes appropriate reference to guidelines and standards from veterinary medicine, and shelter medicine specifically.	1.0	2.0	3.0	4.0	5.0
3. Analysis Student clearly and concisely describes analytical thought process, provides clear explanations, and utilizes appropriate examples to support points.	1.0	2.0	3.0	4.0	5.0
4. Written Skills and Communication <ul style="list-style-type: none"> • Student utilizes scientific and professional language, minimal errors in grammar and spelling. • Student adheres to word limit (250 words or less). 	1.0	2.0	3.0	4.0	5.0
Total Score and Comments					

3. SAMS 539 Shelter Medicine Selective FALL 2021 Course Schedule

SAMS 539 Fall 2021 Course Schedule

WEEK	DATE	LECTURE/LAB/ MODULE	LECTURER/ INSTRUCTOR	ASSIGNMENT/ ASSESSMENT	STUDENT TIME COMMITMENT
Week #1	Aug. 16- Aug. 20 (Monday, 1:30-2:30 PM AST- Live Lecture)	Shelter Animal Physical Health and Management	Dr. Marta Lanza and Ms. Liz Peach	None	Lecture=1.0 Hour
Week #2	Aug. 23- Aug. 27 (Recorded Lecture)	Shelter Animal Behavioral Health	Dr. Melissa Bain	1. Forum Post for Personal Introduction (Due Aug. 27) 2. Fear Free Shelters Module 1 (Due Aug. 27)	1. Lecture=1.0 Hour 2. Forum Post=15.0 Minutes 3. Fear Free Shelters Module 1=1.0 Hour
Week #3	Aug. 30- Sept. 3 (Monday, 1:30-2:30 PM AST- Live Discussion with Dr. Bolser/ Recorded Lecture)	Models of Sheltering and Population Statistics	Dr. Jennifer Bolser	Fear Free Shelters Module 2 (Due Sept. 3)	1. Lecture=1.0 Hour 2. Fear Free Shelters Module 2=1.0 Hour

Week #4	Sept. 6- Sept. 10 (Monday, 1:30-4 PM AST- Live Wet- Lab) Location: GSPCA	GSPCA Visit/Virtual Visit and Interview with GSPCA Vets and Staff	GSPCA Vets and Staff, Ms. Luana Levy, Ms. Paula Lehov	Fear Free Shelters Module 3 (Due Sept. 10)	1. Wet Lab=2.5 Hours 2. Fear Free Shelters Module 3=1.0 Hour
Week #5	Sept. 13- Sept. 17 (Recorded Lecture)	Animal Welfare, Animal Cruelty and Neglect, and Veterinary Forensics	Dr. JoEllen Bruinooge	Short Answer Assignment for Lectures from Weeks 2, 3, and 5 (Due Sept. 17)	1. Lecture=1.0 Hour 2. Short Answer Assignment=30.0 Minutes
Week #6	Sept. 20- Sept. 24 (Recorded Lecture)	Management of Feline Overpopulation in Communities	Dr. Katherine Polak	SOPs/ASV Group Presentation Assignment (Due Sept. 24)	1. Lecture=1.0 Hour 2. SOP/ASV Group Presentation Assignment=1.0 Hour
Week #7	Sept. 27- Oct. 1 (Recorded Lecture)	Shelter, Community, and Public Health	Dr. Elise Gingrich	1.Fear Free Shelters Module 4 (Due Oct. 1) 2.Fear Free Shelter Program Certificate Upload/Course Completion (Due Oct. 1) 3.Enrichment Activity/Toy Design for JSAL (Due Oct. 1) 4. Forum Post for SOPs/ASV Guidelines Assignment (Due Oct. 1)	1. Lecture=1.0 Hour 2.Fear Free Shelters Module 4=1.0 Hour 3.Fear Free Shelter Program Certificate Upload=5.0 Minutes 4.Enrichment/ Toy Activity=30.0 Minutes 5. Forum Post=15.0 Minutes

Week #8	Oct. 4- Oct. 8	No Lecture	NA	Midterms	None
Week #9	Oct. 11- Oct. 15 (Monday, 1:30-2:30 PM AST-Live Lecture)	Disaster Preparedness	Ms. Consie von Gontard	Short Answer Assignment for Lectures from Weeks 6, 7, and 9 (Due Oct. 15)	Short Answer Assignment=30.0 Minutes
Week#10	Oct. 18- Oct. 22 (Monday, 1:30-2:30 PM AST-Live Lecture)	Spay and Neuter Programs	Dr. Marta Lanza and Ms. Liz Peach	None	Lecture=1.0 Hour
Week #11	Oct. 25- Oct. 29	No Lecture	NA	None	None
Week #12	Nov. 1- Nov. 5 (Monday, 1:30-4 PM AST-Live Wet Lab) Location: JSAL	HQHV Spay and Neuter Surgical Techniques and Medical Protocols	Dr. Marta Lanza and Ms. Liz Peach	Multiple Choice Quiz for Lectures from Weeks 10 and 12 (Due Nov. 5)	1. Wet Lab=2.5 Hours 2. Multiple Choice Quiz=30.0 Minutes
Week #13	Nov. 8- Nov. 12 (Monday, 1:30-2:30 PM AST-Live Lecture)	Euthanasia and Emotional Well-Being in the Shelter Environment	Dr. Elise Gingrich	Wellness Case Scenarios Group Assignment (Due Nov. 12)	1. Lecture=1.0 Hour 2. Wellness Assignment=30.0 Minutes
Week #14	Nov. 15- Nov. 19	No Lecture	NA	Short Answer Final Exam (Due Nov. 19)	Short Answer Final Exam=1.0 Hour

Week #15	Nov. 22- Nov. 26	No Lecture	NA	None	None
Week #16	Nov. 29- Dec. 3	No Lecture	NA	Finals	None
Week #17	Dec. 6- Dec. 10	No Lecture	NA	Finals	None
Week #18	Dec. 13- Dec. 17	No Lecture	NA	CAPPS	None

St. George's University				
School of Veterinary Medicine				
Course Director Listing - Fall 2021				
Anatomy, Physiology & Pharmacology Department (Dept. Chair: Dr. Hector Zerpa)				
Banner CRN	COURSES Term I	COURSE CODE	20 Credits	Course Director
11891	Histology & Embryology	ANPH 501	5	Dr. Sunil Gupta
11890	Anatomy I	ANPH 506	5	Dr. Mahesh Shriram Deokar
11892	Physiology I	ANPH 512	5	Dr. Hector Zerpa
11894	Clinical Orientation	LAMS 502	1	Dr. Keith Kalasi & Dr. Kerri Nigito
12137	Basic Small Animal Nutrition	LAMS 540	1	Dr. Catherine Werners Butler & Afroza Khanam
12138	Professional Development I	LAMS 541	2 (P/F)	Dr. Kerri Nigito
11893	Radiology I	SAMS 501	1	Dr. Thomas Hanson
<i>SVM Academic Enhancement Program (non-gradeable 0 credits)</i>				
12363	<i>SVM Academic Enhancement Program</i>	<i>AEP 999</i>	<i>0</i>	<i>Dr. Sara Rabie</i>
Banner CRN	COURSES Term II	COURSE CODE	21 Credits	Course Director
11895	Anatomy II	ANPH 503	5	Dr. Tom Aire
11898	Veterinary Pharmacology I	ANPH 504	3	Dr. Kamashi Kumar
11896	Physiology II	ANPH 513	3	Dr. Hugo Hernandez Fonseca
12226	Professional Development II	LAMS 542	2 (P/F)	Dr. Adria Rodriguez
11900	Bacteriology/Mycology	PTHB 503	4	Mr. Victor Amadi & Dr. Andy Alhassan
11897	Veterinary Immunology	PTHB 512	2	Dr. Mercedes Abeya
11899	Radiology II	SAMS 502	1	Dr. Thomas Hanson
11901	Veterinary Physical Diagnosis I	SAMS 515	1	Dr. Francesca Ivaldi
Pathobiology Department (Dept. Chair: Dr. Melinda Wilkerson)				
Banner CRN	COURSES Term III	COURSE CODE	21 Credits	Course Director
11905	Veterinary Pharmacology II	ANPH 505	3	Dr. Arend Werners
11908	Veterinary Physical Diagnosis II	LAMS 501	1	Dr. Zainab Momoh
12227	Professional Development III	LAMS 543	2 (P/F)	Drs. Austin P. Kirwan & Adria Rodriguez
11902	Parasitology	PTHB 505	4	Dr. Ray Kaplan
11903	Pathology I	PTHB 506	4	Dr. Brian Butler
11904	Virology	PTHB 515	3	Dr. Sonia Cheetham-Brow
11906	Clinical Pathology	PTHB 532	4	Dr. Richard Kabuusu & Dr. Melinda Wilkerson
Banner CRN	COURSES Term IV	COURSE CODE	21 Credits	Course Director
11912	Introduction to Clinical Medicine	LAMS 503	4	Dr. Talia Guttin
12306	Professional Development IV	LAMS 547	2 (P/F)	Drs. Heather Douglas and Heidi Janicke
12307	Introduction to Livestock Nutrition	LAMS 548	1	Dr. Catherine Werners Butler
11909	Pathology II	PTHB 507	4	Dr. Muhammad Bhaiyat & Dr. Camila Does
11914	Veterinary Public Health	PTHB 510	2	Dr. Rohini Roopnarine
11911	Veterinary Epidemiology	PTHB 511	1	Dr. Rohini Roopnarine
11915	Avian, Fish & Exotic Animal Diseases	PTHB 516	3	Dr. David Marancik
11910	Introduction to Surgical Skills	SAMS 514	1	Dr. Tara Paterson
11913	Veterinary Anesthesiology	SAMS 520	3	Dr. Flavia Restitutti
Small Animal Medicine and Surgery Department (Prog. Direc.: Dr. Rodolfo Bruhl-Day)				
Large Animal Medicine and Surgery Academic Program (Prog. Direc.: Dr. Catherine Werners- Butler)				
Banner CRN	COURSES Term V	COURSE CODE	22 Credits	Course Director
11919	Large Animal Surgery I	LAMS 516	2	Dr. Heidi Janicke
11918	Theriogenology	LAMS 519	4	Dr. Firdous Khan
12228	Livestock Medicine I	LAMS 544	2	Dr. Stacey Byers
12356	Professional Development V	LAMS 549	1 (P/F)	Dr. Stacey Byers
11916	Diagnostic Imaging	SAMS 513	3	Drs. Thomas Hanson
11917	Small Animal Surgery	SAMS 518	4	Dr. Rodolfo Bruhl Day
11920	Small Animal Medicine I	SAMS 522	3	Dr. Talia Guttin
11922	Introduction to Clinical Practice	SAMS 526	1 (P/F)	Dr. Wayne Sylvester
11921	Junior Surgery & Anesthesiology Lab	SAMS 527	2	Dr. Marta Lanza-Perea
12142	<i>Vet Ed Assessment Term 5</i>	<i>VEA 500</i>	<i>0</i>	<i>Dr. Anne Corrigan</i>
Banner CRN	COURSES Term VI	COURSE CODE	19 Credits	Course Director
11927	Veterinary Toxicology	ANPH 520	2	Dr. Arend Werners
11923	Equine Internal Medicine	LAMS 505	3	Drs. Catherine Werners Butler & Dr. Lauren Nicole Wise
11924	Livestock Medicine II	LAMS 515	3	Dr. Stacey Renee Byers
11925	Professional Veterinary Development VI	LAMS 533	2 (P/F)	Dr. Lauren Nicole Wise
12235	Large Animal Surgery II	LAMS 545	2	Dr. Heidi Janicke
11928	Small Animal Medicine II	SAMS 524	4	Dr. Anne Corrigan
11926	Introduction to Clinical Rotations	SAMS 528	2 (P/F)	Dr. Wayne Sylvester, Dr. Kerri Nigito and Dr. Alfred Chikweto
12017	Special Topics in Equine Practice	LAMS 537	1	Dr. Inga Karasek
12146	Production Animal Medicine & Surgery	LAMS 539	1	Dr. Stacy Byers & Dr. Kerri Nigito
12270	Veterinary Practice Ownership, Management and Leadership	LAMS 546	1	Drs. Lauren Nicole Wise and Dr. Heather Douglas
12271	Clinical Reasoning in Veterinary Medicine	SAMS 530	1	Dr. Adria Rodriguez
11930	Advanced Cardiology in SAM	SAMS 531	1	Dr. Anne Corrigan
11931	Special Topics in Small Animal Orthopedic Surgery	SAMS 534	1	Dr. Tomas Guerrero
11940	Advanced Topics in Dermatology	SAMS 535	1	Dr. Tara Paterson
11932	Special Topics in Emergency Critical Care	SAMS 536	1	Dr. Talia Guttin
11933	Small Animal Clinical Nutrition	SAMS 537	1	Dr. Tara Paterson
12016	Shelter Medicine	SAMS 539	1	Ms. Elizabeth Peach & Dr. Marta Lanza Perea
	<i>Year Four Clinical Rotation</i>	<i>VMEX 999</i>	<i>0</i>	<i>Drs. Rolf Larsen & Nicole Wise</i>
DVM-Global Veterinary Medicine Track (TOTAL 41 credits)				
12109	VPH: A Global Perspective	PTHB 537	1	Dr. Rohini Roopnarine
12094	Transboundary Animal Disease	PTHB 539	1	Dr. Brian Butler
12353	Pre-Clinical - Extra Mural Studies	ANPH 540	12 (P/F)	Dr. Austin Kirwan
12021	Preparatory Clinical - Extra Mural Studies	PTHB 540	6 (P/F)	Dr. Austin Kirwan
12159	Food Hygiene & Meat Inspection	PTHB 541	1 (P/F)	Dr. Satish Bidaisee
12354	Clinical - Extra Mural Studies	PTHB 542	20 (P/F)	Dr. Austin Kirwan
DVM-Work Based Advancement Track (TOTAL 16 credits)				
12272	Veterinary Practice Experience	ELEC 550	16 (P/F)	Drs. Lauren Nicole Wise & Rolf Larsen
DVM-VSRI (TOTAL 6 credits)				
12151	Research Experience	ELEC 517	1	Dr. Sonia Cheetham-Brow
12066	Research Experience	ELEC 518	2	Dr. Sonia Cheetham-Brow
12073	Research Experience	ELEC 519	3	Dr. Sonia Cheetham-Brow
12153	Research Experience	ELEC 520	4	Dr. Sonia Cheetham-Brow
<i>indicates changes implemented for the semester</i>				
<i>(DVM = 124 cr; DVM-RCVS = 165 cr; DVM-WBA = 140 cr; DVM-VSRI = 136 cr)</i>				
DVM ELECTIVES FALL 2021				
12150	Advance Molecular Techniques	ELEC 529	3 (P/F)	Dr. Andy Alhassan
12126	Topics in Vet Entomology	ELEC 532	1 (P/F)	Mr. Daniel Fitzpatrick
12272	Veterinary Practice Experience	ELEC 550	16 (P/F)	Dr. Lauren Nicole Wise & Dr. Rolf Larsen

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