SCHOOL OF VETERINARY MEDICINE

2021–2022

St. George's University
SCHOOL OF VETERINARY MEDICINE
Grenada, West Indies

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Advanced Cardiology

Course
SAMS 531
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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: Mondays 1:30 pm -4:30 AST, from weeks 9- 13 (March 14th – April 11th) One on one office hours available upon request.

Course Location
This course will be a hybrid (in person and zoom), using Sakai tools, Zoom, Panopto, Assignments, and Discussion Forums. There will be SYNCHRONOUS sessions on week's 9-13. The location will be Charter Hall Laboratory, sessions 1-3, the SAC ultrasound room for the echo lab, and the SGU HI FI SIM LAB for the final lab and examination. The in-class activities will be recorded, the echo laboratory and the final exam will be in person for all students on island, and via ZOOM for our distance learning students. You must participate in the in person/zoom sessions. If you must miss a class-you will lose professionalism points, and you will have to make up the participation points and class activities in the forums. It is mandatory that you attend the synchronous sessions in person if on island, or via if you are not in Grenada .

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 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

Recommended Resources

Videos and articles will be posted on SAKAI.

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

Other Requirements
None

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 review CPCR and emergency drugs. Practice calculating the mean electrical axis. To practice case management and to present a full case in a professional format. To practice client communication.

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. Review CPR literature and discuss important patient considerations for appropriate CPR and crash carts.
9. Calculate the MEA.
10. Watch and discuss/ participate in a cursory cardiac evaluation with the SAC ultrasound machine, be able to discuss the different views and measurements.
11. Practice auscultation skills.

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 Evaluate a current ECG case report and construct a professional presentation
3. Discuss CPR, crash carts and appropriate teamwork
4. Interpret and discuss advanced ECG's, and be able to calculate the MEA
5. 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
6. Discuss echocardiography skills
7. Understand and use appropriate scientific terms, abbreviations, and echocardiography views
8. Practice auscultation skills
9. Discuss signalment, clinical signs, relevant history, auscultation findings and diagnostic testing to diagnose a variety of cardiac diseases
10. Create a personal statement reflecting on the topics discussed.

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

Course Schedule

Week	ZOOM DAYS	ACTIVITES	Expected time	Assessment
Week 9 1st week	March 14th 130420 AST	Readings: Gordon and Nelson et al Statistics Simplified To do: • 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 weeks 2 or 3) • We will ASSIGN your ECG’s of the Month during this! (You will present in weeks 2 or 3) Lecture: Course introduction and design Laboratory: MEA and Advanced ECG’s Discussion: Participation to discuss readings OR Forum Posts	2 hours 1 hour 5 min 5 min 5 min 5 min 2 hours	Forums/Discussion posts: 5 points 5 points
Week 10 2nd week	March 21 130420 AST	Readings: • The History of Veterinary Cardiology • Listen to Ettingers Cardiac Sounds To Do: • Discuss your FAVORITE BIT from the History of Veterinary Cardiology and AND • Comment on another student’s post Participate in Forums Post Discussion - • Murmur Forum: Research a murmur and create a forums post about the possible rule outs. • ASK a question on another’s post. • Arrhythmia Forum: My favorite arrythmia and WHY?	2 hours 30 min 15 min 5 min 15 min	5 points 5 points 5 Points 5 points 5 points

		Lecture/Zoom: Presentations: Groups 1 and 2: Abstracts. Groups 3 and 4: ECG's of the Month	2 hours	presentation: 15 points Discussion Question: 5 points

Week 11 3rd week	March 28 130420 AST	Readings: EPIC paper To Do: prepare your abstract presentation, post on Forums, LIVE/ZOOM presentation Forums post: What I had to look up/Interesting points of the EPIC study Lecture/Zoom: Presentations: Group 1 and 2: ECG'S of the Month Group 3 and 4: Abstracts. ECG'S of the Month Discussion: you MUST ask a question of each presentation. This is to promote discussion and understanding.	2 hours 2 hours 5 min	5 points Presentation: 15 points Discussion Question: 5 points
Week 12 4th week	April 4 12-2 130420 AST SAC ECHO ROOM	Readings: ACVIM Canine and Feline Consensus statements To Do: Watch the Echo intro video BEFORE the lab post on forums and attend lab at the SAC/Zoom. Forums post: ACVIM Consensus statements what I had to look up/ interesting points ECHO Laboratory! Meet at the SAC. Group 1—130 pm AST Group 2—230 Group 3—330 Group 4—430 Discussion: Echo techniques and concerns, consensus statement discussion.	3 hours 13 min 2 hours	5 points
Week 13 5th week	April 11 12-2 SGU HI Fidelity SIM LAB	Readings: Review Recover guidelines To Do: write your personal reflection assessment, complete the crash cart homework assignment FINAL EXAM: please wear scrubs, +\- white coats, close toed shoes, bring your stethoscopes and a pencil. Discussion: Can review any examination station.	20 min MAX 1 hour 1 hours 2 hours	Crash Cart homework: 10 points Personal Reflection: 5 points

Grading and Assessment Policy
Grading scale complies with SGU and SVM assessment guidelines:

Total grade in the course will be based on 150 total points:

- Presentations: 30 Points
- Discussion Questions: 10 points
- Crash Cart Assignment: 10 points
- Zoom/Forum discussions: 45 points
- Self-Reflection: 5 points

- Final Examination: 50 points
- NOTE the engagement/professionalism 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 o Pick 1 abstract, sign up day 1 o Present the abstract o 1-2 slides major concepts o 1-2 slides about new information o 1-2 slides about words/drugs/concepts o What I had to look up!!! o 1 slide of how this could/will increase our knowledge/why is this important o 5 minutes !!!
- Writing Assignment o Written paragraph (~250 words) submitted via Sakai
  - New concepts you encountered/ new ideas that were interesting to you o 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. o Can add in a course critique to help me make the course better
- Discussions o You MUST read your assigned article AHEAD of time o I will post them electronically on SAKAI
- You will be called on to discuss a portion of the paper with the class o 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

Engagement/Professionalism Rubric:

Criteria	Expected	-5%	-10%	-15%
Lectures Checklist	Attends all lectures.	Miss one lecture	Miss 2 lectures.	Miss more than 2 lectures.
Forums Posts /Presentation	Completes all the forums/ in class discussions tasks and follows all directions.	Miss one forums discussions tasks and/or follows most directions. Any unprofessional behavior during a presentation.	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 shows integration of thought of course material.	Completes most (90%) of the Assignments for the term in a timely manner and shows integration of thought of course material.	Completes some (70-89%) of the Assignments for the term in a timely manner, and/or shows partial integration of thought of course material.	Completes less than 70% of the Assignments for the term in a timely manner, or shows little integration of thought of course material.

Presentation Grading Rubric:

Category	Exemplary (3)	Proficient (2)	Developing Skills (1)	Insufficient (0)

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.

Recommended Study Strategies

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.
- Class attendance and participation are mandatory, many points are based on discussion.

Instructor's Expectations of the Student

Please read all assigned readings ahead of time, this course Is primarily a discussion course so participation will be necessary. During the presentations, be attentive and polite to the other speakers.

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 is 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.

Attendance/Participation Policy

Students are expected to be available during the standard 8:30am-5:20pm 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. 5 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 live/zoom sessions is expected. Attendance, engagement, and participation WILL be recorded at every academic activity,

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 University. Completion exams will be scheduled within 7 days of the original exam date. Resit examination will be scheduled in the first week of the following term 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.

ExamSoft Policy
N/A

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Anatomy 1

Course
ANPH 506
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information

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

Office Hours: If required, additional appointments can be made with prior notice. Please send us an e-mail and we will respond accordingly. Zoom Office hours will be announced as necessary**,** and announcements will be posted on Sakai.

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.*

Faculty:

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

Staff members:

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

Department Secretary - Mrs. Cherry Ann Lumpriss

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; However, they will attend the Lab zoom meetings whenever organized.

Required Resources

1. **Lecture presentations** - Available in digital form on Sakai i.e., Learning Management System in PDF format.
2. **The lectures recordings** - will be made available on Panopto after the class.
3. **Dissection Guide** for the lab cum textbook - Guide to the dissection of the dog, Evans · de Lahunta, Eighth Edition, Saunders /Elsevier Pub.
4. Colorado State University, Virtual anatomy Website/Software – Full version available to students on SAKAI
5. **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.

Recommended Resources

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

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

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

Other Requirements

A. General Guidelines

1. Students **must carry ID cards** while attending the classes, laboratory sessions and Zoom Meetings (Online students).
2. While attending classes, laboratory sessions, and the zoom online sessions, **students must dress professionally**, in line with the School's Dress Code.
3. **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.
4. **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.
5. **"Lab time switch"** after the midterm exam, would occur depending upon changes in the other courses such as radiology and clinical orientation.
6. **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.
7. Please note that live **animals/pets are not allowed**, except for teaching and learning purposes, in the veterinary anatomy lab.
8. Please note that **the course director is the first point of contact** to resolve any issues related to the course.
9. 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.
10. 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.
11. **Discussion tool on Sakai -** 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 classroom or zoom meeting. Note that the Discussion tool posts are anonymous for the student but not for the faculty. The faculty can see the author of the post/comment in the discussion.
12. **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).
13. **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 distributing of the quiz and exam questions are strictly prohibited.
14. **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. Opportunities will be given to mention your concerns using the forum tool on Sakai.

15. 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.

Course Rationale

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 (approximately 2 hours) 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 bodies.

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 required and recommended textbooks, laboratory manual, and other resources provided on SAKAI.

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 the 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 organ 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 laboratory sessions.

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. Students must refer to the LLOs when the teaching of a new topic commences.)

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 – 10 Introduction / General Anatomy	LLO A1 Define anatomy and describe divisions of anatomy. LLO A2 Describe and express anatomical language i.e. nomenclature and terminologies. LLO A3 Recognize regions of the body, anatomical planes, and Describe directional terms used in anatomy. LLO A4 Describe the relation between cell, tissue, and body systems. LLO A5 List the fundamental tissue of the animal body. LLO A6 Describe the basic structure of the epithelium. LLO A7 Describe connective tissue, its types, and examples;	1, 2
	explain the superficial and deep fascia. LLO A8 Describe the basic structure and function of muscle tissue, classify, and recognize different types of muscles. LLO A9 Describe the gross structures and function of the tendons, ligaments, synovial bursa, and tendon/synovial sheath. LLO A10 Describe the composition, structure, function, and classification of the bone tissue. LLO A11 List parts of the long bone. LLO A12 Describe the pattern of blood supply to a long bone. LLO A13 Describe the basic components of the nervous system of the dog and cat. LLO A14 Recognize various functional divisions of the nervous system of the dog and cat. LLO A15 Differentiate components of the Central Nervous System (CNS), Peripheral Nervous System (PNS), and Autonomic Nervous System (ANS).	
11 – 19 Arthrology – General, Appendicular (Limbs) & Axial (Vertebral column).	LLO B1 Define joint, describe, and classify different types of joints of the body. LLO B2 Describe the fibrous, cartilaginous, and synovial joint. LLO B3 List the characteristics of the synovial joint and classify the synovial joints. LLO B4 List and describe the structure of joints of the forelimb of the dog and cat. LLO B5 Recognize the structures associated with joints of the forelimb such as ligaments,	2,3, 4

	joint cavities, and associated structures. LLO B6 Describe the structure of joints of the hindlimb of the dog and cat. LLO B7 Recognize the structures associated with each joint of the hindlimb such as ligaments, joint cavities, and associated structures. 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. LLO B9 Recognize various ligaments of the vertebral column. LLO B10 Understand the basic organization of the muscles of the vertebral column e.g., epaxial and hypaxial muscle systems. LLO B11 Classify the joints of the forelimb, hindlimb, and vertebral column; and know the specific movements present in each joint.	
20 - 24 Thoracic Cavity and Respiratory Apparatus	LLO C1 Describe the visceral spaces, list the primary body cavities and their content. LLO C2 Recognize the structures located within and outside of the visceral space of the neck. LLO C3 Describe the course of the esophagus and its relationship with the trachea. LLO C4 List parts of the respiratory apparatus in the canine and feline species. LLO C5 Describe the structure, function, and topography of the parts of the respiratory apparatus i.e., Nose, nasal	2,3, 4
	cavity, larynx, trachea, lungs, and thoracic wall. LLO C6 Describe the structure of the paranasal sinuses and their relationship with the nasal cavity and carnassial teeth. LLO C7 Describe the structure and recognize the relationship between the thoracic cavity, pleurae, pleural cavity, and the thoracic wall. LLO C8 Describe the structure and function of the mediastinum and diaphragm. LLO C9 Discuss the pattern of lobation and lobulation of the canine and feline lungs. Recognize the clinical lung field. LLO C10 Describe the structure and function of the diaphragm. List the important structures that pass through the diaphragm. LLO C11 Underline the differences in the respiratory system and thoracic wall of the dog and cat.	

25 - 31 Cardiovascular System and Lymphatic system	LLO D1 Explain the surface anatomy, internal structure, blood and nerve supply, and function of the heart. LLO D2 Describe the structure of the pericardium and pericardial cavity. LLO D3 Discuss the association between the pleura and pericardium. LLO D4 Recognize the large blood vessels associated with the heart.	2,3, 4
	LLO D5 Classify the blood vessels depending upon their gross structures. LLO D6 Discuss the pattern of systemic and pulmonary blood circulation in adult animals. LLO D7 List the paired and unpaired branches of the thoracic and abdominal aorta. LLO D8 list important landmarks on the thoracic wall used in auscultation of the heart. LLO D9 Underline the differences in the cardiovascular system of the dog and cat. LLO D10 Describe the organs of the lymphatic system of the body. LLO D11 List and describe the major lymphatic vessels of the body.	
32 – 40 Abdomen - Digestive System and urinary apparatus	LLO E1 Describe the structure and function of the abdominal wall. LLO E2 List the muscles that form the abdominal wall. LLO E3 Describe the linea alba and rectus sheath. LLO E4 Describe the peritoneum, peritoneal cavity, and the mesenteries associated with abdominal viscera. LLO E5 List parts of the digestive system of the dog and cat. LLO E6 Describe the structure of the mouth and oral cavity, lips, cheeks, palate, and associated structures. LLO E7 List the components of the elementary canal. LLO E8 Describe the structure and function of the esophagus, stomach, intestines, rectum, anal canal, anus, and anal sphincters.	2,3, 4
	LLO E9 List the mesenteries associated with the elementary canal. LLO E10 Discuss the topography of the digestive system and abdominal organs.	

	LLO E11 Describe the structure of the accessory organs and glands of digestion i.e. the tongue, teeth, salivary glands, pancreas, and liver. LLO E12 Underline the differences in the digestive system and abdominal wall of the dog and cat. LLO E13 List the organs of the urinary apparatus of the dog and cat. LLO E14 Describe the external and internal structure of the kidneys of the dog and cat. LLO E15 Discuss the topographic anatomy of the kidneys in the dog and cat. LLO E16 Discuss the structure and topography of the ureters. LLO E17 Describe the structure of the urinary bladder, its location, and its relationship with the urethra in male and female animals. LLO E18 Underline the differences in the urinary apparatus of the dog and cat.	
41 - 42 The pelvic region and Female reproductive system	LLO F1 Discuss the structure of the pelvic cavity, its relationship with the abdominal cavity, and its excavations. LLO F2 List parts of the female reproductive system. LLO F3 Describe the structure and topography of the female gonads i.e. Ovary in the dog and cat.	2,3, 4
	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. LLO F5 Discuss the structure and function of the accessory sex glands present in the female dog and cat. LLO F6 Describe the birth canal in the female. LLO F7 Describe the structure of the perineum (male and female), list the muscles involved in the formation of the pelvic diaphragm. LLO F8 Describe the anal and urogenital triangles in the male and female. LLO F9 Underline the differences in the female reproductive tract and organs of the dog and cat.	
43 - 45 The pelvic region and the male reproductive system.	LLO F10 List the organs of the male reproductive system of the dog and cat. LLO F11 Describe the structure of the urethra in the males. LLO F12 describe the structure and function of the penis and prepuce of the dog and cat.	2,3, 4

	LLO F13 Describe the structure of the testes in the dog and cat. LLO F14 Discuss and compare the location of the testes and scrotum in the dog and cat. LLO F15 Describe the spermatic cord and vaginal tunic in the dog and cat.	
	LLO F16 Discuss the general features of the inguinal canal and its association with the male and female reproductive organs. LLO F17 Discuss the structure of the male accessory sex glands present in the dog and cat. LLO F18 Discuss The “Tie/lock” mechanism in the dog LLO F19 Underline the differences in the female reproductive tract and organs of the dog and cat.	
46 – 57 The head and nervous system of the dog with Organs of the Special Sense.	LLO G1 Describe the structure of the meninges, discuss the circulation of the cerebrospinal fluid and venous sinuses associated. LLO G2 Describe the general features of the nervous system of the dog. Differentiate components of the CNS, PNS, and ANS. LLO G3 Describe the structure of the spinal cord, brachial plexus, and Lumbosacral plexus. LLO G4 List parts of the brain of the dog and cat. LLO G5 Describe the gross structure of the major divisions of the brain. LLO G6 Describe the ventricular system of the brain and circulation of the CSF through the brain and spinal cord. LLO G7 List all the Cranial Nerves and discuss their role in the innervation of the respective organs, respective division of the nervous system. LLO G8 Discuss the structure and passage of the major cranial nerves.	2,3, 4
	LLO G9 List the basic components of the autonomic nervous system and nerve supply to the viscera LLO G10 Describe the structure and function of the organs of special sense, the Ear and Eye.	
55 The Endocrine System	LLO H1 List the endocrine glands of the body and their function. LLO H2 Describe the structure and topography of the endocrine glands.	2,3, 4
Laboratory session & Topic	**Your lecture/lab Learning Outcome**	**Course learning outcome** **Number/s**
1	LLO I1 Osteology – Osteological terms LLO I2 Understand the general	N/A 1,2,

Introduction The Appendicular skeleton – Forelimb and Hindlimb	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.	
2 – 7 (5 sessions)	**Forelimb / Pectoral Limb**	1,2,3, 4,
The Muscular System – forelimb and Hindlimb (Myology – Forelimb, and Hindlimb)	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. lateral and medial muscles of the scapula and shoulder. 2. caudal muscles of the brachium (Arm) 3. cranial muscles of the brachium (Arm). 4. Cranio-lateral muscles of the antebrachium (forearm) 5. Caudo-medial muscles of the antebrachium (Forearm) LLO J5 List major differences in the extrinsic and intrinsic muscles of the forelimb of the dog and cat. **Hindlimb/Pelvic Limb** LLO J6 Identify the muscles of the gluteal region and the hindlimb of the dog and cat. LLO J7 Describe the origin, insertion, function, and innervation of the following muscles of the Hindlimb of the dog and cat 6. Caudal muscles of the thigh 7. Medial Muscles of the thigh 8. Lateral Muscles of the pelvis 9. Caudal Hip Muscles	
	10. Cranial Muscles of the Thigh 11. Muscles of the Leg (Crus) LLO J8 List major differences in the muscles of the hindlimb of the dog and cat.	

8 – 9 (1 and a half sessions) The Axial Skeleton and the Muscles of the trunk.	LLO J9 Identify and describe the bones of the Axial Skeleton. LLO J10 List the major differences in the axial skeleton of the dog and cat LLO J11 Identify the hypaxial and epaxial muscles of the neck and trunk. LLO J12 Identify and describe the origin, insertion, function (action), and innervation of the epaxial and hypaxial muscle systems. 1. Hypaxial muscles of the neck, thoracic wall, and abdominal wall. 2. Epaxial Muscles systems i.e. transversospinalis system, Iliocostalis System and Longissimus system 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. LLO J14 List major differences in the muscles of the neck and trunk of the dog and cat.	1,2,3, 4,
9 – 10 (1 and a half sessions)	LLO B12 Identify all the joints of the forelimb LLO B13 Identify, parts, and associated structures of the following joints of the forelimb 1. shoulder Joint,	1,2,3, 4,
Joints of the forelimb, hindlimb and vertebral column	2. Cubital joint 3. carpus 4. distal interphalangeal joint LLO B14 Identify all the joints of the hindlimb LLO B15 Identify, parts, and associated structures of the following joints of the hindlimb 1. The hip/coxal joint 2. The stifle /genual joint 3. The tarsus	
	LLO B16 Identify the Altalnto-occipital and atlantoaxial joint and their parts LLO B17 Recognize the differences in the joints of the dog and cat.	
11 – 14 (4 sessions) The Neck and Thorax	LLO K1 Identify the blood Vessels and Nerves of the neck LLO K2 Thorax region of the dog and cat. 1. Superficial Vessels and Nerves of the Thoracic wall 2. Deep Vessels and Nerves of the Thoracic Wall	1,2,3, 4
	LLO K3 Identify and describe the following structures in the thoracic cavity of the dog and cat.	
	3. the Pleura and Mediastinum, 4. Lungs 5. Veins Cranial to the Heart 6. Arteries Cranial to the Heart 7. Thoracic Aorta and Its Branches	

	8. Components of the Autonomic Nervous System 9. Vessels and nerves of the thoracic cavity		
	LLO K4 Identify and describe the Heart, pericardium, and associated structures in the dog and cat. LLO K5 Recognize the major differences between the dog and cat in the thoracic cavity and its organs.		
15 – 16 (2 Sessions) Blood vessels and Nerves of the Thoracic limb.	LLO L1 Describe and identify the major blood vessels of the thoracic limb and blood circulation in the thoracic limb. LLO L2 Describe the major areas supplied and drained by following blood vessels and identify them. 1. Axillary artery and branches 2. Brachial artery and branches 3. Median artery and branches 4. Arteries of the forearm and paw LLO L3 Describe the innervation of the forelimb in general. LLO L4 Identify the brachial plexus and describe the nerves that form the brachial plexus, and all the nerves derived from the brachial plexus. 1. Nerves of the scapular region and arm 2. Nerves of the forearm and paw LLO L5 Describe the differences in the vasculature and innervation of the forelimb in the dog and cat.	1,2,3, 4	
17 – 20 (3 sessions)	LLO E1 Identify the vessels and nerves of the ventral and lateral parts of the abdominal wall, describe the pattern of distribution of vasculature	1,2,3, 4	
The abdomen and the pelvis The Digestive, Urinary, and the reproductive organs	LLO E2 LLO E3 LLO E4 LLO E5 LLO E6 LLO E7	and nerves in this region of the body. Identify the Inguinal Structures, i.e. Inguinal rings, inguinal canal, vaginal tunic, vaginal process, pudendal vessels and nerves, and lymph node. Describe the abdominal and Peritoneal Cavities, and identify the parietal and visceral peritoneum. Identify the organs of the digestive system and urinary system in the abdominal cavity. Describe the topography of the abdominal viscera. Identify the liver and its lobes, biliary system, gall bladder, pancreas, and spleen. Identify the blood vessels and nerves of the abdominal cavity, describe their architecture, including visceral and parietal branches of the abdominal aorta.	

	LLO F1 LLO F2 LLO F3 LLO F4 LLO F5	Identify parts of the male and female reproductive system in the pelvic cavity of the dog and cat. Describe the topography of the organs of the male and female reproductive systems. Identify the external and internal iliac arteries and their branches responsible for blood supply to the pelvic viscera. Describe the general pattern of innervation and identify the nerves in the pelvic cavity and pelvic wall. Identify the mammae.	1,2,3, 4
	LLO F6	Describe the differences in the male and female reproductive organs of the dog and cat.	
21 - 22 Blood vessels and Nerves of the Hindlimb	LLO L6 Describe the major blood vessels of the pelvic limb/hindlimb and blood circulation in the pelvic limb. LLO L7 Describe the major areas supplied and drained by following blood vessels and identify them.		1,2,3, 4
	1. The femoral artery and its branches 2. The popliteal artery and its branches 3. The saphenous artery and its branches 4. The cranial tibial artery and its branches		
	LLO L8 Describe the innervation of the hindlimb in general. LLO L9 Identify all the nerves derived from the lumbosacral plexus, describe the formation of the lumbosacral plexus. LLO L10 Identify the following nerves in the hindlimb		
	5. The femoral, ischiatic/sciatic, and obturator nerves. 6. Nerves of the gluteal region and thigh. 7. Nerves of the crus and pes.		
	LLO L11 Describe the differences in the vasculature and innervation of the hindlimb in the dog and cat.		
23 – 26	LLO M1	Identify and describe the bones of the skull and their	1,2,3, 4
(4 Sessions) The Head of the dog	important features in the dog and cat. 1. Dorsal and Lateral Surfaces of the Skull 2. Ventral Surface of the Skull 3. Caudal Surface of the Skull 4. Mandible 5. Cavities of the Skull LLO M2 Identify and describe the following structures in the head of the dog. 1. Muscles of the facial expression and major muscles of mastication. 2. Oral Cavity and the pharynx in the sagittal section of the head. 3. Nasal cavity and the Larynx in the sagittal section of the head. 4. The External Ear 5. The Eye and Related Structures 6. The Major Blood vessels and nerves of the head LLO M3 Underline the differences in the above-mentioned structures of the head of the dog and cat.		

	LLO M4 Identify and describe the following structures of the Head and the vertebral column 1. Brain, 1. Cerebrum-Surface Structures 2. Cerebellum 3. Brain Stem-Surface Structures 4. Diencephalon 5. Mesencephalon 6. Ventral Metencephalon 7. Myelencephalon 8. Telencephalon b. The spinal cord, spinal nerve, and associated structures	
	LLO M5 List the major structural differences in the brain of the dog and cat.	

Note –

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.

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	**Program Level Outcome (SVM)**
At the end of this course 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. CLO 2. Students should be able to use the anatomic language appropriately and demonstrate a complete understanding of the anatomic planes and directional terms as well as its application in the clinical setting. CLO 3. Students should demonstrate a thorough understanding of the systemic anatomy (body systems) and be able to explain the structure, function and topography of the organ systems, and understand the differences between the dog and cat. *(Combination of Systemic, topographic, and Comparative anatomy)* 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. *(Clinical/ Applied Anatomy)*	**A. Core Medical Knowledge** A PLO 01. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. A PLO 06. Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.

Course Schedule

Course schedule is available as a separate document - Anatomy 1 ANPH 506 Weekly Schedule Spring 2022.docx

Credit hours and lecture hour equivalents:

Anatomy 1 – 5 Credit course General

45 Lecture hours + 30 (2 hrs.) Lab Sessions = Total 105 Hours of Teaching

Spring 2022

57 Lectures Hours + 28 (1 hr. 40 Min) lab sessions = Total 104 Hours of Teaching

Grading and Assessment Policy

must comply with SGU and SVM assessment guidelines

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

Types of assessment

No.	**Examination / Quiz**	**Date and Day** (Grenada time)	**Points**
1	**Quiz # 1**	**Week #5** Conducted on Examsoft – Proctored Quiz **Monday Feb 14, 2022 at 1.30 pm.**	**20**
2	**Midterm Lecture Examination** **And Midterm Lab** **Examination - Part 1**	(Week # 8) Examsoft – Proctored examination **Thursday, March 10, 2022, at 12.00 pm**	**60 + 20**
3	**Midterm Lab Examination - Part 2**	(Week # 8) Sakai Test and Quizzes **Due on Thursday, March 10, 2022,** **before 11.55 pm**	**20**
4	**Quiz # 2 (Examsoft)**	Week # 12 Examsoft – Proctored Quiz **Monday, April 04, 2022, at 1.30 pm**	**20**
5	**Final Lecture Examination** **And** **Final Lab Examination** **- Part 1**	(Week # 16) Examsoft – Proctored examination **Friday, May 06, 2022,** at **12.00 pm**	**60 + 20**
6	**Final Laboratory Examination**	(Week # 16) **Due on Friday, May 06, 2022,** **before 11.55 pm**	**20**
			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 parameters listed in the Assessment Policy for Students.

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.

In current hybrid course delivery method, the lab examination is likely to be conducted using the pictures only. Students should focus on Virtual Animal/canine Anatomy program (website) as a main resource. We will use the pictures from the same resource for the laboratory examination.

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**

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

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

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.

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.
    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

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.

Avian, Fish, and Exotic Animal Diseases

Course
PTHB 516
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Dave Marancik, DVM, PhD, CertAqVet, Associate Professor Email: dmaranci@sgu.edu
Tel: 473-444-4175 x 3837
Pathobiology Department
Office hours can be arranged with each professor for in-person and Zoom calls and through email for correspondence.

Sophie Moittié, LicVet, DVetMed, Assistant Professor Email: smoittie@sgu.edu

Dr. Dan Johnson, DVM, DABVP, Visiting Professor drdan@avianandexotic.com

Dr. Alfred Chikweto BVM, MSc, PhD Associate Professor Email: achikweto@sgu.edu Tel: 444-4175

Ms. Jonnel Edwards, BSc, MSc, Lab Demonstrator Email: jedward6@sgu.edu

Course Location
Lectures, course material, and schedules can be found online at: https://mycourses.sgu.edu/portal/site/22c04c89-8120-476d-8281-b2099998fc49

Required Resources

1. St. George's University, School of Veterinary Medicine, course notes on Diseases of Birds
2. St. George's University, School of Veterinary Medicine, course notes on Fish Diseases
3. St. George's University, School of Veterinary Medicine, course notes on Avian Diseases
4. St. George's University, School of Veterinary Medicine, course notes on Small Companion Mammals
5. St. George's University, School of Veterinary Medicine, course notes on Reptiles and Amphibians

Recommended Resources

1. Diseases of Poultry, Editor-in-chief: David E. Swayne. 13th edition (2013) Willey- Blackwell publication.
2. BSAVA Manual of Exotic Pets, 5^{th} edition (2010)
3. Avian Medicine and Surgery in Practice, Companion and Aviary Birds, 2^{nd} Edition (2016)
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. Mader's Reptile and Amphibians Medicine and Surgery, 3nd Ed (2019)
8. Clinical Anatomy and Physiology of Exotic Species, B.O'Malley (2005)
9. Ferrets, Rabbits and Rodents-Clinical Medicine and Surgery-2nd Edition, Edited by Kathy Quesenberry, Saunders Company
10. Laboratory Animal Medicine, 3rd Edition (2015), Elsevier Inc.
11. Pathology of Laboratory Rodents and Rabbits, 3rd Edition (2007), Blackwell Publishing

Accommodation

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

Other Requirements
None

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.

Course Learning 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.

Lesson Learning Outcomes

Lectures	Topic	
1	Fish	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	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	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	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	1. Distinguish important viral diseases of fish 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	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	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	Reptile/ Amphibian	1. Recall the major anatomical and physiological peculiarities of amphibians 2. Recognize the importance of correct husbandry practices 3. Demonstrate how to perform an amphibian physical exam 4. Be familiar with therapeutical and diagnostic techniques applied to amphibians 5. Identify the major diseases that affect captive amphibians
9	Reptile/ Amphibian	1. Recall the main anatomical peculiarities of reptiles 2. Appreciate the importance of the temperature for reptile physiological processes 3. Be able to make recommendations on reptile terrarium design 4. Apprehend the different nutritional needs of main reptile groups
10	Reptile/ Amphibian	1. Demonstrate adequate restraint techniques for lizards, snakes and chelonians 2. Understand how to perform a physical examination in reptiles 3. Be able to select and apply different diagnostic techniques in reptiles 4. Be familiar with common therapeutic routes in reptiles
11	Reptile/ Amphibian	1. Understand the importance of correct husbandry practices to avoid diseases in reptiles 2. Be familiar with common clinical signs of diseases in reptiles 3. Be able to apply adequate diagnostic techniques in reptiles 4. Describe how to treat selected diseases of reptiles
12	Reptile/ Amphibian	1. Know how to safely and efficiently induce anesthesia in different groups of reptiles 2. Understand the importance of providing analgesia and supportive treatment during surgical procedures in reptiles 3. Describe basic anesthesia monitoring techniques in reptiles 4. List common reptile surgical procedures
13-22	Small Companion Mammals	1. Identify the medical, physical, husbandry and dietary needs of rabbits, rodents, ferrets, mice and other small mammals. 2. Apply proper examination and diagnostic techniques. 3. Identify and comprehend major diseases of concern for captive and wild species.

23	Companion Birds	1. Recall the major anatomical peculiarities of birds 2. Understand the physiology of the avian respiratory, digestive, reproductive and urinary systems.
24	Companion Birds	1. Understand the role of the veterinarian in ensuring captive bird welfare 2. Recognize commonly kept species and their characteristics 3. Learn adequate husbandry practices for pet birds 4. Be able to recommend the best diet for pet birds
25	Companion Birds	1. Understand the importance of the anamnesis for avian patients 2. Learn how to properly restrain pet birds 3. Demonstrate how to perform a physical examination in a bird 4. Be familiar with simple veterinary procedures commonly performed during the avian consult
26	Companion Birds	1. Understand the challenges associated with avian hematology 2. Describe the different techniques for blood cell counts in avian patient 3. Recognize the different blood cells in birds 4. Understand the diagnostic value of biochemical parameters used in birds
27	Companion Birds	1. Select adequate sample techniques for birds 2. Be able to interpret the fecal gram stain of psittacine 3. Recognize adequate positions and view for the bird radiographs and identify normal organ appearances 4. Know the basic protocol for avian post-mortem examination
28	Companion Birds	1. Understand the role of inadequate nutrition and husbandry in avian non-infectious diseases 2. Describe how to diagnose and manage commonly presented non infectious diseases of birds
29	Companion Birds	1. Recognize clinical signs associated with common viral diseases in birds 2. Be able to select adequate diagnostic techniques for each suspected viral disease 3. Describe how to prevent the transmission of viral diseases in pet birds
30	Companion Birds	1. Be familiar with the mode of transmission and clinical signs of common bacterial, parasitic and fungal disease in birds 2. Be able to choose and combine adequate diagnostic methods for selected avian infectious diseases 3. Cite therapeutic options for important bacterial, fungal and parasitic diseases of birds
31	Companion Birds	1. Describe how to induce, maintain and recover a bird safely and effectively 2. Be aware of common causes of anesthetic complications 3. Recognize species-specific features that may influence anesthetic approaches. 4. Be able to provide critical care to avian patients
32	Companion Birds	1. Be able to choose adequate analgesic drugs for the avian patient 2. Describe the basic principles of avian surgery 3. Be able to select adequate equipment for avian surgical procedures 4. Be familiar with most common surgical procedures performed on pet birds
33	Commercial Birds	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.
34	Commercial Birds	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.
35	Commercial Birds	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.
36	Commercial Birds	1. Name the diseases caused by Escherichia coli in avian species. 2. Describe the mode of transmission of *E. coli* 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 *E. coli* infection in avian species.

37	Commercial Birds	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.
38	Commercial Birds	1. List species of bacteria causing infectious coryza and chlamydiosis in avian species. 2. Describe the mode of transmission of chlamydiosis and infectious coryza in avian species. 3. Describe the clinical signs, pathology and method of diagnosis of Chlamydia and infectious coryza in avian species.
39	Commercial Birds	1. Explain the classification of NCD virus based on the pathogenicity. 2. Compare and contrast the clinical signs and gross lesions of various pathotypes of NCDV. 3. Describe etiology, mode of transmission and clinical signs of Marek's disease. 4. Describe prevention and control of NCD and Marek's disease.
40	Commercial Birds	1. Describe etiology of avian influenza in various avian species. 2. Differential features of strains in relation to transmission, clinical signs and pathology in different avian species. 3. Describe etiology, clinical signs, lesions, diagnosis, prevention and control of infectious bursal disease.
41	Commercial Birds	1. Describe etiology and epidemiology of fowl pox, infectious bronchitis (IB) and Egg drop syndrome (EDS 76). 2. List avian species and age groups affected. 3. Describe clinical signs and pathology in various age groups. 4. Describe methods of diagnosis and prevention of fowl pox, IB and EDS 76.
42	Commercial Birds	1. Describe economic importance of fungal diseases. 2. Describe etiology, clinical signs and pathology of fungal diseases. 3. Describe methods of diagnosis, prevention and control of fungal diseases. 4. Name various deficiency diseases and their economic impact. 5. Describe clinical signs, and pathology of nutritional deficiency diseases. Apply the most suitable treatment for Vitamin E and D deficiencies.

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

Course Schedule

Week	**Lecture**	**Day/Date**	**Lecturer**	**Topic**
1	1	Tues 18 Jan	Marancik	Aquatic Medicine
	2	Wed 19 Jan	Marancik	Aquatic Medicine
	3	Thurs 20 Jan	Marancik	Aquatic Medicine
	4	Fri 21 Jan	Marancik	Aquatic Medicine

Week	**Lecture**	**Day/Date**	**Lecturer**	**Topic**
2	5	Mon 24 Jan	Edwards	Aquatic Medicine
	6	Tues 25 Jan	Marancik	Aquatic Medicine
	7	Wed 26 Jan	Marancik	Aquatic Medicine
	8	Fri 28 Jan	No class, Case Study Assignment	
Aquatic Assignment Due Saturday, 29 Jan at 11:55 pm				

Week	Lecture	Day/Date	Lecturer	Topic
3		Mon 31 Jan	Quiz 1	Aquatic Medicine
	9	Mon 31 Jan	Moittie	Reptile/Amphibian Med
	10	Thurs 3 Feb	Moittie	Reptile/Amphibian Med

Week	Lecture	Day/Date	Lecturer	Topic
4	11	Tues 8 Feb	Moittie	Reptile/Amphibian Med
	12	Thurs 10 Feb	Moittie	Reptile/Amphibian Med
	13	Fri 11 Feb	Moittie	Reptile/Amphibian Med

Week 5: No lectures

Week	Lecture	Day/Date	Lecturer	Topic
6	14	Mon 21 Feb	Johnson	Small Mammal Medicine
	15	Tues 22 Feb	Johnson	Small Mammal Medicine
	16	Wed 23 Feb	Johnson	Small Mammal Medicine
	17	Thurs 24 Feb	Johnson	Small Mammal Medicine
	18	Fri 25 Feb	Johnson	Small Mammal Medicine

Week	Lecture	Day/Date	Lecturer	Topic
7	19	Mon 28 Feb	Johnson	Small Mammal Medicine
	20	Tues 1 March	Johnson	Small Mammal Medicine
	21	Wed 2 March	Johnson	Small Mammal Medicine
	22	Thurs 3 March	Johnson	Small Mammal Medicine
	23	Fri 4 March	Johnson	Small Mammal Medicine

Week	Lecture	Day/Date	Topic
8	Mid-Term	Thurs 10 March 12:00 pm	Reptile/Amphibian Medicine and Small Companion Mammal Medicine

Week	Lecture	Day/Date	Lecturer	Topic
9	24	Tues 16 March	Moittie	Companion Bird Medicine
	25	Thurs 17 March	Moittie	Companion Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
10	26	Mon 21 March	Moittie	Companion Bird Medicine
	27	Tues 22 March	Moittie	Companion Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
11	28	Mon 28 March	Moittie	Companion Bird Medicine
	29	Tues 29 March	Moittie	Companion Bird Medicine
	30	Wed 30 March	Moittie	Companion Bird Medicine
	31	Thurs 31 March	Moittie	Companion Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
12	32	Mon 4 April	Moittie	Companion Bird Medicine
	33	Tues 5 April	Moittie	Companion Bird Medicine
	34	Wed 6 April	Chikweto	Commercial Bird Medicine
	35	Thurs 7 April	Chikweto	Commercial Bird Medicine
Companion Bird Assignment Due Saturday, 9 Moittie at 11:55 pm				

Week	Lecture	Day/Date	Lecturer	Topic
13	36	Mon 11 April	Chikweto	Commercial Bird Medicine
	37	Tues 12 April	Chikweto	Commercial Bird Medicine
	38	Wed 13 April	Chikweto	Commercial Bird Medicine
	39	Thurs 14 April	Chikweto	Commercial Bird Medicine

Week	Lecture	Day/Date	Lecturer	Topic
14	40	Tues 19 April	Chikweto	Commercial Bird Medicine
	41	Wed 20 April	Chikweto	Commercial Bird Medicine
	42	Thurs 21 April	Chikweto	Commercial Bird Medicine
	43	Fri 22 April	Chikweto	Commercial Bird Medicine

Week	Lecture	Day/Date	Topic
17	Final	Fri 13 May 12:00 pm	Companion and Commercial Bird Medicine

Schedule for Laboratory

Lab Group	Day	Date	Time	Topic/Venue	Lecturer
Group A	Fri	21 Jan	1:30 pm	Fish/AAMRL	Dr. Marancik, Ms. Edwards
Group B	Fri	21 Jan	2:45 pm	Fish/AAMRL	Dr. Marancik, Ms. Edwards
Group C	Fri	21 Jan	4:00 pm	Fish/AAMRL	Dr. Marancik Ms. Edwards

Grading and Assessment Policy
There will be **ONE Quiz and TWO examinations** (mid-term and final) 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.

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters listed in the Assessment Policy for Students 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.

There will be **TWO 10-point assignmen**ts given in the Aquatic Animal Medicine and Companion Bird sections. Short answer assignments will be graded with the following rubric.

Criteria	Exemplary 5	Good 4	Acceptable 3	Needs improvement 2	Unacceptable 1	Not present 0	Total Points
Focus	Answer is clearly stated and important points are present. Extraneous information is not given.						
Content	Information presented is correct and clearly supports the question.						
Organization	Information is arranged logically.						
Tone	The tone is consistently professional and appropriate.						
Writing mechanics	The writing is free of grammatical and spelling errors.						
SCORE / 10 points							

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.

The assessment schedule is as follows:

Quiz 1: 10 points (Aquatic Animal Medicine)

Case Study Assignment 1: 10 points (Aquatic Animal Medicine)

Exam 1 (Mid-Term): 30 Points (Reptiles/Amphibians and Small Companion Mammal Medicine)

Question Assignment: 10 points (Companion Bird Medicine)

Exam 2 (Final): 40 points (Companion and Commercial Bird Medicine) Total points: 100 points

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.

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.

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.

Attendance/Participation Policy
Lecture and laboratory attendance and absence policies adhere to those outlined in the St. George's University Student Manual.

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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
    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

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Basic Animal Physiology

Course
VSCI 400
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section

Course Faculty and Staff Information
Course Director & Instructor

Dr. Naseer Kutchy, SVM

- Assistant Professor Vet. Physiology
- Tel: 444-4175 ext. 3330
- Email: nkutchy@sgu.edu
- **Office hours** are offered one-to-one individual/small groups by appointment and collective office hours for the whole class and students away from Grenada via Zoom Thursday at 2:30 pm.

Co-Course Director & Instructor

Dr. Hector Zerpa, SVM

- Prof. Vet. Physiology, SVM
- Tel: 444 - 4175 ext. 3852
- Email: hzerpago@sgu.edu
- **Office hours** are offered one-to-one individual/small groups by appointment and collective office hours for the whole class and students away from Grenada via Zoom Thursday at 2:30 pm.

Instructor

Dr. Hugo Hernandez Fonseca, SVM

- Prof. Vet. Physiology, SVM
- Tel: 444 - 4175 ext. 3328
- Email: hfonsec1@sgu.edu
- **Office hours** are offered one-to-one individual/small groups by appointment and collective office hours for the whole class and students away from Grenada via Zoom Thursday at 2:30 pm.

Instructor

Dr. Rolf Larsen

- Prof. Theriogenology, Senior Associate Dean
- Office: Dean of Veterinary Medicine Office SVM (SGU campus map: # 21)
- Tel: 444-4175 x3795
- Email: rlarsen@sgu.edu

Office hours are offered one-to-one individual/small groups by appointment and collective office hours for the whole class and students away from Grenada via Zoom Thursday at 2:30 pm.

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).

Required Resources
Visit the following link regarding the required computer specifications.

https://www.sgu.edu/office-of-information-technology/student-information/itcomputerrecommendations/

Recommended Resources

- The recommended textbook for this course is:

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

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

- Ganong's Review of Medical Physiology by Barrett KE, Barman SM, BoitanoS, 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

Special 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

Course Rationale
This course is an introductory course in animal physiology which prepares future veterinary students for the SVM-DVM program, i.p. the Veterinary Physiology I and II courses. This course familiarizes students with basic concepts of animal physiology, using a system's approach. Students will acquire basic working knowledge of physiological functions in health and basic understanding of interrelationships between various body systems. The student will be exposed to consequences and signs of these system's malfunctions and to simple clinical cases.

Course Level Outcomes
Upon completion of the Basic Animal Physiology course, students should be able to:

1. describe the fundamental mechanisms underlying normal function of cells, tissues, organs, and organ systems of animals, commensurate with the requirements for a student entering the DVM program.
2. integrate knowledge about the physiological functions of organ systems to explain basic mechanisms of whole-body homeostasis.
3. apply knowledge of physiological mechanisms and their regulation to explain the pathophysiology underlying some commonly seen diseases in veterinary practice.

Lesson Learning Outcomes
Detailed lecture learning outcomes have been designed for every section and are found in the course handouts, which will be posted on Sakai.

Alignment of Course Learning Outcomes with SGU-SVM Program Learning Outcomes
(please note that this table contains only those Program Level Learning Outcomes, which are relevant for the VSCI400 course).

SVM Program Learning Outcomes	**Course Learning**
	Outcome #
A. Core Medical Knowledge	
1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.	**1, 2, 3**
2. Analyse homeostasis and disturbances thereof.	**1, 2, 3**

3. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases.	**3**
4. Explain the relationship between disease processes and clinical signs.	**3**

Grading and Assessment policy, and grading rubrics

The tentative assessment procedure of this course contains four (4) examinations: 1st examination (quiz), 2nd examination (midterm), 3rd examination (quiz) and a 4th examination (final exam). The 2nd and 4th examinations will contain modular and comprehensive questions. Modular examinations expect a student to demonstrate in-depth and detailed knowledge about the material covered. Detailed lecture learning outcomes are included in each handout. The comprehensive examinations serve to reinforce the knowledge acquired and tested previously, and will focus on broader concepts, integration, and clinical applications. All examinations are sequestered. Exams may contain multiple choice (single best answer), true/false, and fill-in blanks questions. Examination questions come from material covered in lectures, handouts, and any other sources the instructors indicate. All rules and regulations concerning examinations including EXAMSOFT are detailed in the SGU Student manual.

The assignments will be presented to the class during each module and the students must submit them individually via Sakai at the end of each module. The instructions for the assignment will be given by each instructor.

Assessment	**Content**	**Date**	**POINTS**
First Examination	Quiz: Lectures 01-9 February, 10 at 10:00 am	Week 4	20
Midterm week: Second examination	Midterm: Lectures 01-17 March, 10 at 10:00 am	Week 8	40
Third Examination	Quiz: Lectures 18-26 April 07 at 10:00 am	Week 12	20
Final: Fourth Examination	Final: Lectures 01-35 May, 05 at 10:00 am	Week 16	60
Written Assignments	One assignment per module	Due at the end of the module	20
TOTAL POINTS			**160**

Letter Grade	**Percentage**	**Number Grade**
A+	100	4
A	90-99	4
B+	85-89	3.5
B	80-84	3
C+	75-79	2.5
C	70-74	2
D	65-69	1
F	< 65	0

Recommended Study Strategies

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

1. pre-reading material before a lecture.
2. revising lecture material within 24 hours of the given lecture, ensuring that the material is understood.
3. for exam preparation, a self-challenge is crucial: explain the learned material to yourself first without having to refer to your handouts and notes. Use the lecture objectives for this purpose. 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 as if you were going to take oral exams.

Instructor's Expectations of the student

Students are always expected to adhere to the Professionalism Policy (see XVII) and demonstrate respect not only towards SGU faculty and staff, but also towards their fellow students and the general public.

The student is expected to attend the lectures, review the lecture recordings, assignments, and any other material indicated by the professor before zoom meetings.

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

Tentative Lecture Schedule: Basic Animal Physiology (VSCI 400 - Spring 2022)

Basic Animal Physiology (VSCI400) – Spring 2022		
Weeks	**Lecture Recording #**	**Module 1. Nerve & Muscle (NK)**
1 17- 21 January	1	Introduction and Principles of Transport Mechanisms
	2	Electrical events on the cell membrane.
	3	The Neuron and conduction of electrical impulses
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, January 20 at 02:30 pm AST
2 24-28 January	4	Autonomic Nervous System and reflexes
	5	Physiology of Muscle tissue.
		Module 2. Cardiovascular (NK)
	6	Introduction and Major Aspects
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and student away from Grenada via Zoom: Thursday, January 27 at 02:30 pm AST
3 31 January 04 February	7	The Heart and Electrocardiography
	8	The Pumping Function of the Heart and Cardiac cycle
	9	Circulation
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, February 03 at 02:30 pm AST
4 07-11 February		**First Examination: quiz, 20 Points / Lectures 1-9 February, 10 at 10:00 am**
		Module 3. Endocrinology (NK)
5 14-18 February	10	General Aspects
	11	Pancreas
	12	Thyroid gland
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, February 17 at 02:30 pm AST
6 21-25 February	13	Adrenal Gland and Grow Hormone
		Module 4. Hematology (NK)
	14	Overview and Plasma
	15	Red Blood Cells
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, February 24 at 02:30 pm AST
7	16	Platelets and Hemostasis

28 February 04 March	17	Leukocytes and Immune System
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, March 03 at 02:30 pm AST T
8 07-11 **March**		**Midterm week. Second Examination (midterm)/40 points: lecture recording: 1-17 March 10 at 10:00 am.**
9 14-18 March		**Module 5. Reproduction (RL)**
	18	How to graph the estrus cycle
	19	Reproductive cycle: cow
	20	Reproductive cycle: mare
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, March 17 at 02:30 pm AST
10	21	Reproduction: placenta
21-25 March	22	Reproductive cycle: canine
		Module 6. Renal (HHF)
	23	Renal: introduction
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, March 24 at 02:30 pm AST
11 28 March 01 April	24	Renal: filtration
	25	Renal: handling of important solutes by the nephron
	26	Renal: concentrated and diluted urine
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, March 31 at 02:30 pm AST
12 04-08 April		**Third examination: Quiz: 20 Points / Lectures 18-26 April, 07 at 10:00 am**
13 11-15 April		**Module 7. Respiration (NK)**
	27	Ventilation and Diffusion of gases
	28	Gas exchange
	29	Gas transport
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, April 14 at 02:30 pm AST
14 18-22 April	30	Control of Ventilation
		Module 8. Gastrointestinal (NK)
	31	General Aspects of Digestion
	32	Oral cavity, Pharynx, Esophagus, and Stomach
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, April 21 at 02:30 pm AST
15	33	Stomach, Pancreas, and Liver
25-29 April	34	Small intestine, Large intestine, and Ruminants.
	35	Small intestine, Large intestine, and Ruminants.
		One-to-one individual/small groups by appointment and collective office hours for the whole class every and students away from Grenada via Zoom: Thursday, April 28 at 02:30 pm AST

16 02-06 May		**FINAL EXAM VSCI400 (60 pts); Lectures 1-35 May 05 at 10:00 am**

Master Syllabus
School of Arts and Sciences Master Syllabi

Basic Small Animal Nutrition

Course
LAMS 540
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course director:

Dr. Afroza Khanam Instructor BSc, MSc, PhD Email: akhanam@sgu.edu
Contact via email and/or zoom office hours

Visiting Professor:

Dr. Cecilia Villaverde BVSc, PhD, DACVN, DECVCN Mark Morris Institute
Please contact via Course Director: 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

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)

Required Resources
Mark Morris modules (a link will be provided before the start of the course)

Recommended Resources
Links to recommended sources for background information on small animal nutrition will be provided in Sakai

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

Other Requirements
Internet access & zoom account

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.

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?

Lesson Learning Outcomes

Lecture /lab name and number	**Your lecture/lab Learning Outcomes:**	**CLO #**
1. Nutritional assessment for small animal species	**1-** Identify and describe the steps involved in performing a nutritional assessment **2-** Compare and contrast muscle and body condition scoring **3-** List common dietary and patient risk factors that indicate a need for further evaluation **4-** Obtain a detailed diet history from a pet owner **5-** Describe the components of a good nutrition recommendation	**1** **2** 2.5.6 **1** 2,3
2. Introduction to Pet Foods & Feeding Pets	1- Compare and contrast forms of pet food - dry, wet, semi-moist, treats 2- Categorize pet foods into common marketing classifications	4 4
3. Pet Food Labels	**1-** Explain what AAFCO is and how it works 2- Compare and contrast the role of the FDA vs AAFCO in pet food regulation	**8**

	3- Examine a pet food label and identify the major parts of the label and describe the importance of each 4- Compare and contrast the different methods of determination of nutritional adequacy **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 **6** Define common pet food marketing terms and describe how these terms relate to the nutritional properties of a diet **7** List the nutrients included in a guaranteed analysis and describe the limitations of the guaranteed analysis as a source of nutritional information	**8** **4** **4** **4** **4**
4. Pet Food Math	**1** Be able to describe the difference between nutrients being provided on an as-fed, as-packaged, dry matter, or energy basis **2** Be able to interconvert nutrients between as-fed, as- packaged, dry matter, and energy basis (g/ 1000 kcal)	**3** **3**
5. Alternative Diets	**1-** Argue for and against the use of home-cooked diets for healthy and for pets with health concerns. 2- List the factors that can contribute to nutritional adequacy concerns in home-cooked diets 3- Perform a preliminary assessment of homemade diet recipes based on the provided checklist 4- Explain the major risks of feeding raw diets to a friend or colleague 5- Differentiate between known and anecdotal attributes of raw diets.	**5** **5** **5** **5** **5**
6. Feeding healthy dogs and cats	**1-** Select an appropriate diet for a pet of any life stage 2- Estimate energy needs for any pet 3- Calculate a feeding dose for a specific pet using a given diet 4- Compare and contract the nutritional needs and physiology of dogs and cats 5- Explain differences in nutrient needs for small breed vs large breed puppies 6- DIscuss the differences in nutritional needs between growth, reproduction, maintenance, and aged life stages.	**1, 2, 3** 3 3 2 1.3 2,3

7. Dietary Supplements & Fatty Acids	**1**- Explain how dietary supplements are regulated and potential concerns with their use **2**- Be able to discuss the pros and cons of commonly recommend joint supplements	**7** **3,7**
8. Obesity	**1-** List 3 serious health concerns associated with overweight/obesity for dogs and for cats **2**- List 3 risk factors for obesity for dogs and for cats **3-** Compare and contrast options for determining ideal body weight **4-** Compare OTC "weight management" diets to therapeutic weight loss diets **5-** Formulate a weight loss plan for a cat or dog to to include initial calorie goals, diet, treats, amounts to feed of each, weight loss goals, and follow-up plan	**6** 6 1,6 6 6
9. Pet Food Label Lab	**1-** Locate and evaluate nutritional adequacy information on a pet food label 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 3- Utilize the AAFCO manual to look up pet food ingredients, lab regulation, and protocols for determining nutritional adequacy. 4- Calculate the cost of feeding of a specific food for a specific pet 5- Describe the common marketing categories and provide an example of a well-known diet that would fall into each category.	**4** **4.8** **8** **4** **4**

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
Identify the pros and cons of raw and home-cooked diets	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions. PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.
Identify risk factors for obesity and create a plan for both obesity prevention and treatment (i.e. weight loss plan) including an appropriate diet	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
Address common myths about pet food - grain-free, natural, by-products	PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions. PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health.
Describe how pet food is regulated - what organizations are involved and which aspects they are responsible for?	PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.

Course Schedule

	LAMS 540 Small Animal Nutrition (21540) **Spring 2022- Class Schedule**	
Name	**Description**	**Date**
Week # 10:		
Lecture 1: **(Live Zoom & recorded)**	**General introduction to animal nutrition**	**Mar 21 (1:30PM - 2:20PM AST) 1h**
Lecture 2: **(E-module)**	**Nutritional Assessment**	**Mar 22 (4:30PM - 5:20PM AST) 1h**
Lecture 3: **(E-module)**	**Intro to Feeding Pets**	**Mar 23(4:30PM - 5:20PM AST) 0.75h**
Lecture 4: **(E-module)**	**Interpreting Pet Food Labels**	**Mar 24 (4:30PM - 5:20PM AST) 1.25h**
Lecture 5: **(E-module)**	**Energy requirements and selecting pet food**	**Mar 25 (3:30PM - 4:20PM AST) 1h**

Week # 11:		
Assignment: (lecture 6)	**Online pet food label lab**	**Mar 29** **Due Monday, Apr 4 (by 12:00 PM AST)**
Lecture 7: **(Live Zoom & attendance required)**	**Discussion of pet food lab**	**Mar 29 (1:30PM - 2:20PM AST) 1h**
Lecture 8: (E-module)	**Alternative Diets**	**Mar 30 (4:30PM -5:20PM AST) 1h**
Lecture 9: **(Live Zoom & recorded)**	**Pet Food Math lecture**	**Mar 31 (1:30PM -2:20PM AST) 1h**
Lecture 10 & 11: (E-module)	**Feeding Healthy Dogs & Cats**	**Apr 1 (3:30PM - 5:20PM AST) 2h**
Week # 12:		
Assignment: (lecture 12)	**Quiz will be posted on Sakai**	**Apr 5** **Due Monday, Apr 11 (by 12:00 PM AST)**
Lecture 13: **(Live Zoom & recorded)**	**Dietary supplements**	**Apr 6 (4:30PM - 5:20PM AST) 1h**
Lecture 14: (E-module)	**Obesity**	**Apr 7 (4:30PM - 5:20PM AST) 1h**
Lecture 15: **(Live Zoom & attendance required)**	**Case examples & Q&A**	**Apr 8 (2:30PM - 3:20PM AST)** **(3:30PM - 4:20PM AST self-study)**
Week #17	FINAL EXAM May 11 (12:00 PM)	

Grading and Assessment Policy
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 May 11th, 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.

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.

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.

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.

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.

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) (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.

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.
    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

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Clinical Reasoning in Veterinary Medicine

Course
SAMS 530
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Adria Rodriguez, DVM, MSc, CVA, CVCH, MS TCVM

Associate Professor, Small Animal Medicine and Surgery and Professional Development

- Email: AlRodriguez@sgu.edu
- Office: Cassia Building Ground Floor (SGU Campus map #17)
- Office Hours: By appointment

Collaborating Faculty: See schedule

Course Location
ONLINE Live Zoom Seminars/Panopto

ONLINE Sakai *Weekly Requirements*

Required Resources
Software requirements: Sakai, Zoom, Panopto, Turning Point Mobile, Google Drive, Google Slides

Recommended Resources
Clinical Reasoning in Small Animal Medicine; Madison, Volk and Church, 2015

Accommodation

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

Other Requirements

- Equipment: Desktop or laptop computer, and/or tablet or other smart mobile device; functional camera, speakers and microphone
- Reliable internet connection

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.

Course Learning 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.

Lesson Learning 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

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	**Program Level Outcome**
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 decisionmaking 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	PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. 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 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 6Apply 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. 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 19Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences. PLO 20 Execute a comprehensive patient diagnostic plan (differential diagnosis list) and demonstrate problem solving skills to arrive at a diagnosis. PLO 21 Create comprehensive treatment plans including prognosis. 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. PLO 27 Demonstrate and model effective client communication and ethical conduct.

Course Schedule

Week	**Dates Mondays**	**Time**	**Lectures/Content**	**Assigned Task**	**Faculty**
0	Jan 10	-	No Content	-	-
1	Jan 17	-	No Content	-	-
2	Jan 24	1:30-3:20	The Clinical Reasoning Process and its Importance in Vet Med/Giving Productive Feedback/Peer Evaluation Process		Dr. Adria Rodriguez

				-	
3	Jan 31	1:30-2:20	Small Animal Oncology Case	Communication to the owner re: treatment options	Dr. Annie Corrigan
4	Feb 7		No Content-Holiday	-	-
5	Feb 14	1:30-2:20	Large Animal (Equine) Theriogenology Case	Post- Treatment Complications and their Management	Dr. Firdous Khan
6	Feb 21	1:30-2:20	Large Animal Surgery	Surgery Report	Dr. Heidi Janicke
7	Feb 28	1:30-2:20	Anesthesia Case	Anesthetic Plan	Dr. Flavia Restitutti
8	Mar 7	-	No Content-Midterms	-	-
9	Mar 14	-	No Content-Midterms	-	-
10	Mar 21	1:30-2:20	Small Animal Neurology Case	Discharge instructions	Dr. Jill Narak
11	Mar 28	1:30-2:20	Livestock Medicine	Treatment Sheet	Dr. Stacey Byers
12	Apr 4	1:30-2:20	TBA	-	-
13	Apr 11	1:30-2:20	Small Animal Dentistry	Discharge Instructions	Dr. Francesca Ivaldi

Grading and Assessment Policy

1. The course will be graded according to the SVM grading scale published in your gradebook. Grade will be determined by:
   A. Successful completion and timely submission of all assignments and peer assessments (see below)
   B. Mandatory engagement in the course content which includes:
      a. Attendance of all synchronous Zoom sessions
      b. Completion of pre and 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.
2. **Course Assignments:** Students will be responsible for completing a specific pre- and 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 the 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.

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. 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.

Instructor's Expectations of the Student

1. The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and assignment submission.
2. 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.

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.

Attendance/Participation Policy
Students are expected to be available during the standard 8:30am-5:20pm 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 (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.

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 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.

ExamSoft Policy
N/A

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Master Syllabus
School of Veterinary Medicine Master Syllabus

Comparative Veterinary Anatomy

Course
ANPH 503
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information

1. Course Director: **Tom A. Aire,** DVM, PhD, FCVSN, FAS Professor.
   Tel: 444 - 4175 Ext. 3327
   E-mail: taire@sgu.edu
2. Office Location: Marion Hall, Lower True Blue [Veterinary Office Building (SGU campus map: # 47)]
3. Office Hours: **by email**
4. 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]
5. Staff member names, credentials, title, email address is applicable
    1. Mr. Matthew Charles, Senior Technician; Ext. 3469; mcharle6@sgu.edu
    2. Mr. Curtis Hopkins, Technician; Ext. 3469; CHopkin2@sgu.edu

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

Required Resources
Required Textbooks and course handouts:

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

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**

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

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

Other Requirements
Laptops are as specified in the Students' Handbook and the Examinations Services

Course Rationale

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.

Course Learning Outcomes
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.

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.

Lesson Learning Outcomes
See under “SYLLABUS” on SAKAI

Alignment of Course Learning Outcomes with Program 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 CLO2 CLO3 CLO4 CLO5	PLO 1, PLO 4, PLO 6, PLO 7 PLO 1, PLO 4, PLO 6, PLO 7 PLO 1, PLO 4, PLO 6, PLO 7 PLO 1, PLO 4, PLO 6, PLO 7 PLO 1, PLO 4, PLO 6, PLO 7
CLO6 CLO7 CLO8 CLO9	PLO 1, PLO 4, PLO 6, PLO 7 PLO 1, PLO 4, PLO 6, PLO 7 PLO 1, PLO 4, PLO 6, PLO 7 PLO 1, PLO 4, PLO 6, PLO 7

Course Schedule
SEE "LECTURE AND LABORATORY SCHEDULE" on 'SYLLABUS'. **This** is, at best, a guide; it is not cast in stone, especially in these times of the *COVID-19* pandemic!

Grading and Assessment Policy
Assessment:

Grading scale

Grade	Percentage score	Grade Point
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

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."

5. Examinations and quizzes

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.

1. 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.

2. 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

1. **FIRST HALF OF TERM**

    1. Quiz 1 (Feb. 4, 2022) 20 points (Lect. Nos. 1-9)

    2. Mid-term Examination (theory) 60 points (Lect. Nos. 1-22)

    3. Mid-term Examination (laboratory) 40 points

        Total: 120 points

2. **SECOND HALF OF TERM**

    1. Quiz 2 (Apr. 1, 2022) 20 points (Lect. Nos. 23-30)

    2. Final Examination (theory) 60 points (Lect. Nos. 1-45)

    3. Final Examination (laboratory) 40 points

        Total: 120 points

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.

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.

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

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.

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) (taire@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.

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.
    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

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.

Diagnostic Imaging

Course
SAMS 513
Semester
Fall
Year
2021
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
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

Course Faculty and Staff Information

Administration: Ms Ruth Thornhill

SAMS, Cassia building, lower floor, True Blue Campus Email Address: rthornhill@sgu.edu

Course Location
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

Required Resources
All material supplied on MyCourses/ 2021-01-SAMS513-V-0- Diagnostic Imaging- (21139)

Recommended Resources
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.
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- 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/

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

Other Requirements
For the lab sessions, writing material of your choice is required to write responses for the cases provided during the labs.

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 s/he will encounter on the first day in clinical practice. The basic principles of how 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).

Course Learning 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 basic 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 anatomic features and anatomic 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

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 domestic species (equine, canine, feline and some bovine).	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 4 Explain the relationship between disease processes and clinical signs. 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 abdominal parenchymal organs detected by abdominal ultrasound.	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 4 Explain the relationship between disease processes and clinical signs. 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.
Appraise the normal heart and great vessels and the common abnormalities/ pathologies thereof on both radiographic and, basically, on echocardiograms.	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 4 Explain the relationship between disease processes and clinical signs. 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.
Explain the basic principles of image formation in radiology, ultrasound, CT, MRI and Scintigraphy.	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. PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
Recognize the best use of advanced diagnostic imaging modalities (CT, MRI, Scintigraphy) and in which cases to recommend what modality.	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 4 Explain the relationship between disease processes and clinical signs. 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.
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.	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 4 Explain the relationship between disease processes and clinical signs. 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.
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.	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 4 Explain the relationship between disease processes and clinical signs. 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. PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
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.	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 4 Explain the relationship between disease processes and clinical signs. 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.
Explain and recommend the use of ultrasound to perform interventional studies such as fluid/ tissue sampling and the standard practice of such.	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 4 Explain the relationship between disease processes and clinical signs. 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. PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.

Course Schedule

Lecture	Content	LLOs	Hours
Abdomen	-course intro -overview of DI/ image interpretation positioning/ anatomy review	To recognize common normal and abnormal radiographic findings of the extra- abdominal structures and peritoneal cavity	1

	-extra-abdominal & osseous structures -serosal definition		
Abdomen	-extra-abdominal & osseous structures -serosal definition -gastrointestinal tract	To recognize common normal and abnormal radiographic findings of the gastrointestinal tract	1
Abdomen	-gastrointestinal tract	To recognize common normal and abnormal radiographic findings of the gastrointestinal tract	1
Abdomen	-gastrointestinal tract	To recognize common normal and abnormal radiographic findings of the gastrointestinal tract	1
Abdomen	-kidneys -urinary bladder	To recognize common normal and abnormal radiographic findings of the kidneys & urinary bladder	1
Abdomen	-reproductive tract -caudal thorax	To recognize common normal and abnormal radiographic findings of the reproductive tract	1
Contrast studies	-GI/GU contrast studies	To recognize the indication for, and limitations of, contrast studies of the GI and GU tract	1
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
Thorax	-pleural space -mediastinum, trachea -esophagus	To understand the principles of trachea and esophagus radiology and the indications for contrast studies	1
Thorax	-cardiac silhouette -congenital heart disease -acquired heart disease	To recognize the radiographic changes associated with congenital and acquired heart disease	1
Thorax	-pulmonary parenchyma -cranial abdomen	To learn the classic features of pulmonary patterns and their typical distribution in various diseases.	1
Ultrasound	-physics overview	To understand ultrasound generation and its clinical indications, limitations and application	1
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

Echo	-principals, normal anatomy	To understand ultrasound generation and its clinical indications, limitations and applications	1
Echo	-congenital cardiac disease -acquired cardiac disease	To recognize and describe the common abnormalities seen on ultrasonography of patients with heart disease	1
MID-TERM EXAM	**Wednesday March 9**		
Equine 1	Equine MSK Positioning	Explain how and be able to recognize MSK projections and radiographic technique with particular consideration of personnel safety.	1
Equine 2	Equine MSK Pathology	Be able to identify and recognize common radiographic abnormalities of the equine limbs	1
Equine 3	Equine Spine/ Thorax	Explain how and be able to recognise 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 spine and thorax	1
Equine 4	Equine Skull	Explain how and be able to recognize equine projections and radiographic technique with particular consideration of personnel safety of the equine skull Be able to identify/ recognize common radiographic abnormalities of the equine skull	1
Quiz			
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
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
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
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
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
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 entheseophytes; septic arthritis; osteoarthritis / osteo- arthrosis/ degenerative joint disease; developmental joint disease: OC/ OCD, elbow dysplasia, hip dysplasia; patella luxation, immune mediated joint disease, polyarthropathies.	1
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

Small animal skull	Imaging of the canine and feline skull	Recognize 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
Vertebral column 1	Radiology of the small animal vertebral column	Recognize normal and variant skeletal morphology, anomalies, inflammatory, traumatic, metabolic, degenerative and neoplastic diseases of the vertebral column and the techniques to demonstrate them	1
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
REVIEW WEEK			
REVIEW WEEK			
FINAL EXAM @ Noon	Friday May 12, 2022	MSK, Advanced Imaging, Skull, Vertebral Column	

Lab Schedule SAMS 513 Fall 2021

Lab groups are appended after the Lab Schedule.

DATE	Lab No./Content	Lab Learning Objectives	Instructor
Week 2 Mon 1/ 24 A1-A7 A8-B5 Week 3 Mon 1/31 B6-C2 C3-C9, R1, R2	**Lab 1** **Abdomen**	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 5 Mon 2/ 14 A1-A7 A8-B5	**Lab 2** **Abdomen**	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 Mon 2/ 21 B6-C2 C3-C9, R1, R2			
Week 7 Mon 2/ 28 A1-A7 A8-B5 Week 9 Mon 3/ 14 B6-C2 C3-C9, R1, R2	**Lab 3** **Thorax**	Identify and interpret the common radiographic appearance the canine and feline thorax. Identify and differentiate common pathology of the thoracic structures. Practice review of case examples with question and answer discussions with instructors.	TH
Week 10 Mon 3/ 21 A1-A7 A8-B5 Week 11 Mon 3/ 28 B6-C2 C3-C9, R1, R2	**Lab 4** **Thorax**	Identify and interpret the common radiographic appearance the canine and feline thorax. Identify and differentiate common pathology of the thoracic structures. Practice review of case examples with question and answer discussions with instructors.	TH
Week 12 Mon 4/5 A1-A7 A8-B5 Week 13 Mon 4/ 11 B6-C2 C3-C9, R1, R2	**Lab 5** **MSK/Equine**	Identify and interpret the common radiographic conditions of the appendicular skeleton of the canine, feline and equine species. Identify and interpret the common pathologic conditions. Practice review of case examples with question and answer discussions with instructors	TH
Week 15 Mon 4/ 25 A1-A7 A8-B5 Week 16 Wed 5/4 B6-C2 C3-C9, R1, R2	**Lab 6** **MSK/Equine**	Identify and interpret the common radiographic conditions of the appendicular skeleton of the canine, feline and equine species. Identify and interpret the common pathologic conditions. Practice review of case examples with question and answer discussions with instructors	TH

Grading and Assessment Policy
There will be **1 Midterm exam, 1 Quiz**, and **1 Final exam**. All examinations will consist of MC and identification question types 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*/ *Examplify* 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 parameters listed in the Assessment Policy for Students.

Examination material will be based on all of the information provided on *MyCourses*, from lectures 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*. 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	Wednesday March 9	58	58	Abdomen, Thorax, U/S, Echo	Labs 1-4
Quiz On MyCourses	Week of March 21	20	20	Equine	
Final exam Examsoft	Thursday May 12	60	60	MSK Spine, Skull Advanced Imaging	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.**

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 summarized 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 ref resh 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.

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.

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.

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

Lecture attendance is expected. Attendance will be taken

Lab attendance is mandatory. Attendance will be taken. Due to the length of the lab sessions, and the interactive nature, lab sessions are NOT recorded.

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.

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 (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 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.

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 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 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.

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

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 *Examplify*, 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.

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Equine Internal Medicine

Course
LAMS 505
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Dr. Catherine Werners-Butler DVM, PhD, DECEIM Professor (Chair Large Animal Medicine & Surgery)
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Ms Ruth Thornhill SVM Secretary
Email: RThornhill@sgu.edu
Ext: 3474

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

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.

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.

Accommodation

1. Students 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

Other Requirements
Internet access & zoom account

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.

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

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

Lesson Learning Outcomes

Lecture /lab name and number	**Your lecture/lab Learning Outcomes:**	**CLO #**
1. **Physical Exam**	1. -Know how to perform a thorough equine physical examination in a safe way 2. **-**Identify the locations for intramuscular injection and venipuncture in the horse **3-** Identify the specific differences in an equine PE compared to a small animal PE	**2** **5** **2**
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 appropriate test and knowing its limitations	**3**
	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)**	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 2. Recognize the clinical signs of equine colic	**1** **2** **2** **3**
	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. **4-** Interpret the test results and realize that certain additional tests have potential risks (for the patient and/or clinician)	

4. **Fluid Therapy**	1. Develop a fluid plan for an individual equine patient based on physical examination findings and bloodwork distinguishing between hypovolemia and dehydration 2. Know the indications for fluid therapy and the limitations of fluid therapy in horses 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.	**4,5** **5** **2,3**
5. **Equine nutrition**	**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	**1,2** **5** **2**
	carbohydrates, fat and protein in the fore gut), hind gut fermentation (of structural carbohydrates (fiber)) and the vitamin + mineral dynamics. 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 3. Understand that acute changes in the equine diet are a major cause of colic	
6. **Equine Gastro Intestinal Tract: esophageal conditions**	1. Identify common pathological conditions of the equine esophagus (including choke and hypomotility) and determine whether they are medical or surgical 2. Provide treatment options for medical conditions involving the equine esophagus including emergencies 3. Provide information as to the prognosis and survival rate of the different conditions that can affect the esophagus	**1, 2** **4,5** **6**
7. **Equine Gastro Intestinal Tract: stomach conditions**	**1**-Understand the difference in the pathophysiology of Equine Gastric Ulcer Syndrome (EGUS) in adult horses and neonatal foals	**1,2** **2,3,4** **5**
	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 3. Determine the risk factors for the development of EGUS and Identify treatment options for EGUS	
8. **Equine Gastro Intestinal Tract: small intestinal conditions**	1. Explain the pathophysiology of equine inflammatory bowel disease and S-I enteritis. 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 3. Provide a prognosis and formulate a treatment plan for the different forms of inflammatory bowel disease and S-I enteritis 4. Identify pathological obstructive conditions of the equine small intestinal tract and determine whether they are medical or surgical 5. Provide medical treatment options for colic cases involving small intestinal obstruction / strangulation including: nasogastric intubation,	**1** **2,3** **4,5** **2,3,4** **5** **3,4,6**
	administering medication (dewormers, nsaid's, antimicrobials, parasympaticolytica, prokinetic medication, fluid, electrolytes....) **6-** Provide information as to the prognosis and survival rate of the different S-I obstructions/ strangulations	
9. **Equine large intestinal**	**1-**Identify pathological	**2,3**
conditions (diarrhea and obstructions/ strangulations)	conditions of the equine large intestinal tract including left dorsal displacement, right dorsal	**3,4** **2**
	displacement, left ventral	**5**
	colon impaction, colon torsion, pedunculated	**6**
	lipoma of the small colon,	
	sand impaction, right dorsal	
	colitis, salmonellosis,	
	clostridiosis,	
	cyathostominosis,	
	intussusception of ileum in	
	cecum, cecum impaction	

	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.	
	3-Know the risk factors for	
	the different large intestinal	
	conditions	
	4-Provide treatment options	
	for medical and surgical	
	conditions of the large	
	intestine mentioned above	
	5-Provide information as to	
	the prognosis and survival	
	rate of the different L-I conditions mentioned above	
10. Equine post operative care	**1-**Recognise post-operative complications including thrombophlebitis, laminitis, peritonitis, post-operative ileus, ventral midline incision infection, colic, fever through throrough monitoring of the patient using repeated physical exams, bloodwork and diagnostic imaging	**2,3,4** **5**
	2- Formulate a treatment plan for the post-operative patient including antimicrobial administration, nsaid's, fluid and diet.	
11. Equine Dermatology	**1-**Explain the etiology and	**1**
	pathophysiology of common equine dermatological	**2**
	conditions including equine sarcoid, melanoma,	**3**
	squamous cell carcinoma,	**5**
	dermatophilosis, dermatophytosis,	**6**
	hyperelastosis cutis, nodular	
	necrobiosis, papilomatosis,	
	folliculitis, pastern	
	dermatitis,	
	cellulitis/lymphangitis,	
	abcesses (caused by	
	streptococcus equi,	
	Corynebacterium	
	pseudotuberculosis,	
	clostridium spp, multi	
	resistant staphylococcus	
	aureus), lice, mite and tick	
	infestations, habronemiasis,	
	onchocercasis, 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 aforementioned diseases	

12. **Equine Neurology**	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. 2. Formulate an appropriate diagnostic testing plan and differential list for a horse	**1** **2,3** **2** **2,3** **5** **6**
	presenting with clinical signs of neurologic disease 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 proprioceptive deficits) 4. Diagnose cases of common equine neurologic diseases based on the presenting complaints, relevant historical information, physical exam findings and diagnostic test results 5. Develop a therapeutic and management plan for horses with aforementioned diseases 6. Discuss the prognosis of horses suffering from the aforementioned diseases	
13. **Endotoxemia**	1. Integrate knowledge of the pathophysiology of endotoxaemia and drug targets to create treatment plans for horses with endotoxaemia 2. Compare and contrast advantages and disadvantages of drugs used in equine endotoxaemia	**1,5** **5** **5**
	3-Clarify the clinical signs associated with equine endotoxaemia	
14. **Equine clinical pharmacology**	1. Integrate knowledge on pathophysiology of common equine diseases to create treatment plans 2. Evaluate treatment plans based on the therapeutic concept including Good Veterinary Practice and Antimicrobial Stewardship 3. Compare and contrast advantages and disadvantages of different treatment modalities	**1,5** **5** **5**
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	**1**
	pars intermedia dysfunction (PPID) and equine metabolic syndrome (EMS)	
	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 EMS	**3**
	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 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 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	**2,3,4**
	based on the presenting 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 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 hemolymphatic 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	**4,5**
	horses with aforementioned diseases	
	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 anemia, equine piroplasmosis, equine viral arteritis, equine granulocytic erlichiosis, lyme disease, leptospirosis, Corynebacterium pseudotuberculosis (pigeon fever) and vesicular stomatitis virus.	**1**
	3- Formulate an appropriate diagnostic testing plan and differential list for a horse presenting for vasculitis or the aforementioned equine diseases	**2**
	4- Interpret specific diagnostic test results for the aforementioned diseases	**3**
	5- Diagnose cases of common equine infectious diseases based on the presenting complaints, relevant historical information, physical exam	**2,3**
	findings and diagnostic test results	
	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**
22. **Ophthalmology**	1- Develop a plan for a comprehensive ophthalmologic exam in the equine patient including nerve blocks and topical medications	**2**
	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 habrenomiasis, onchocerciasis and common ocular neoplasia including squamous cell carcinoma, sarcoids and melanoma based on the presenting complaints, relevant historical information,	**2,3**
	physical exam findings and diagnostic test results	
	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 differential list for a horse presenting for suspect cardiac disease	**2**
	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** 25. **Neonatology**	1-Explain the etiology and pathophysiology of common equine respiratory disorders	**1**
	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
	4- Diagnose cases of: sinusitis, guttural pouch empyema & mycosis, *Rhodococcus equi* 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	2,3,4
	5- Develop a preventative, therapeutic and management plan for horses with the aforementioned diseases	4,5
	6- Discuss the prognosis of horses suffering from respiratory disease	**6**
	7- Develop a vaccination program to combat common respiratory pathogens	5
	1- Differentiate and interpret normal and abnormal physical exam findings in the equine neonate as compared to the adult	**1,2**
	2- Explain the etiology and pathophysiology of common equine neonatal disorders	**1**
	3- Formulate an appropriate diagnostic testing plan and differential list for a foal presenting with weakness, not suckling, seizures, respiratory distress, colic, a distended abdomen, dysuria, diarrhea, enlarged umbilicus or lameness.	**2**
	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**	

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Learning Outcome	**SGUSVM Program Learning Outcome**
Explain the etiology and pathophysiology for common equine medical diseases for all the major organ systems	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.

	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 7 Evaluate and analyze normal versus abnormal animal behavior. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable 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. PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.
Utilize presenting complaints, history, physical exam findings, and clinical signs to create differential lists and to select appropriate diagnostic tests in the equine patient	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. 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 veterinary medicine. PLO 7 Evaluate and analyze normal versus abnormal animal behavior. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. PLO 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions. PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.
Interpret diagnostic test results in the equine patient	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.
	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 6 Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.
Evaluate emergency cases and develop a plan for resolution of these issues	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 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 7 Evaluate and analyze normal versus abnormal animal behavior.
Formulate an appropriate treatment regimen for the equine patient including fluid therapy and preventative care.	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.
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.	

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
0	January 10th 9:30-10:20	Course Intro/Physical exam review	Online zoom	Werners-Butler
	January 11th 9:30-10:20	G-I Anatomy review and Dx	Online zoom	Werners-Butler
	January 12th 10:30-11:20	Diagnostics	Sis Hall + Zoom	Wise
1	January 17th 9:30-10:20	Equine nutrition review	Online zoom	Werners-Butler
	January 18th 11:30- 12:20	Equine Esophagus disorders	Online zoom	Werners-Butler
	January 20th 9:30-10:20	Equine Stomach disorders	Online zoom	Werners-Butler
2	January 24th 10:30-11:20	Inflammatory Bowel Dz + enteritis	Online zoom	Werners-Butler
	January 25th 10:30-11:20	Applied G-I related fluid therapy	Online zoom	Werners-Butler
	January 26th 10:30-11:20	G-I cases 1	Online zoom	Werners-Butler
	January 27th 10:30-11:20	Small Intestinal disorders	Online zoom	Werners-Butler
3	January 31st 9:30-10:20	Large intestinal obstruction	Sis Hall + Zoom	Werners-Butler
	February 1st 10:30-11:20	Diarrhea (acute / chronic)	Sis Hall + Zoom	Werners-Butler
	February 2nd	Biosecurity concepts	Sis Hall + Zoom	Werners-Butler

	10:30-11:20			
	February 3rd 10:30-11:20	G-I cases 2	Sis Hall + Zoom	Werners-Butler
4	February 8th 10:30-11:20	Clin Pharm	Sis Hall + Zoom	Werners
	February 10th 9:30-10:20	Clin Pharm	Sis Hall + Zoom	Werners
5	February 14th 10:30-11:20	Endotoxemia	Sis Hall + Zoom	Werners
	February 15th 10:30-11:20	Laminitis	Sis Hall + Zoom	Werners-Butler
	February 17th 9:30-10:20	Endocrine	Sis Hall + Zoom	Werners-Butler
	February 18th 9:30-10:20	Infectious Diseases	Sis Hall + Zoom	Werners-Butler
6	February 21st 9:30-10:20	Infectious diseases	Sis Hall + Zoom	Werners-Butler
	February 22nd 9:30-10:20	Dermatology	Sis Hall + Zoom	Werners-Butler
	February 24th 10:30-11:20	Dermatology cases	Sis Hall + Zoom	Werners-Butler
8	**March 7th 12:00- 1:30pm**	**MIDTERM EXAM**		
	March 8th 11:30-12:20	Neurology	Sis Hall + Zoom	Werners-Butler
	March 9th 8:30-9:20	Neurology	Sis Hall + Zoom	Werners-Butler
	March 10th 9:30-10:20	Neurology	Sis Hall + Zoom	Werners-Butler
9	March 14th 10:30- 11:20	Neuro cases**	Sis Hall + Zoom**	Werners-Butler
	March 15th 9.30-10.20	Ophthalmology	Sis Hall + Zoom	Werners-Butler
	March 16th 10.30- 11.20	Hemolymphatic	Zoom	Wise
	March 17th 10.30- 11.20	Hemolymphatic	Zoom	Wise

	March 18th 11:30-12:20	Cardiology	Zoom	Wise
10	March 21st 10.30-11.20	Muscle	Zoom	Wise
	March 22nd 11.30-12.20	Muscle	Zoom	Wise
	March 24th 11.30-12.20	Liver	Zoom	Wise
11	March 28th 10:30-11:20	Liver	Zoom	Wise
	March 29th 10:30-11:20	Urinary	Zoom	Wise
	March 31st 10:30-11:20	Urinary	Zoom	Wise
	April 1st 11:30-12:20	Respiratory	TopHat Lesson	Wise

12	April 4th 10:30-11:20	Respiratory	TopHat Lesson	Wise
	April 5th 10:30-11:20	Clin Pharm approach to different system disorders	Sis Hall + Zoom**	Werners
	April 6th 10:30-11:20	Respiratory Review	Sis Hall + Zoom	Wise
13	April 11th 10:30-11:20	Neonatology	Sis Hall + Zoom	Wise
	April 12th 10:30-11:20	Neonatology	Sis Hall + Zoom	Wise
	April 13th 9:30-10:20	Neonatology	Sis Hall + Zoom	Wise
14	April 19th 10:30-12:20	Final preparation Q&A	Sis Hall + Zoom **	CWB /NW/AW
15	**April 27th 12:00-2.00pm**	**FINAL EXAM (Comprehensive)**		

Grading and Assessment Policy

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%): March 7th 12pm-1:30pm AST Final exam (60%): April 27th 12pm- 2pm AST.

A grade reduction of 5% will be applied to the exam score if students do not observe the parameters listed in the Assessment Policy for Students.

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

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.

Instructor's Expectations of the Student
The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and examination policies

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 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.

Attendance/Participation Policy
Students are expected to be available during the standard 8:30- 5:20pm 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.

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 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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
    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

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Food Hygiene and Meat Inspection

Course
PTHB 541
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Satesh Bidaisee, DVM, MSPH, EdD, Professor
Email: sbidaisee@sgu.edu
Caribbean House
Office Hours (By Zoom)

Course Location
Online location : Sakai resources being used (ie. Panopto, Lessons, Assignments, etc.) and any other.

Onsite Field Visits to Fish Market, Abattoir and Poultry Far

Required Resources
(laptop specs like functional microphone, camera , etc.)

Recommended Resources
(All materials for this course will be provided in the Sakai course site.)

Accommodation

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

Other Requirements
Computing hardware and technology for online learning.

Course Rationale
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 Learning Outcomes
Upon successful completion of this course, the student will be able to:

- Participate in the process involved in slaughtering and processing of animals .
- Apply welfare standards to the slaughtering process Conduct a practical meat inspection

Lesson Learning Outcomes
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 assignm ents and wet labs specimen reports).

Alignment of Course Learning Outcomes with Program Learning Outcomes
PLOs and CLOs should be written out In full. (Note: LLOs do not need to be included)

This section m ay be appended as a table at the end of the syllabus. If the course director chooses to append at the end of the syllabus, this may be noted on this section.

Course Learning Outcome	SGUSVM Program Learning Outcome
CLO1	PLO 5, PLO 20

Course Schedule
All course content is available asynchronously for student's reference. Field trips will be scheduled based on scheduling availability of students and site locations.

1. Preparatory sessions in Grenada:
   - 2 hrs of lecture:
     - Introduction to Food Hygiene and Meat Inspection
     - Principles of Ante Mortem and Postmortem Inspection
   - 2 hrs of ante mortem, slaughter and postmortem demonstration at Mirabeau Abattoir
   - 1 hr of fish processing at Gouyave Fish Market
   - 1 hr of poultry production and processing
2. Virtual Abattoir

Grading and Assessment Policy
Grading scale

The following components contribute equally to a passing grade (70% and above)

- Food Safety and Hygiene Blog Discussion Forum: 12.5%
- Ante Mortem and Postmortem 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%

Instructor's Expectations of the Student
The student is expected to review all posted content and read the required material before field trips.

Professionalism Statement
SGU's Student Honor Code and established Veterinary Professionalism is expected.

Attendance/Participation Policy
Students are expected to be available during the standard 8:30am - 5:20p m 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. 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 will include attendance and participation in site field trip s and submission of assignments

Policy Regarding Missing Examinations and/or Failure of Submission of Assignments
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    2. The Examsoft student perspective video 30mins
    3. The Examsoft/ExamID FAQ
    4. Examsoft information page
    5. The general Reminders/Guidelines

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Master Syllabus
School of Veterinary Medicine Master Syllabus

Introduction to Clinical Medicine

Course
LAMS 503
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course Director: Dr. Inga Karasek BSc., DVM, MSc, CVA, Associate Professor ikarasek1@sgu.edu

Office Hours: Zoom Office Hours on selected 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. Kimberly Johnson DVM DACVIM (Oncology), Private Practitioner, petcancerconsulting@gmail.com

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

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

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. The Lessons tool in Sakai 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) on selected Fridays, approximately every 2 weeks, for students to interact with faculty.

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

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

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

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

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.

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.

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/ considerat ions, 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. Know the acceptable routes of fluid administration in horses. 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. Explain the differences in fluid therapy between horses and small animals.
Fluid Types	Dr. Guttin	Formulate a fluid therapy plan for patients, including route of fluid delivery, type of fluids, rate of fluid delivery, and over what time. Compare and contrast crystalloids vs. colloids and the indications for use. Compare and contrast a variety of crystalloid fluid types and the indications for use.
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	Review the basics of large animal nutrition, with focus on the basics for equine nutrition.
		Know when nutritional support is indicated. Know the different options available for nutritional support. Describe the potential advantages and disadvantages of the different ways of providing nutritional support.
SA nutrition for sick animals	Dr. Guttin	Discuss the importance of in-hospital nutrition and its indications. Compare and contrast nutritional needs in healthy patients to that of an ill, hospitalized patient. Describe the different routes to feed a hospitalized patient Calculate RER and select a feeding route for patients.
LA theriogenology intro	Dr. Khan	Review clinical reproductive anatomy and physiology of cattle and compare it briefly with those of sheep, goats, and pigs. Identify a reproductive abnormality based on history and clinical findings. Formulate treatment plans based on reproductive physiology.
EQ theriogenology intro	Dr. Khan	Review clinical reproductive anatomy and physiology of horses. Identify reproductive abnormalities based on history and clinical findings. Formulate diagnostic and treatment plans.
SA theriogenology intro	Dr. Khan	Review the basic reproductive anatomy and physiology of dogs and cats. Apply the basic knowledge to different clinical scenarios.
Dermatology Introduction	Dr. Paterson	List the basic structures of the skin & cite the functions of the skin.

		Explain the difference between primary & secondary derm lesions; give examples of each. 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.
Dermatology Diagnostics/SA cases	Dr. Paterson	Understand the diagnostic tools appropriate for working up a suspected case of parasitic dermatitis. Identify common parasitic species causing disease in dogs and cats.
		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 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. State the diagnostic tests which comprise the dermatology minimum database.
EQ Dermatology introduction	Dr. Werners-Butler	Realize the importance of a systematic diagnostic approach for a patient with skin disease. Create a differential diagnosis list based on clinical presentation, signalment, historical data and a thorough PE + dermatological exam. Decide on additional diagnostic techniques based on a prioritized differential diagnosis. Recognize different skin diseases based on typical appearance.
FA Dermatology introduction	Dr. Nigito	Demonstrate a systematic approach to dermatologic case investigations in food animal species. Describe pertinent signalment and herd history information when investigating dermatology case presentations. Differentiate and define normal skin coat physical exam findings from abnormal dermatologic lesions. Discuss and identify common differentials and presentations of dermatology diseases in livestock production.
Intro to Neurology-comparative	Dr. Narak	Describe the functions and locations of upper and lower motor neurons. List the components (and corresponding functions) of the forebrain.
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 based on history, clinical signs, and response to treatment. Differentiate between a case that can be managed on the farm and one that is a referral to hospital case.
Intro to Oncology	Dr. Bechtel/Dr. Johnson	Describe how to diagnose cancer, the limitations of each procedure, and which procedure is appropriate for diagnosis. Describe how to diagnose lymphoma compared to other differential diagnoses for enlarged lymph nodes. Interpret lab work associated with a cancer patient. Formulate a problem list and a list of differential diagnoses for a cancer patient. Recommend diagnostic procedures appropriate for a cancer patient based on presentation.
Introduction to lameness LA & EQ	Dr. Janicke	Describe how to localize a lameness. Identify appropriate diagnostic tests to identify the location and cause of lameness. Identify possible species-specific causes of lameness.
Introduction to clinical lameness in SA	Dr. Guerrero	Identify appropriate diagnostic tests to identify the location and cause of lameness Describe how to localize a lameness.
Large Animal Emergency-situational/environmental concerns	Dr. Karasek	Define what types of conditions constitute "emergencies" in large animals. Demonstrate a systematic approach when addressing an emergency in a large animal. Determine when euthanasia may be warranted.

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

Alignment of Course Learning Outcomes with Program Learning 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

Course Schedule

Lecture Number	LECTURE TOPIC	Instructor
1 9:30 am *Jan 17*	Course Orientation: Clinical Reasoning	Karasek
2 10:30 am Jan 18	CBC/ acid/base, electrolytes-SA Cases	Corrigan
3 10:30 am *Jan 19*	Introduction to fluid therapy	Corrigan
4 10:30 am *Jan 20*	Introduction to fluid therapy- equations/considerations, acid/base, electrolytes	Corrigan
5 10:30 am *Jan 21*	Fluid Types*	Guttin
6 10:30 am *Jan 24*	Fluid therapy SA cases 1*	Guttin
7 10:30 am *Jan 25*	Fluid therapy SA cases 2*	Guttin
8 10:30 am *Jan 26*	Fluid therapy LA	Byers
9 9:30 am *Jan 27*	Fluid therapy LA cases	Byers
10 10:30 am *Jan 28*	Fluid therapy EQ cases*	Werners-Butler
11 *Jan 31*	Introduction to Production Animal Medicine*	Byers
12 10:30 am *Feb 1*	Intro to Neurology-comparative	Narak
13 10:30 am *Feb 2*	Localizing/Neuroimaging intra-species	Narak
14	SA Neuro cases	Narak

11:30 am *Feb 3*		
15 9:30 am *Feb 4*	SA Behavior	Bain
16 *Feb 8*	Beef Production*	Nigito
17 10:30 am *Feb 9*	Dairy Production	Nigito
18 10:30 am *Feb 10*	Small Ruminant Production	Winchester
19 10:30 am *Feb 11*	Poultry & Pork Production	Byers
20 9:30 am *Feb 15*	Large Animal Emergency- situational/environmental concerns	Karasek
21 9:30 am *Feb 16*	Biosafety and Biosecurity SA	Karasek
22 9:30 am *Feb 17*	Biosafety and Biosecurity LA	Karasek
23 9:30 am *Feb 18*	Equine Neuro	Karasek
24 *Feb 21*	GI Physiology Review LA*	Byers
25 10:30 am *Feb 22*	GI FA cases	Byers
26 10:30 am *Feb 23*	Equine GI Intro	Karasek
27 10:30 am *Feb 24*	GI Physiology Review SA*	Guttin
28	GI SA cases*	Guttin

10:30 am *Feb 25*		
29 10:30 am *Mar 1*	Introduction to clinical lameness LA	Janicke
30 10:30 am *Mar 2*	LA Behavior	Karasek
31 10:30 am *Mar 3*	SA nutrition for sick animals*	Guttin
32 10:30 am *Mar 4*	ECCM: Patient Assessment and Triage and Shock*	Guttin
	MIDTERM WEEK **March 11th, 12 pm AST**	
33 9:30 am *Mar 15*	Dermatology Introduction	Paterson
34 10:30 am *Mar 15*	Dermatology Diagnostics/SA cases	Paterson
35 10:30 am *Mar 17*	EQ Dermatology introduction	Werners-Butler
36 10:30 am *Mar 18*	FA Dermatology introduction	Nigito
37 11:30 am	Intro to Respiratory – PE, physiology comparative	Corrigan
Mar 21		
38 10:30 am *Mar 22*	SA Respiratory Cases	Corrigan
39 9:30 am *Mar 23*	LA Respiratory Cases	Nigito
40 9:30 am *Mar 24*	EQ Respiratory Cases	Karasek

41 10:30 am *Mar 25*	Intro to cardiology- history, clinical signs, PE across species	Corrigan
42 10:30 am *Mar 28*	Diagnostics for cardio- ECG, radiology, echo	Corrigan
43 10:30 am *Mar 29*	SA Cardio cases	Corrigan
44 10:30 am *Mar 30*	EQ Cardio cases	Werners-Butler
45 10:30 am *Apr 1*	Liver Physiology Review	Guttin
46 11:30 am *Apr 4*	SA Liver Diagnostics/Cases	Guttin
47 10:30 am *Apr 5*	EQ Liver-Cases	Karasek
48 10:30 am *Apr 6*	FA Liver-Cases	Byers
49 9:30 am	EQ/LA sick animal nutrition	Werners-Butler
Apr 7		
50 10:30 am *Apr 8*	Renal Physiology Review comparative SA vs. LA	Guttin
51 *Apr 11*	Azotemia & Urolithiasis*	Guttin
52 10:30 am *Apr 12*	PU/PD	Guttin
53 11:30 am *Apr 13*	Intro to Oncology	Johnson
54 10:30 am *Apr 14*	LA theriogenology intro	Khan

55 10:30 am *Apr 20*	EQ theriogenology intro	Khan
56 10:30 am *Apr 21*	SA theriogenology intro	Khan
57 10:30 am Apr 22	Introduction to clinical lameness SA	Guerrero
58 9:30 am *Apr 25*	Introduction to Endocrine	Corrigan
59 9:30 am *Apr 26*	Common Endocrine Diseases	Corrigan
60 9:30 am *Apr 27*	Therio/ Endocrine	Khan/Corrigan
	FINALS WEEKS **May 11th, 12 pm AST**	

Where all * lectures are recordings, NOT in person lectures

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

Weekly time commitments:

Week number	Material	Time Commitment
1	Clinical reasoning, CBC/Chem/UA, Introduction to fluid therapy, fluid types	6 hours: 5 lecture hours 1 Quiz on Sakai
2	Fluid therapy SA cases LA and EQ fluid therapy and cases	6 hours: 5 lecture hours 1 Quiz on Sakai 1 Zoom office hours (optional)
3	Introduction to production animal medicine. Intro to neurology, localizing/neuroimaging, and small animal neurology cases. SA behavior	5 hours: 5 lecture hours
4	Small ruminant, beef, dairy, and poultry/pork production.	4 hours: 4 lecture hours 1 Zoom office hours (optional)

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

Grading and Assessment Policy
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 Sakai Quizzes 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

Midterm exam 35 points-Friday, March 11th, 2022, 12 pm AST Final exam 35 points- Wednesday, May 11th, 2022, 12 pm AST

Both the midterm and final exams are on ExamSoft using ExamMonitor.

Sakai Assignments 30 pts (6 pt. each) *

1. Week 1 Quiz -Sunday, January 23rd
2. Week 2 Quiz -Sunday, January 30th
3. Week 5 -Sunday, February 20th
4. Week 10 -Sunday, March 27th
5. Week 12 – Sunday, April 10th

*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

Recommended Study Strategies
Zoom office hours are optional but strongly recommended. These are scheduled Zoom sessions where the class 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.

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.

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 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. Please exhibit professional behavior when communicating with your peers and with the faculty involved in this course.

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.

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.

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.
    1. An 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

Copyright Policy
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Introduction to Clinical Practice

Course
SAMS 526
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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

Course Location
Online using Sakai resources such as Zoom, Panopto, Lessons, and Assignments. Lectures: Sis Hall West

- Clinic Labs: 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.

Online Labs for remote students: Zoom (online classroom) Ophthalmology Labs will occur at the Veterinary Surgery Lab

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.

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 Elsevier 2nd edition	Tobias et al.	2nd ed., 2017
Small Animal Surgery	T. Welch Fossum	5th ed., 2019
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

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

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!

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.

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.

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 it's application to various examples of selected clinical cases.

Lecture 3. Ophthalmology part 1. Anatomy of the Eye and Sight.

- To relate the clinical signs of ocular disease to the anatomical structures of the eye.
- To understand how the ocular structures contribute to the phototransduction process necessary for sight.

Lecture 4. Ophthalmology part 2. Examination of the Eye and Adnexa.

- How to structure the meaningful clinical examination of the eye.

Lecture 5. Ophthalmology part 3. Transparency and Colour Change in Diagnosis.

- How to relate the pathological ocular transparency and colour changes to disease diagnosis.

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 Labs

- Review simulated cases/online clinical cases/paper 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 Lab

- Perform ocular exams and ocular diagnostic tests.
- Compare normal and abnormal findings during ocular exams.

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.	1. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities **/ Core Professional Attributes** 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** 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 differences **/ Core Professional Attributes** **C.8.** Demonstrate and model effective client communication and ethical conduct / **Core Clinical Competencies** **A.1.** Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals /**Core Medical Knowledge** **C.1**. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis / **Core Clinical Competencies**
Generate a prioritized problem list, discuss differential diagnoses for problems and develop an appropriate therapeutic plan for patients (Reinforce the Problem Based Learning Approach).	1. Recall, understand, and adequately utilize knowledge of etiology, pathogenesis and pathology of common infectious, non-infectious, and zoonotic diseases /**Core Medical Knowledge** . 2. Explain the relationship between disease processes and clinical signs /**Core Medical Knowledge**. **A.9.** Apply the principles of veterinary public health for the promotion of human and animal health /**Core Medical Knowledge** **B.1.** Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities **/ Core Professional Attributes** **A.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 /**Core Medical Knowledge**. **C.2.** Create comprehensive treatment plans / **Core Clinical Competencies** **C.3.** Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare / **Core Clinical Competencies** **C.4.** Analyze, design and execute appropriate plans for basic surgery and surgical case management / **Core Clinical Competencies** **C.5.** Analyze, design and execute appropriate plans for medical case management / **Core Clinical Competencies** **C.6.** Analyze, design and execute appropriate plans for emergency and critical care case management / **Core Clinical Competencies**
Complete medical records and SOAP assignments in a timely and accurate manner using POMR and/or SOAP formats	**A.6.** Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence- based veterinary medicine. /**Core Medical Knowledge**

	B.3. Demonstrate, evaluate, and model leadership, teamwork and conflict resolution skills as a member of a multidisciplinary team / Core Professional Attributes
Develop students proficiency in performing basic ophthalmologic examination in campanion animals using appropriate tools, diagnostic aids and therapeutics	**A.1.** Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals /**Core Medical Knowledge** **C.1**. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis / **Core Clinical Competencies**

Course Schedule

Lecture 1. Overview of SAMS 526. Date: 17th January 2022

Time: 4:30pm-5:20pm Location: Sis Hall West Lecturer: Dr. Wayne Sylvester

Lecture 2. Overview of small animal modules/labs Date: 18th January 2022

Time: 4:30pm-5:20pm Location: Sis Hall West Lecturer: Dr. Wayne Sylvester

Lecture 3.

Date: 9th February 2022 Time: 4:30pm-5:20pm Location: Sis Hall West Lecturer: Dr. Peter Bedford

Lecture 4.

Date: 10th February 2022 Time: 4:30pm-5:20pm Location: Sis Hall West Lecturer: Dr. Peter Bedford

Lecture 5.

Date: 11th February 2022 Time: 4:30pm-5:20pm Location: Sis Hall West Lecturer: Dr. Peter Bedford

SAMS 526 Introduction to Clinical Practice Spring 2022

Groups for Clinic Labs Location: Small Animal Clinic Time: 8:30am-12:20pm

SAMS 526 Ophthalmology Labs Schedule

Venue: Veterinary Surgery Lab Day: Friday

Time: 8:30am-12:20pm and 1:30pm-4:20pm SAMS 526 Ophthalmology Lab (1 Lab per student)

Friday 18th February 2022 from 8:30am-12:30pm at the VSL: Group A + C1-C4 + R1, R2

Friday 18th February 2022 from 1:30am-4:30pm at the VSL: Group B + C5-C9 Dr. Peter Bedford's email address: profg1@btinternet.com

Clinic Labs Schedule by Week and sub-Groups

SAMS 526 Introduction to Clinical Practice Spring 2022 Groups for Clinic Labs/Online Labs

Location: Small Animal Clinic/Zoom Online Classroom Days: Weekdays mornings (except Mondays)

Time: 8:30am-12:20pm

Date	Date	GROUPS	DUE DATE FOR SOAP GROUP ASSIGNMENT
Week 1	Wednesday 19th January	Groups A5-A8	No Assignment Due
Week 1	Friday 21st January	Groups A5-A8	No Assignment Due
Week 2	Wednesday 26th January	Groups A1-A4	No Assignment Due
Week 2	Friday 28th January	Groups B5-B8	No Assignment Due
Week 3	Wednesday 2nd February	Groups B5-B8	No Assignment Due
Week 3	****Thursday 3rd February****	Groups A1-A4	No Assignment Due
Week 3	Friday 4th February	No Clinic Labs Radiology Labs	No Assignment Due
Week 4	Wednesday 9th February	Groups B1-B4	No Assignment Due
Week 4	Friday 11th February	Groups B1-B4	No Assignment Due
Week 5	****Tuesday 15th February****	Groups C1-C4	No Assignment Due
Week 5	Wednesday 16th February	Groups C1-C4	No Assignment Due
Week 5	****Thursday 17th February****	Groups C5-C8	No Assignment Due
Week 6	Wednesday 23rd February	Groups A9, B9, C9, R1, R2, R3	No Assignment Due
Week 6	Friday 25th February	Group C6-C9	No Assignment Due
Week 7	Wednesday 2nd March	Groups A9, B9, C5, R1, R2, R3	No Assignment Due
Week 7	Friday 4th March	No Clinic Lab (a mid- term exam in pm)	No Assignment Due
Week 8	Wednesday 9th March & Friday 11th March	No Clinic Labs Mid-Term Exams week	No Assignment Due
Week 9	Wednesday 16th March	Groups C5-C8	SOAP Assignment Due Date - Friday 25th March
Week 9	Friday 18th March	Groups C5-C8	SOAP Assignment Due Date - Friday 25th March
Week 10	Wednesday 23rd March	Groups B5-B8	No Assignment Due
Week 10	**Thursday 24th March****	Groups B5-B8	SOAP Assignment Due Date - Friday 1st April
Week 10	Friday 25th March	No Rotations Dentistry Lab	No Assignment Due
Week 11	Wednesday 30th March	Groups A1-A4	No Assignment Due
Week 11	**Thursday 31st March**	Groups A1-A4	SOAP Assignment Due Date - Friday 8th April

Week 11	Friday 1st April	Groups C1-C4	No Assignment Due
Week 12	Wednesday 6th April	Groups C1-C4	SOAP Assignment Due Date - Friday 15th April
Week 12	**Thursday 7th April**	Groups A5-A8	No Assignment Due
Week 12	Friday 8th April	Groups B1-B4	No Assignment Due
Week 13	Wednesday 13th April	Groups A5-A8	SOAP Assignment Due Date - Friday 22nd April
Week 13	Friday 15th April	No Clinic Labs Easter Friday	No Assignment Due
Week 14	**Tuesday** 19th April	Groups B1-B4	SOAP Assignment Due Date - Friday 22nd April
Week 14	Wednesday 20th April	Groups A9, B9, C9, R1, R2, R3	SOAP Assignment Due Date - Friday 22nd April
Week 14	Friday 22nd April	Groups A9, B9, C9, R1, R2, R3	No Assignment Due
Week 15	Wednesday 27th April	No Rotations	Orthopedic Lab

Grading and Assessment Policy

>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

Grading scale:

1. **Types of assessment: Formative assessment:**
    1. Participation in morning rounds at the clinic from 8:30am-9:00am
    2. Immediate feedback from clinician during clinic labs 1, 2 and 3

Summative assessment:

1. Clinical Performance Evaluations/Direct Observation of Procedural Skills (DOPS). Clinicians will assess each student on Examsoft on the 4^{th} Lab either at the clinic lab or at the online lab - 40%
2. SOAP Assignment, each student Group will submit one electronic SOAP assignment post midterm unto the Assignment tab on sakai- 50%
3. Ophtho Pre-Lab quiz - 10%

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 clinic lab session.

Expectations of the Student for Clinical Labs include but are not limited to:

1. Participation
2. Teamwork
3. Professionalism
4. Knowledge of SOAP and POMR
5. Basic ability to collect history from pet owners and perform physical examinations
6. Basic knowledge of medical terminology
7. Be prepared—appropriate attire, equipment/supplies, mentally prepared
8. 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.

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.

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) (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.

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.
    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

Copyright Policy
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Master Syllabus
School of Veterinary Medicine Master Syllabus

Introduction to Clinical Rotations

Course
SAMS 528
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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

Course Location

- LARF or Private Farms
- Necropsy Laboratory
- Clinical Pathology Laboratory
- Parasitology: Bacteriology Laboratory
- Zoom for online students

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

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 (EBook)	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 (EBook)	F.A. Mann, G.M.	2011

	Constantinescu & Hun-You	
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	10th ed.
Sheep and Goat Medicine	Pugh and Baird	2nd ed.
Farm Animal Surgery	Fubini and Ducharme	2004
The Merck Manual	Merck & Co. Inc.	8th ed.
Veterinary Laboratory Medicine, Interpretations and Diagnosis	Meyer, D. J. and Harvey, J. W	2nd ed., 1998
Veterinary Laboratory Medicine	Latimer, K. S. et al	4th 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.	5th ed., 2001
Fundamentals of Veterinary Clinical Pathology	Stockham and Scott	2nd Ed
EClinPath Website at Cornell University	https://eclinpath.com/ -	

Accommodation

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

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

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.

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.

Lesson Learning Outcomes

Companion Animal Medicine (SAC)	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
Surgery and Anesthesia	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 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	Develops and administers an appropriate drug therapy and includes drug dosages, routes of administration, and dosing intervals
	Develops an appropriate fluid therapy plan for the patient
	Obtains a concise, relevant history in an emergency setting
	Recognizes changes in the clinical status in a critically ill patient using physical examination findings, as well as quantitative measures
	Triages patients for immediate care, hospitalization, or outpatient care
	Efficiently assesses vital signs in a critically ill animal
	Demonstrates professionalism in interactions with clients, peers, faculty and staff
	Exhibits proficiency in professional reporting of cases to clinicians Conducts him/herself professionally and ethically in his/her approach to cases Displays appropriate ECC knowledge base
Radiology	Demonstrates adequate assessment of radiographic quality (positioning, centering, exposure, artefacts)
	Appropriately interprets radiographs/ sonograms
	Demonstrates adequate ability to form an appropriate (list of) differential diagnosis(es)
	Recommends the appropriate further investigations / diagnostics
	Communicates effectively and participates in rounds; including questions
LARF Session - Bovine	Perform and interpret an advanced and complete physical exam on bovine patients
	Define where to administer IV and IM injections
	Practice proper restraint and technique involved in administering an oral medication or orogastric intubation
	Demonstrate how to perform a California Mastitis Test (CMT)
	Choose the correct instruments needed to perform these tasks
LARF Session - Equine	Perform and interpret an advanced and complete physical exam on equine patients
	Define where to administer IV and IM injections
	Perform and interpret a basic lameness exam on an equine patient
	Identify equipment used in a lameness exam and apply the tools correctly
Ambulatory Field Experience	Collect a pertinent medical history Perform and interpret a thorough physical exam on farm animal species
	Extract a relevant problem list from observations made through history and physical exam
	Determine reasonable differential diagnosis lists based on problem list

	Formulate a realistic diagnostic plan and create a treatment plan on the individual patient and herd levels
	Prepare a complete and accurate medical record of each farm visit
	Understand the importance of further reading to improve knowledge base and proficiency in practice
	Recognize and diagnose common disease processes seen in food animals
	Perform basic clinical and surgical procedures under field conditions
	Select and apply appropriate physical and chemical restraint in food animals
	Demonstrate appropriate client communication and education along with basic herd management recommendations
	Determine appropriate milk and meat withdrawal times based on the medications selected/given in treatment plan
Necropsy Rotation	Perform a complete necropsy (any species).
	Recognize and describe gross lesions
	Make a morphologic diagnosis and generate a list of differential diagnosis
	Collect specimens for histopathology and other supporting diagnostic tests.
	Prepare a written necropsy report.
Clinical Pathology Rotation	Identify laboratory data abnormalities and use correct terminology (eg. hyperkalemia)
	Interpret laboratory data (eg. classify anemia or type of azotemia).
	Describe pathogenesis for abnormal laboratory data
Parasitology Rotation	Perform a fecal examination.
	Perform a blood examination.
	Identify the common parasites in feces, blood, urine, skin, and body fluids.
	Make a diagnosis based on history, clinical signs and identification of the parasite(s).
	Recommend treatment and control strategies

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	***Program Level Outcome***
1. Perform and interpret physical exams on farm and small animals and apply the appropriate diagnostic and treatment plans.	*A: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11* *B: 1, 2, 5, 6, 7, 8* *C: 1, 2, 3, 4, 5, 6, 7, 8, 9*
2. Demonstrate effective client and colleague communication in a professional and concise manner.	*A: 4, 8* *B: 1, 2, 6, 8 C: 8*
3. Prepare and deliver a case presentation using clinical cases.	*A: 1, 2, 3, 4, 5, 6, 7, 8, 11* *B: 1, 3, 4, 6, 8* *C: 1, 2, 5, 7, 9*
4. Manage cases including history taking and client interaction, physical examination, diagnostic work-up, problem solving, development and implementation of therapeutic plan.	*A: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11* *B: 1, 2, 3, 5, 6, 8* *C: 1, 2, 3, 4, 5, 6, 7, 8, 9*
5. Describe radiographs using standard terminology, propose a diagnosis, and recommend further diagnostic tests and treatment.	*A: 1, 4, 6, 11* *B: 1*

	C: 1
6. Perform a complete necropsy and collect samples for histopathology and other ancillary diagnostic tests.	*A: 1, 3, 4, 6, 7, 9, 11* *B: 1, 3, 4* *C: 7, 8, 9*
7. Correlate clinical signs with gross and histologic findings and generate a morphologic diagnosis.	*A: 1, 2, 3, 4, 6, 11* *C: 9*
8. Perform fecal, blood, urine, body fluid and cytologic examinations for parasitology and clinical pathology, make a diagnosis and recommend treatment and control strategies.	*A: 2, 3, 4, 5, 6, 9, 11* *B: 1, 4, 6* *C: 2, 5, 7, 8, 9*

Course Schedule

1. Introduction of SAMS 528 course. Wednesday, January 19th, 2022 at KB Taylor Hall Blue from 1:30pm-3:20pm. All 6th term students must be present.
2. Please find the rotation schedule under "Syllabus" folder in Sakai
3. ****Rotation-specific schedules and details can be found in their individual sections of this syllabus**.

Beginning of term Orientation

Orientation will take place Wednesday, January 19th from 1:30- 3:20pm at KB Taylor Hall Blue

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 o 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 or Friday afternoons, either starts at 1:30pm4:30pm, a few groups start either at 2:30pm or at 3:30pm (see schedule in rotation section for more specific details)
- Ambulatory: Tuesday-Thursday 12:45pm - until done (see schedule in rotation section for more details) 1:30pm for LARF sessions
- *Parasitology: Tuesday and Thursday 1:30 - 3:30pm
- *Clinical Pathology: Tuesday, Wednesday and Thursday/Friday 1:30pm - 3:30pm.

For online students in groups 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:

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:

TuesdayThursday

- 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 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 4 to 6 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, discharges 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. o **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. o 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 EzyVet 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 4 possible emergency shifts available:

o Tuesday – Friday 5:00pm – 8:00pm o **Each student needs to rotate twice.**

	Tues.	Wed.	Thurs.	Fri.
Group memb er#	6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5	6, 7, 8, 9, 10, 11	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 4 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 ZOONOTIC 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/patient. (5)
2. Two students go and greet the client in the reception area. (1)
    1. One student walks with the client to the examination room. (1)
    2. 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, clinician/students may add to the estimate, technician 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 by the client, payment is collected and processed (5 minutes)
11. Diagnostic tests that can be done in the consultation 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)
12. Clinician and students can further discuss the case while diagnostics are being performed, outside of the room. (5-10)
13. Technician collects diagnostic test results. (1)
14. One or two students fill out the necessary medical records. (5)
15. One or two students start to prepare discharge instructions. (5-10)
16. Technician adds charges to Ezyvet. (5)
17. Medications are are calculated, requested and collected from the Cubex and drug labels are typed and printed. (10)
18. Clinician walks back to the room with available students to discuss results and the plan with the client. (5)
19. One student explains the discharge instructions to the client. (5)
20. One or more students administer medications to the patient if necessary. (5)
21. One or two students walk patient and client out to reception for check-out. (1)
22. Clinician notifies front desk staff if a recheck appointment needs to be scheduled. (5)
23. 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 two 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.

Venue: Charter Hall Lab (before mid-terms) and Charter Hall Lab or the Small Animal Clinic's conference room (after mid-terms)

SAMS 528 RADIOLOGY ROTATION SCHEDULE

Week	Day	Group number	Time	Faculty	venue
2	Thursday	4	1:30-4:30	TH	Charter Hall Lab
2	Friday	5	3:305:30	TH	Charter Hall Lab
3	Thursday	3	1:30-3:30	TH	Charter Hall Lab
3	Friday	2	1:304:30	TH	Charter Hall Lab
4	Thursday	1	1:30-4:30	TH	Charter Hall Lab
4	Friday	10	1:304:30	TH	Zoom Online Classroom
5	Thursday	9	1:30-4:30	TH	Charter Hall Lab
5	Friday	8	1:304:30	TH	Charter Hall Lab
6	Thurs	7, 6	1:30-4:30	TH	Charter Hall Lab
7 (midterms)			1:30-4:30	TH	Charter Hall Lab
8	Thurs	6			
8	Friday	3	1:30-3:30	TH	Charter Hall Lab
9	Thurs	4	2:30-5:30	TH	Charter Hall Lab
9	Friday	1	1:30-3:30	TH	SAC Conference Room
10	Thurs	2	1:304:30	TH	SAC Conference Room
10	Friday	7	1:303:30	TH	SAC Conference Room
11	Thurs	10	1:30-3:30	TH	Zoom Online Classroom
11	Friday	9	1:303:30	TH	SAC Conference Room
12	Thurs	5, 8	2:30-5:30	TH	Charter Hall Lab

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** to prepare the boxes 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: Spring 2022

Ambulatory 1st ROUND SCHEDULE (January 24th – February 25th)

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 (March 7th – April 8th)

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

Note: online students will follow the same schedule except be live on Zoom at the same designated times for case reviews and live LARF Zoom Sessions.

Ambulatory Rotation Groups – Spring 202

Weeks 2 and 8: Group Number 1 & 2

Group A	Group B	Group C
Alexander, Taylor	Epes, Elizabeth	George, TOny
Brewster, Ashlyn	Fedele, Kaila	Hubick, Shelby
Gallagher, Dane	Gridley, Katherine	James, Emily
Gussman, Emily	Healey, Brianna	Rachael, Laird
Leinberger, Priscilla	Jafferally, Sahara	Liu, Jenny
Nunnely, Jacqueline	Johnston, Mackenzie	Mordukhaev, Michelle
Yates-Lavery, Ida	Knapp, Kayli	Phillips, Ashley
		Rudolf, Erica

Weeks 3 and 9: Group Number 9 & 10

Group A	Group B	Group C (online)
Cerrato, Vanessa	Madara, Devon	Aziz, Tania
Eaton, CHloe	Moise, Jacob	Cruz, Peter
Gray, Rachel	Momi, Azadveer	Gemmel, George
Manly, Courtney	Rhoden, Raheed	Jacobs, Brianna
Wood, Jaymi	Saravia, Diana	Jones, Ana-Simone
	Vaught, Sydney	Kennedy, Courtney
		Kvernmo, Melissa
		Mari, Francesca
		Smith, Zachary
		Sullivan, Aubrey

Weeks 4 and 10: Group Number 7 & 8

Group A	Group B	Group C
Alexander, Peterlyn	Bowling, Jessica	Allegretti, Delaina
Brown, Natasha	Collette, Zachary	Bryan, Rachel
Daroch, Ivan	Garcia Rodriguez, Miguel Angel	Chang, Alex
Freibergs, Margaret	Jno Baptiste, Jolyn	Patrick, Randa
MacDonald, Jennifer	Mikos, Amy	Scheppke, Brianna
Mezei, Reece	Morales, Shelby	Shen-Kinny, Lance
Villafranca, Kassandra	Peak, Mallory	Uvaydov, Rachel

Weeks 5 and 11: Group Number 5 & 6

GROUP A	GROUP B	GROUP C
Abraham, Celin	Barry, Alexis	Brandt, Lindsey
Bray, Brooke	Donegan, Patrick	Heidel, Ilana
Collins, Karli	Ferguson, Alanna	Hothi, Parveen

Duncan, Kayla	Guzman Sanchez, Marielis	Manning, Margaret
Mabine, Joanna	Macchiarelli, Sisina	Murray, Brittany
Nicholes, Sheriden	Maur, Glenna	Riddick, Brittany
Ramsey, Thomas	Whitney, Madison	Wilson, Mariah

Weeks 6 and 12: Group Number 3 & 4

Group A	Group B	Group C
Barrick, Aubree-Anna	Abrahamson, Meghan	Lochner, Celine
Christen, Madeleine	Allender, Aaron	Maldonado-Ross, Johana
Cunningham, Lauren	Barsoum, Ireny	McCarthy, Jonathan
Desai, Sonali	Comeau, Karine	McCartin, Jenna
Krolczyk, Victoria	Maglaris, Zoe	Pinney, Kyle
Via, Amanda	Pierce, Lauren	Redmond, Erica
White, Yvonne	Simmons, Jasmine	Rogers, Alexandra
		Silberman, Claire

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.

Grading

Medical records

20% of the grade will be attained from the medical records that are turned in after every ambulatory trip. This grade will be generated as a group grade. Medical records are due the following afternoon by **1:30pm AST** and should be emailed to the overseeing faculty member before the next day of rotation (e.g. Tuesday afternoon group will submit their records on Wednesday afternoon by 1:30pm). The grading of the medical records is part of the weekly assessment score. **See grading rubrics posted in SAKAI for more details on expectations of your medical records.

Weekly assessments based on student performance and professionalism

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 and the example medical record

**Rubrics for Medical Records and Professionalism evaluations are provided on Sakai.*

OSCE EXAMINATION

A midterm and final OSCE examination will take place. The midterm OSCE is MANDATORY but formative so will NOT be included in the course grade. The final OSCE is also MANDATORY and will be summative and worth 20% of the course grade. You will receive feedback and it is required that you participate as part of the professionalism evaluation of the course.

For online students: no midterm OSCE will be offered however, an online equivalent will be made available to you for the FINAL OSCE.

II. 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:

1. Your nametag
2. A clean pair of clean coveralls or a complete set of clean scrubs.
3. 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.
4. A functional watch
5. Each student must have their own stethoscope
6. Notebook and pen
7. It is also **strongly recommended** to bring a clipboard and thermometer.

Diagnostics

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)

1. 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
2. Emphasis will be placed on the importance of:
    1. Correct sample collection and shipping of samples to laboratories.
    2. Provision of all relevant clinical information.
    3. Provision of clear directions on tests requested. IV. **Course Schedule**

1. Necropsy

- **Tuesday, Wednesday and Frida**y 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 laboratory.

4. Parasitology

➢ **Tuesday and Thursday** 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 and a quiz.
- For Parasitology, assessment will be based on participation and a quiz during the rotation.

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 Thomas, DVM, MSc	Assistant Professor	lpeters2@sgu.edu
TBA		
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
TBA		
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 WernersButler, 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

Grading and Assessment Policy
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 remediate any OSCE before the end of the term will 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.

A grade reduction of 5% will be applied to that exam if students do not observe the following parameters listed in the Assessment Policy for Students 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.

Evaluation	**Weighted**
Parasitology rotation	5%
Necropsy rotation	15%
Clinical Pathology Rotation	10%
Radiology	10%
Small Animal Medicine/Anesthesia/Surgery Rotations	20%
Ambulatory Rotation	20%
Midterm OSCE Assessment	0% (formative)
Final OSCE Assessment	20%
Total	100%

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 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.

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.

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.

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.

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) (wsylvester@sgu.edu; achikweto@sgu.edu; knigito1@sgu.edu) and
IT (tellexaminationservices@sgu.edu OR support@sgu.edu OR call 1631-665-8500 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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

Both the Midterm and the Final OSCE assessments are **MANDATORY**. The Midterm OSCE will be a formative assessment offered only to inperson students to reduce test anxiety and help students understand the format of the OSCE assessment in preparation for the Final OSCE. Students who complete the in-person rotations **MUST** complete the in-person OSCE. Any student who completes the in-person rotations and does not complete the in-person OSCE will receive a score of "0" on the Final OSCE Assessment. Accommodations to provide an online OSCE experience will be provided to students who complete online rotations throughout the term.

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.
    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

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Master Syllabus
School of Veterinary Medicine Master Syllabus

Introduction to Livestock Nutrition

Course
LAMS 548
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Course Schedule

	Date & Time	Location/ Format	Topic/Activity	Faculty
WEEK 3	**February 1st Tuesday 9:30-10:30am**	Sis Hall & Zoom	**General Introduction to Livestock Nutrition – Part 1**	Mr. Dean Avril
	February 2nd Wednesday 9:30-10:30am	Sis Hall & Zoom	**General Introduction to Livestock Nutrition – Part 2**	Mr. Dean Avril
	February 3rd Thursday 8:30-9:30am	Sis Hall & Zoom	**Dairy Nutrition – Part 1**	Mr. Dean Avril
WEEK 4	**February 8th Tuesday 10:30-11:30am**	Sis Hall & Zoom	**Dairy Nutrition – Part 2**	Mr. Dean Avril

	February 9th Wednesday 9:30-10:30am	Sis Hall & Zoom	**Beef Nutrition – Part 1**	Mr. Dean Avril
	February 10th Thursday 8:30-9:30am	Sis Hall & Zoom	**Beef Nutrition – Part 2**	Mr. Dean Avril
WEEK 5	**February 18th Friday 8:30-9:30am**		**Revise Week 3 & 4**	
WEEK 6	**February 25th Friday 8:30-9:30am**	Sis Hall & Zoom	**Sheep Nutrition**	Dr Winchester
WEEK 7	**March 4th Friday 8:30-9:30am**	Sis Hall & Zoom	**Goat Nutrition**	Dr Winchester
Week 8	**MIDTERM WEEK**			
Week 9	**March 18th Friday 8:30-9:30am**	Sis Hall & Zoom	**Equine Nutrition – Part 1**	Dr Werners-Butler
Week 10	**March 25th Friday 8:30-9:30am**	Sis Hall & Zoom	**Equine Nutrition – Part 2**	Dr Werners-Butler
Week 11	**April 1st Friday 9:30-10:30am**	Sis Hall & Zoom	**Equine Nutrition – Part 3**	Dr Werners-Butler
Week 12	**April 8th Friday 9:30-10:30am**	Sis Hall & Zoom	**Swine Nutrition – Part 1**	Dr Winchester
Week 14	**April 22nd Friday 8:30-9:30am**	Sis Hall & Zoom	**Swine Nutrition – Part 2**	Dr Winchester
	April 25th Monday 11:30-12:30pm		**Q&A Session**	
Week 15	**April 29th** **FINAL EXAM – LAMS INTRODUCTORY TO LIVESTOCK NUTRITION** **Friday 12.00 NOON**			

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Master Syllabus
School of Veterinary Medicine Master Syllabus

Introduction To Surgical Skills

Course
SAMS 514
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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
- Amanda Marancik, DVM, Assistant Professor Email: amaranci@sgu.edu
- Keith Kalasi, DVM, Assistant Professor Email: kkalasi@sgu.edu

Visiting Professors:

- Tara Walcott, DVM
- Katie Morris, DVM

VSL Technical Staff:

- Elizabeth Peach, RVT epeach@sgu.edu
- Jakobus Louw jlouw@sgu.edu
- Quacy Matthew QMatthew@sgu.edu
- Jude Modeste jmodeste@sgu.edu
- Jemmon Wilkinson jwilkins@sgu.edu
- Reon Patrice rpatrice@sgu.edu

Office Hours for remote students: Mondays 12:30-1:20 AST (via Zoom)
Office Hours for on-island students: By appointment only

Course Location
SAMS514 labs will take place in the Junior Surgery & Anesthesia Lab (JSAL, ground floor of RJ Sis hall). Lectures will take place KB Taylor blue. 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.

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).

Recommended Resources

- Veterinary Surgical Preparation and Protocol (Pasquini, 2011)
- Fundamentals of Small Animal Surgery (Mann, Constantinescu & Yoon, 2011)

Accommodation

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

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)

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 SA Clinical Services(SAMS528).

Course Learning Outcomes
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.

Lesson Learning Outcomes

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), polydiaxanone (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

Alignment of Course Learning Outcomes with Program Learning Outcomes

COURSE LEARNING OUTCOME	**SVM COMPETENCY**	
Demonstrate proficiency in a variety of basic surgical skills including knot tying, suture patterns, ligation, finger trap, instrument handling	PLO23	
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.	PLO23	
Describe in detail the appropriate procedures for surgical preparation of both the surgeon & patient	PLO5, PLO23	
Explain the importance of asepsis and describe the various aspects of aseptic technique used to minimize the risk of surgical infection	PLO3, PLO5, PLO23	
Describe the stages of wound healing & principles of wound management and apply these to the management of wounds	PLOs: 2, 3, 5, 6, 23, 24, 25	
Discuss the principles of bandaging and apply this knowledge in the selection and application of commonly used bandages & slings	PLO23, PLO24, PLO25	
Identify surgical instrumentation and describe the application of each	PLO23	

Course Schedule

Grading and Assessment Policy
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.

Professionalism & attendance:

Students are expected to attend all class activities. While attendance in lecture is not mandatory, attendance in laboratory sessions is mandatory – for both on-island AND remote learning students. Attendance will be checked weekly. Please refer to Section XVII for further details on the course attendance policy. Professionalism will be assessed based on attendance, communication & interaction with course faculty & peers. See Appendix 5.

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. There will be NO adjustment to 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:

Professionalism & attendance	10%
Surgical skills assessments	60% (30% each)
Final written examination	30%
	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 parameters during exams monitored online.

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.

Instructor's Expectations of the Student

1. The student is expected to attend lectures in real-time wherever possible.
2. 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.
3. The student is expected to practice the surgical skills on a regular basis outside of laboratory hours.
4. The student is expected to arrive to their scheduled laboratory session on time and remain in lab for the full 90 minutes.
5. 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.

6. 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.

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.

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 is mandatory and will be recorded 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 by the Course Director and a reduction in professionalism points will ensue. In necessary, the SVM Assistant Dean of Students will be notified and the appropriate actions taken.

If the absence is due to illness, the appropriate procedures should be followed to submit an online medical excuse AND the Course Director should be contacted *prior to* the lab.

If the absence is not illness-related, the Course Director should first be notified. Absences *may* be excused in some circumstances. However, these will be dealt with on a case-by-case basis.

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.

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.
    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

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.

Introduction to Veterinary Science and Medicine

Course
VSCI 301
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Course Faculty and Staff Information
Course Director & Instructor

- *Dr. Mercedes Velazquez de Zerpa*
    - *Office: Veterinary Office Building (SGU campus map: # 48)*
    - *email: mvelazqu@sgu.edu*
    - *Zoom Office hours: by appointment*

Additional Instructors:

- *Dr. Austin Kirwan, SVM*
    - *Assistant Dean for UK Clinical Affairs,*
    - *emails: barnlodge@aol.com and akirwan@sgu.edu*
- *Dr. Rolf Larsen, SVM*
    - *Professor Vet. Theriogenology*
    - *email: rlarsen@sgu.edu*

- *Dr. Hector Zerpa Gonzalez*
    - *Professor. Vet. Physiology*
    - *email: hzerpago@sgu.edu*
- *Camille Coomasing Instructor. Pathobiology email: ccoomansingh@sgu.edu*

Course Location
On Mondays, in the B2A Hall (Top floor of Windward Hall), and on Wednesdays in the Keith B Taylor West Hall (Left-hand side room). Online material—Sakai resources: Panopto, Zoom meetings, Test & Quizzes, Lessons, Assignments, and others).

Required Resources
Visit the following link regarding the required computer specifications to use ExamSoft.
https://mycampus.sgu.edu/group/office-of-institutionaladvancement/examsoft1

Recommended Resources
The recommended textbooks for this course are:

-Merck Veterinary Manual by Susan E. Aiello & Michael A. Moses, 11th Edition; Elsevier, 2016

You can access it here https://www.merckvetmanual.com

- Saunders Manual of Small Animal Practice by Birchard Sherding is accessible through Research4Life. Steps to access:

Use the link: https://auth.elsevier.com/ShibAuth/institutionLogin?entityID=http://s tsr4l.who.int/adfs/services/trust&appReturnURL=https://www.scienc edirect.com/science/book/9780721604220

You will be prompted to log in to Research4Life

- Username: gra002
- Password: 77083

Special 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

Course Rationale
This introductory course to Veterinary Science and Medicine offers an overview of the veterinary profession for future veterinary students in the SVM-DVM program.

This course familiarizes students with basic concepts related to the veterinary profession. Students will acquire a fundamental and introductory working knowledge of clinical practice, infectious diseases, preventive medicine, and therapeutic principles. The students will be exposed to clinical scenarios to illustrate the impact of the veterinary profession on animal welfare and health.

Course Level Outcomes
Upon completion of the Introduction to Veterinary Science and Medicine course, students should be able to:

- Describe the areas of impact in veterinary medicine, including examples of clinical practice and the structure of the veterinary clinic.
- Recognize the principles of the clinical examination and its relevance to the diagnosis and therapeutic approaches.
- List the characteristics of relevant infectious diseases, parasitological diseases, and relevant pathologies in small and large animals.
- Distinguish the influence of reproduction in veterinary medicine.
- Describe the basic principles of therapeutics.
- Recognize the basic principles of veterinary surgery.

Lesson Learning Outcomes
Detailed lecture learning outcomes have been designed for every section and are found in the course handouts, which will be posted weekly on Sakai.

Lecture	Lecture Outcomes
Veterinary Science and Medicine	Define Veterinary Medicine
	Outline the meaning and implications of One Health One Medicine
	Identify the different areas of Veterinary Medicine and specialization
Ethics	Understand and apply basic ethical principles, the laws of nature and natural law.
	Overview animal welfare and the five freedoms.
	Appreciate the role of codes of student and professional conduct.
	Consider their own responsibilities for professional development within an academic
General Practice and organization of a veterinary clinic.	List the Veterinary Healthcare Team members
	Identify the differences between each team member
	Recognize the organizational structure and chart of a general and a specialty
Clinical examination	Describe the physical examination methods.
	Outline the objective and technique for each physical examination method.
	Identify different physical body conditions.
	Recognize the clinical examination by systems, their objectives and procedures.
Animal Restraint and Handling	Understand why restraint is necessary
	Describe the principles and considerations when selecting different restraint methods.
	Recognize the importance of safety when using restraint techniques.
	Identify the types of restraint tools available and the different restraint methods by
	Identify which situations require which tool.
	Identify the different types of hazards that a veterinarian can be exposed to and how
Animal Behavior	Recognize the importance of animal wellfare and animal behavior in Veterinary
Most important infectious diseases in small animals	Define Infectious disease and Zoonosis
	Identify the etiology of each infectious disease.
	Describe the pathogenesis and the clinical findings.
	Name the diagnosis tools.
	Identify the possible treatments.
	Name the preventive methods.
Parasitology	Define the basic concepts related to veterinary parasitology.
	Identify the etiologic agents of each parasite's infection.
	Describe the life cycle of each parasite.
	Identify the clinical findings and lesions that characterize each parasite infection.
	Name the most important diagnostic tools for each parasite.
	Identify the possible treatments and control for each parasite.
Tickborne Diseases	Recognize the general characteristics of ticks.
	Understand the general life cycle of the ticks and how does the disease is spread.
	Identify the etiology of each Tick Born Disease.
	Describe the epidemiology and the clinical findings.

	Name the diagnosis tools.
	Identify the possible treatments.
	Name the preventive methods.
	Describe the safest technique for tick removal

Grading and Assessment policy, and grading rubrics
There will be assignments, midterm, and final proctored online exams. The midterm and the final examinations will be based only on modular questions. Modular examinations expect a student to demonstrate in-depth and detailed knowledge about the material covered. All examinations are sequestered. Exams may contain multiple-choice (single best answer), true/false, and fill-in blanks.

Examination questions come from material covered in lectures, handouts, and any other sources the instructors indicate. All rules and regulations concerning examinations, including EXAMSOFT, are detailed in the SGU Student manual.

https://www.sgu.edu/studentmanual/school-of-arts-andsciences/academic-policies/examination-policies/

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

There will be 2 (two) modular examinations as listed in the table below. Modular examinations expect students to demonstrate indepth, detailed knowledge about the material covered, including integrating basic concepts. Detailed study objectives are included in each handout. All examinations are sequestered. Exams may contain multiple-choice (single best answer), true/false, and/or fill-in blanks. Examination questions come from material covered in lectures, handouts, and any other sources the instructors indicate. All rules and regulations concerning examinations, including EXAMSOFT, are detailed in the SGU Student manual.

Assessment: Content : POINTS

- Exam 1: Lecture weeks 1-7: 50
- Exam 2: Lecture weeks 8-15: 50
- Assignments: Lecture weeks 1, 11 and 14: 30
- TOTAL POINTS: 130

The assignments will be presented to the class during each module and the students must submit them individually via Sakai at the end of each module. The instructions for the assignment will be given by each instructor.

Assessment	**Content**	**Date**	**POINTS**
First Examination	Quiz: Lectures 01-9 February, 10 at 10:00 am	Week 4	20
Midterm week: Second examination	Midterm: Lectures 01-17 March, 10 at 10:00 am	Week 8	40
Third Examination	Quiz: Lectures 18-26 April 07 at 10:00 am	Week 12	20
Final: Fourth Examination	Final: Lectures 01-35 May, 05 at 10:00 am	Week 16	60
Written Assignments	One assignment per module	Due at the end of the module	20
TOTAL POINTS			**160**

Letter Grade	**Percentage**	**Number Grade**
A+	100	4
A	90-99	4
B+	85-89	3.5
B	80-84	3
C+	75-79	2.5

C	70-74	2
D	65-69	1
F	< 65	0

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

1. Assist in lectures and revise the material on a weekly basis.
2. Make your notes, ensuring that the content is understood.
3. For exam preparation, a self-challenge is crucial: explain the learned material to yourself first without referring to your handouts and notes. Use the lecture learning outcomes for this purpose. Then work in small groups and repeat this process. Vocalization is an essential element to check and improve your knowledge and understanding of concepts. Prepare as if you were going to take oral exams.

https://mycampus.sgu.edu/c/document_library/get_file?uuid=b86c9763-3655-45d7-be25-8fa11656ca03&groupId=5742976

Professionalism Statement
Professionalism statement

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

The student is expected to review lecture recordings, assignments, and any other material indicated by the professor before lectures.

Tentative Lecture Schedule: Basic Animal Physiology (VSCI 400 - Spring 2022)

WEEK	DATE	TIME	TOPIC	Lecture Hours per lecture (aprox)	FACULTY	Location	Assignment	Points
1	Monday, Jan 17, 2022	9:30 to 10:20 AM	Introduction, syllabus presentation.	1	Dr. Velazquez	B2A		
	Wednesday, Jan 19, 2022	1:30 - 3:20 PM	Definition of Veterinary Medicine and Science. One Health one Medicine. Areas of Veterinary Medicine	2	Dr. Velazquez	B2A	1	10
2	Monday, Jan 24, 2022	9:30 to 10:20 AM	Clinical Practice and organization of a Veterinary clinic. Animal Handling and Restraint	1	Dr. Velazquez	B2A		
	Wednesday, Jan 26, 2022	1:30 - 3:20 PM	Ethics/Global Veterinary Health Track	2	Dr. Kirwan	B2A		
3	Monday, Jan 31, 2022	9:30 to 10:20 AM	Animal Behavior	1	Dr. Bain	B2A		
	Wednesday, Feb 2, 2022	1:30 - 3:20 PM	Health and safety	1	Dr. Velazquez	B2A		
4	Feb 7 - 11, 2022		Exam week (**NO** Intro to Vet Exam)					
5	Monday, Feb 14, 2022	9:30 to 10:20 AM	Health and safety/Clinical examination	1	Dr. Velazquez	B2A		
	Wednesday, Feb 16, 2022	1:30 - 3:20 PM	Clinical examination Assignment	1	Dr. Velazquez	B2A	1	10

6	Monday, Feb 21, 2022	9:30 to 10:20 AM	Most Important infectious diseases in small animals.	1	Dr. Velazquez	B2A		
	Wednesday, Feb 23, 2022	1:30 - 3:20 PM	Most Important infectious diseases in small animals.	2	Dr. Velazquez	B2A		
7	Monday, Feb 28, 2022	9:30 to 10:20 AM	Parasitology: Small and Large animals	1	Dr. Velazquez	B2A		
	Wednesday, Mar 2, 2022	1:30 - 3:20 PM	Parasitology	2	Camille Coomasing	B2A		
8	Mar 07 to 11, 2022		Midterm					50
9	Monday, Mar 14, 2022	9:30 to 10:20 AM	Tick-borne diseases: Small and large animals	1	Dr. Velazquez	B2A		
	Wednesday, Mar 16, 2022	1:30 - 3:20 PM	Tick-borne diseases: Small and large animals	2	Dr. Velazquez	B2A		
10	Monday, Mar 21, 2022	9:30 to 10:20 AM	Reproduction	1	Dr. Larsen	B2A		
	Wednesday, Mar 23, 2022	1:30 - 3:20 PM	Reproduction	2	Dr. Larsen	B2A		
11	Monday, Mar 28, 2022	9:30 to 10:20 AM	Preventive Medicine. Vaccination. Principles & Strategies	1	Dr. Velazquez	B2A		
	Wednesday, Mar 30, 2022	1:30 - 3:20 PM	Nutrition	2	Dr. Velazquez	B2A	1	10
12	Apr 4 - 8, 2022		Exam week (**NO** Intro to Vet Exam)					
13	Monday, Apr 11, 2022	9:30 to 10:20 AM	Therapeutic Principles:	2	Dr. Zerpa	B2A		
	Wednesday, Apr 13, 2022	1:30 - 3:20 PM	Therapeutic Principles:	2	Dr. Zerpa	B2A	1	10
14	Monday, Apr 18, 2022	9:30 to 10:20 AM	Easter Monday					
	Wednesday, Apr 20, 2022	1:30 - 3:20 PM	Principles of surgery	1	Dr. Velazquez	B2A		
15	Monday, Apr 25, 2022	9:30 to 10:20 AM	Review session	2	Dr. Velazquez	B2A		
	Wednesday, Apr 27, 2022	1:30 - 3:20 PM						
16	May 2 - 6, 2022		Final					50

Master Syllabus
School of Arts and Sciences Master Syllabi

Junior Surgery and Anesthesia Laboratory

Course
SAMS 527
Semester
Fall
Year
2021
Catalog

School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course Director: Marta Lanza-Perea, DVM, MRCVS, MSc Associate Professor (mperea@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)
  - Amanda Marancik, DVM, Assistant Professor (amaranci@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)
  - Francesca Ivaldi, DVM, MSc Associate Professor (fivaldi@sgu.edu)
  - Tomas Guerrero, DVM, Dipl SAS. Professor,(tguerrer@sgu.edu)
  - Rodolfo Bruh Day, DVM,ChD.SAS, Dipl.CLOVE,EdD. Professor (rbruhl-day@sgu.edu)
  - VP's: Dr Tara Walcott, Dr Katie Morris, Dr Merel Blonk 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: TBA

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)
- Veterinary Technician: Mr.Jemmon Wilkinson (jwilkinson@sgu.edu)
- Veterinary Technician: Reon Patrice (rpatrice@sgu.edu)

Community Canine Procurement Coordinator: Mr. Quacy Matthew Assistant Canine Procurement Coordinator: Ms. Diane Mckellar-Basset

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

Required Resources

- JSAL manual, updated for Spring 2022

- 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)

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)

Accommodation

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

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 maker 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. Dansko, 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=2543 9
- No bags, caps, sunglasses, sandals or rolled up scrubs are allowed in the lab. Please use your lockers for those items.
- 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 to promote reflection and creativity as well as review of anatomy in preparation to perform 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.

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 he 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 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.

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 to a team environment
- Perform the minimum ophthalmic database
- Practice techniques used in routine dentistry
- Practice techniques used 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

Course Level Outcomes	**Lab Learning Outcomes:**
1. Present surgical cases and execute peri-operative case management for Castration and Spay laboratories	• 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	• 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 • Demonstrate the duties of the supporting roles in the assistant surgeon or scrub nurse positions
3. Perform sedation and or anesthesia in healthy male and female canine patients for castrations and Spays	• 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
4. Demonstrate proficiency in medical record writing and keeping	• Write basic medical records (SOAPS, Surgery Reports, Anesthetic Record Sheet, Discharge Instructions, and Hospitalization Forms).
5. Professionally perform and contribute in a team environment	• 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
6.Perform the minimum ophthalmic data base	• Practice the Schirmer's tear test • Practice the Fluorescein test • Use direct and indirect ophthalmoscopy • Examine the cranial nerves
7.Practice techniques used in routine dentistry	• 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
8.Practice techniques uses in osteosynthesis	• Apply Pins, Plates, Cerclages and external fixators to fractures in plastic bone models.

For REMOTE Students:

Course Level Outcomes	**Lab Learning Outcomes:**
1. Present surgical cases and execute peri-operative case management for Castration and Spay laboratories	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
2. Describe and perform a Castration and a Spay procedure in a model as a surgeon	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
3. Describe sedation and or anesthesia in a model patient for Castrations and Spays	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 9. Discuss how to assess the depth and adequacy of anesthesia and intraoperative analgesia with and without the aid of monitoring equipment
4. Demonstrate proficiency in medical record writing and keeping	1. Write basic medical records (SOAPS, Surgery Reports, Anesthetic Record Sheet, and Discharge Instructions).
5. Professionally perform and contribute in a team environment	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

Lesson Learning Outcomes

Course Level Outcomes	**Lab Learning Outcomes:**
1. Present surgical cases and execute peri-operative case management for Castration and Spay laboratories	• 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	• 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 • Demonstrate the duties of the supporting roles in the assistant surgeon or scrub nurse positions
3. Perform sedation and or anesthesia in healthy male and female canine patients for castrations and Spays	• 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

4. Demonstrate proficiency in medical record writing and keeping	• Write basic medical records (SOAPS, Surgery Reports, Anesthetic Record Sheet, Discharge Instructions, and Hospitalization Forms).
5. Professionally perform and contribute in a team environment	• 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
6.Perform the minimum ophthalmic data base	• Practice the Schirmer's tear test • Practice the Fluorescein test • Use direct and indirect ophthalmoscopy • Examine the cranial nerves
7.Practice techniques used in routine dentistry	• 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
8.Practice techniques uses in osteosynthesis	• Apply Pins, Plates, Cerclages and external fixators to fractures in plastic bone models.

For REMOTE Students:

Course Level Outcomes	**Lab Learning Outcomes:**
1. Present surgical cases and execute peri-operative case management for Castration and Spay laboratories	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
2. Describe and perform a Castration and a Spay procedure in a model as a surgeon	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
3. Describe sedation and or anesthesia in a model patient for Castrations and Spays	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 9. Discuss how to assess the depth and adequacy of anesthesia and intraoperative analgesia with and without the aid of monitoring equipment
4. Demonstrate proficiency in medical record writing and keeping	1. Write basic medical records (SOAPS, Surgery Reports, Anesthetic Record Sheet, and Discharge Instructions).
5. Professionally perform and contribute in a team environment	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

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	**SGU SVM Program Level Outcome**
1. Present surgical cases and execute peri- operative case management for Castration and Spay laboratories including both anesthesia and surgical case rounds.	1. **Core Medical Knowledge** **PLO:**1,2,3,4,5, 6,7,8,9, 10, 11, 12 2. **Core Professional Attributes** **PLO:** 14,16,17,19,20 3. **Core Clinical Competencies (Skills)** **PLO**: 22,23,24,25,26
2. Describe and perform a Castration and a Spay procedure (in a model as a surgeon)	1. **Core Medical Knowledge** **PLO:** 1,2,12 2. **Core Professional Attributes** **PLO:** 14,16,17, 3. **Core Clinical Competencies (Skills)** **PLO**: 23
3. Describe sedation and or anesthesia in a model patient for Castrations and Spays	1. **Core Medical Knowledge** **PLO:** 1,2,3,4,5,6,7,8,9,12 2. **Core Professional Attributes** **PLO:** 13,14,16,17,19, 20 3. **Core Clinical Competencies (Skills)** **PLO**: 22,25,

4. Demonstrate proficiency in medical record writing and keeping	1. **Core Medical Knowledge** **PLO:** 1, 2,3,4,5,6,8,12 2. **Core Professional Attributes** **PLO:** 13,14,16,17,19, 20 3. **Core Clinical Competencies (Skills)** **PLO**: 24,26,27
5.Professionally perform and contribute in a team environment	1. **Core Medical Knowledge** **PLO:** 12 2. **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**
1. Present surgical cases and execute peri- operative case management for Castration and Spay laboratories	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.
	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 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 7 Evaluate and analyze normal versus abnormal animal behavior.
	PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable 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.
	PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine.
	PLO 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.
2. Describe and perform a Castration and a Spay procedure in a model as a surgeon	1. **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. PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. 2. **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. 3. **Core Clinical Competencies (Skills)** PLO 23 Analyze, design and execute appropriate plans for basic surgery and surgical case management.
3. Describe sedation and or anesthesia in a model patient for Castrations and Spays	**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. 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 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 7 Evaluate and analyze normal versus abnormal animal behavior.
	PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases.

	PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. **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 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 25 Analyze, design and execute appropriate plans for emergency and critical care case management.
4. Demonstrate proficiency in medical record writing and keeping	1. **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. 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 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. PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. 2. **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 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 24 Analyze, design and execute appropriate plans for medical case management.
	PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.
	PLO 27 Demonstrate and model effective client communication and ethical conduct.
5.Professionally perform and contribute in a team environment	1. **Core Medical Knowledge** PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. 2. **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.

Course Schedule

Junior Surgery and Anesthesiology Laboratory Schedule Spring 2022

Week #		Date	Time	Lab	Groups	Location
1	Tue	18-Jan	8:30-12:30	Anesthesia. Intro/Review	B6-B9, C	Sx Lab
	Thu	20-Jan	8:30-12:30	Anesthesia. Intro/Review	A, B1-B5	Sx Lab
	Thu	20-Jan	5:30-6:20	JSAL: Lab PREP(1): Intro to Course	ALL	VSL Lecture Hall
2	Tue	25-Jan	8:30-12:30	Sx Prep/Instruments	A, B1-B5	Sx Lab
	Thu	27-Jan	8:30-12:30	Sx Prep/Instruments	B6-B9, C	Sx Lab
	Thu	27-Jan	3:30-4:20	JSAL Lab PREP (2): Patients , SOAPS, Castration		VSL Lecture Hall
	Thu	27-Jan	4:30-5:20	JSAL Lab PREP (2): Patients , SOAPS, Castration		VSL Lecture Hall
3	Tue	1-Feb	8:30-12:30	Castration (#1)	A	Sx Lab
	Thu	3-Feb	8:30-12:30	Castration (#1)	B	
	Fri	4-Feb	12:30	Mandatory feedback sessions		Sx Lab, prep room
4	Tue	8-Feb	8:30-12:30	**No Lab: Independence Day**		
	Thu	10-Feb	8:30-12:30	Castration (#1)	C	
5	Mon	14-Feb	12:30	Mandatory feedback sessions		Sx Lab, prep room
	Tue	15-Feb	8:30-12:30	Castration (#2)	A	Sx Lab
	Thu	17-Feb	8:30-12:30	Castration (#2)	B	Sx Lab
	Fri	18-Feb	8:30-12:30	**Ophtalmology Lab**	B6-B9, C	Sx Lab
	Fri	18-Feb	1:30-5:30pm	**Ophtalmology Lab**	A, B1-B5	Sx Lab
6	Tue	22-Feb	8:30-12:30	Castration (#2)	C	Sx Lab
	Thu	24-Feb	8:30-12:30	Castration (#3)	A	Sx Lab
7	Tue	1-Mar	8:30-12:30	Castration (#3)	B	Sx Lab
	Thu	3-Mar	8:30-12:30	Castration (#3)	C	Sx Lab
8				MIDTERMS (NO LAB)		
9	Tue	15-Mar	8:30-12:30	Spay (#1)	A	
	Thu	17-Mar	8:30-12:30	Spay (#1)	B	Sx Lab
10	Tue	22-Mar	8:30-12:30	Spay (#1)	C	Sx Lab
	Thu	24-Mar	8:30-12:30	Spay (#2)	A	Sx Lab
	Fri	25-Mar	8:30-12:30	**Dentistry Lab**	A, B1-B5	Sx Lab
	Fri	25-Mar	1:30-5:30pm	**Dentistry Lab**	B6-B9, C	Sx Lab
11	Tue	29-Mar	8:30-12:30	Spay (#2)	B	Sx Lab
	Thu	31-Mar	8:30-12:30	Spay (#2)	C	Sx Lab
12	Tue	5-Apr	8:30-12:30	Spay (#3)	A	
	Thu	7-Apr	8:30-12:30	Spay (#3)	B	Sx Lab
13	Tue	12-Apr	8:30-12:30	Spay (#3)	C	
	Thu	14-Apr	8:30-12:30	Spay (#4)	A	Sx Lab
14	Tue	19-Apr	8:30-12:30	**No Lab : Post Easter break**		
	Thu	21-Apr	8:30-12:30	Spay (#4)	B	Sx Lab
15	Tue	26-Apr	8:30-12:30	Spay (#4)	C	Sx Lab
	Wed	27-Apr	8:30-12:30	Orthopedic Lab	A+ B1-B5	Sx Lab
	Thurs	28-Apr	8:30-12:30	Orthopedic Lab	B6-B9+C	Sx Lab
Thurs		28-Apr	TBA	Lab Closure		Ray and Jan Sis Hall

All laboratories are tought by Anesthesia faculty (Dr Restitutti, Dr Miccio, Ms Dundas and VP')
and Surgery Faculty (Dr. Lanza-Perea, Dr. Kalasi, Dr Marancik, Dr. Rodriguez, Dr. Janicke, Dr. Paterson, Dr. Guerrero, Dr. Bruhl-Day
and VP's- Dr Walcott, Dr Morris, Dr Blonk and Dr de Oliveira)
The JSAL prep lecture hours are taught by Dr.Lanza Perea and Dr. Kalasi

The **OPHTHALMOLOGY lab** is taught by Dr. Bedford (VP)
The **DENTISTRY lab** is taught by Dr Francesca Ivaldi and Dr Hanson

FEEDBACK SESSIONS:
Mandatory feed back sessions will take place in the prep room of the lab unless otherwise stated.
All other sessions will be in the autoclave room or announced venue
The mandatory sessions will be in small groups to comment and guide you after your first SOAPS.

Tues	8-Feb	Group A+B	Mandatory	12:30-1:20
Mon	18 -Feb	Group C	Mandatory	12:30-1:20
Mon	21-Feb	Group A+B	Voluntary	12:30-1:20
Fri	25-Feb	C	Voluntary	12:30-1:20
Mon	7-Mar	All Groups	Voluntary	12:30-1:20
			-	
Mon	21-Mar	Group A+B	Voluntary	12:30-1:20
Mon	25-Mar	Group C	Voluntary	12:30-1:20
Mon	4-April	All groups	Voluntary	12:30-1:20
Mon	11-Apr	Group A+B	Voluntary	12:30-1:20
Thurs	14-April	Group C	Voluntary	12:30-1:20
Thur	28-April	All Groups	Voluntary	12:30-1:20

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 (each student will attend the role of anesthetist once for castrations and once for spays
- Surgery Rounds (each student will attend in the roles of Surgeon, Assistant sx and Scrub nurse, twice for castrations and three times for spays
- Mock castration (1h) per student in a group of 4 students with one instructor
- 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
- Suspensory Ligament rupture article questions (spay)
- Surgery pre procedure video assessments x2 (1 castration, 1 spay)
- Anesthesia case assignment (anesthesia record and quiz) x2 (1 castration, 1 spay)
- SOAPS (2x castrations, 3x spays)
- Surgery Reports x 2 (1 castration, 1 spay)

Grading and Assessment Policy

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:

- **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

- **On-going assessments:** Four roles performed during spays will be graded **75%**
- **Reports:** to be completed appropriately in a timely fashion **20%**
    - Spay Surgery Report due on the discharge day, in the patient's medical record. This is an individual student submission and grade **(5%)**
    - Medical Records (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 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:

- Anesthesia Portion (This grade will only count from after midterms) 30% This grade includes:

- Anesthesia Rounds Presentations
- Anesthesia Record
- Anesthesia oral case Quiz

Please note that there will be 1 anesthesia rounds, record sheet and oral case quiz for castrations before midterms (not counted in your final grade), in preparation for the spay anesthesia rounds, record sheet and oral case quiz (which will count as 30% of the final grade)

- 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
- 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)
  - Surgery Video Assignments (Castration Video and Spay Video) (x2): 5%
- Short answer quizzes to be submitted before performing the mock castration and mock spay.
- Due dates will be specified as soon as possible depending on instructor's availability
- Formative assignments:
  - 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. Pre-requisite to perform mock spay
- Medical Records/ SOAPS (x4): 15%
  - Medical Records will be a group submission due the Sunday after rounds.
  - There will be 1 graded submission for Castrations and 3 for Spays (the first castration medical record submission will not count for grades)
  - 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
- 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.

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.

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 Kalasi (kkalasi@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, kkalasi@sgu.edu, amaranci@sgu.edu) or the anesthesia team (frestitu@sgu.edu , mmiccio@sgu.edu). You can also contact the appropriate instructor.

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, kkalasi@sgu.edu, amaranci@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.

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.

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 8:30am-5:20pm 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.

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 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

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.

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Large Animal Surgery

Course
LAMS 516
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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

Course Location
Ray & Jan Sis Lecture Theater I

MyCourses: 2022-01-LAMS516-V-0-Large Animal Surgery I in Sakai

All Zoom links, Panopto recordings, additional Resources, Tests & Quizzes, Assignments, etc. will be available through the Lessons tab on the LAMS 516 MyCourses site.

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.

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/EDCCGlossaryof Terms.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.

Accommodation

1. Students who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Welcome Center, inside the International Students Office.

2. Information can be found at https://mycampus.sgu.edu/group/saas

Other Requirements
TurningPoint app on device, internet access

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 with 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.

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.

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

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. Appreciate the indications for castration in the different species
2. Appreciate pre-operative considerations in the different species and determine appropriate restraint and analgesia/ anaesthesia
3. Determine the appropriate castration method, depending on the signalment of the individual animal
4. Identify complications of castration
5. Determine the appropriate method of treatment for castration complications.
6. Review the clincal anatomy of the urogenital tract in livestock animals and equines
7. Identify pathological conditions of the urogenital tract in livestock animals and equines
8. Determine the appropriate surgical treatment for pathological conditions of the urogenital tract and recognise their advantages and limitations

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

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

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

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.
	PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. **B. Core Professional Attributes** PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice. PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences. **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.
CLO B Identify the aetiology and pathogenesis of surgical conditions of the major organ systems in the livestock and equine species.	**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. 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.
CLO C Recognize the clinical signs of surgical conditions of the major organ systems in the livestock and equine species.	**A. Core Medical Knowledge** PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 4 Explain the relationship between disease processes and clinical signs.
CLO D Determine appropriate techniques for diagnosis of surgical conditions of the major organ systems	**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.
in the livestock and equine species.	**B. Core Professional Attributes** 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.
CLO E Determine treatment and management plans for surgical conditions of the major organ systems in the livestock and equine species	**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 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. PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine.
CLO F Provide a	**A. Core Medical Knowledge**
prognosis for	PLO 1 Recall, understand, and adequately utilize
individual cases of	multidisciplinary knowledge of basic structures
surgical conditions of	and functions of healthy animals.
the major organ	PLO 3 Recall, understand, and adequately utilize
systems in the	knowledge of etiology, pathogenesis and
livestock and equine	pathology of common infectious, non-infectious,
species.	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.
	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.
	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.

Course Schedule

Week	Lecture No	Date	Time	Topics
1	1	Jan 20	2:30	Intro to LAS I & Principles of LAS I
2	2	Jan 26	1:30	Principles of LAS II & Miscellaneous conditions
3	3	Feb 2	3:30	Castration
	4	Feb 3	2:30	Castration complications Livestock male UGT
	5	Feb 4	2:30	
4	6	Feb 10	3:30	Livestock male UGT *cases*
	7	Feb 11	1:30	**LAIM/LAS – UGT CASE**
5	8	Feb 14	3:30	Equine male UGT
	9	Feb 15	1:30	Equine female UGT I
6	10	Feb 21	4:30	Equine female UGT II Equine UGT *cases*
	11	Feb 22	3:30	
7	12	Feb 28	3:30	Livestock female UGT I
	13	Mar 1	2:30	Livestock female UGT II Livestock female UGT *cases*
	14	Mar 2	4:30	
8		**Mar 7**	**12:00**	**MIDTERM**
9				
10	15	Mar 21	3:30	Teat
11	16	Mar 28	2:30	Dehorning & cases competition
	17	Mar 29	3:30	Livestock gastrointestinal conditions I
	18	Mar 31	2:30	Livestock gastrointestinal conditions II
12	19	Apr 4	2:30	Umbilical masses
13	20	Apr 11	1:30	Livestock gastrointestinal *cases*
	21	Apr 12	1:30	**LAIM/LAS – GIT CASE**
	22	Apr 14	2:30	Livestock MSK Livestock MSK *cases*
	23		1:30	
14	24	Apr 20	2:30	Integument conditions I
15	25	Apr 25	1:30	Integument conditions II Integument *cases I* Integument *cases II*
	26	Apr 27	2:30	Eye conditions

	27 28	Apr 28 Apr 29	1:30 1:30	
16	29	May 4	2:30	**LAIM/LAS - EYE CASE**
17		**May 9**		**FINAL**

Grading and Assessment Policy

1. 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

2. Assessment policy

There will be a Midterm (29 questions) and cumulative Final (58 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.

Three additional points can be achieved by completing the 12 quizzes (0.25 points per quiz) within 1 week of the last lecture on the topic and achieving a pass grade (>69.5%). Reminder deadlines are in the calendar and checklist for each week.

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 that exam if students do not observe the parameters listed in the Assessment Policy for Students.

All other exam policies are followed according to the SGU Examination policy (https://www.sgu.edu/studentmanual/school-of- veterinary-medicine/veterinary-medical-phase/class-examination- attendance/ 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.

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.

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.

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

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.

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.

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.
    1. A Examsoft/ExamID quick guide for students
    2. The examsoft student perspective video 30mins
    3. The Examsoft/ExamID FAQ
    4. Examsoft information page
    5. The general Reminders/Guidelines

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Large Animal Surgery II

Course
LAMS 545
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine

Syllabus Section
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

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.

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.

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/EDCCGlossaryofTerm s.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.

Special Accommodation

1. Students who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Welcome Center, inside the International Students Office.
2. Information can be found at https://mycampus.sgu.edu/group/saas

Other Requirements
TurningPoint app on device, internet access

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 with 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.

Course-Level Outcomes (CLOs)
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.

Lesson-Level Outcomes (LLOs):
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

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	**SGUSVM program level outcome**
CLO A Recognize challenges specific to equine surgery	1. **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. Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. 2. **Core Professional Attributes** 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. 3. **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.
CLO B Identify the aetiology and pathogenesis of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species	**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. 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.
CLO C Recognize the clinical signs of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species	**A. Core Medical Knowledge** PLO 1 Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. PLO 4 Explain the relationship between disease processes and clinical signs. PLO 7 Evaluate and analyze normal versus abnormal animal behavior.
CLO D Determine appropriate techniques for diagnosis of surgical conditions of the respiratory, musculoskeletal and gastrointestinal	1. **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. 2. **Core Professional Attributes** PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice. 3. **Core Clinical Competencies (Skills)**

	PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
CLO E Determine treatment and management plans for surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species	1. **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. 2. **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. 3. **Core Clinical Competencies (Skills)** PLO 21 Create comprehensive treatment plans. 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. PLO 28 Recognize and model an appreciation of the role of research in furthering the practice of veterinary medicine. PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare.
CLO F Provide a prognosis for individual cases of surgical conditions of the respiratory, musculoskeletal and gastrointestinal organ systems in the equine species	1. **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. 2. **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. 3. **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.

Course Schedule

Week	Lecture No.	Date	Time	Topics
0	1 2	Jan 13 Jan 14	9:30 8:30	Intro to LAS II Dentistry
1	3 4	Jan 17 Jan 18	11:30 9:30	The acute abdomen GIT conditions I

	5	Jan 21	10:30	GIT conditions II
2	6 7 8	Jan 25 Jan 26 Jan 28	11:30 11:30 10:30	*GIT cases I* *GIT cases II* Lameness exam
3	9 10	Feb 2 Feb 4	11:30 10:30	Diagnostic analgesia & imaging Equine limb clinical anatomy quiz
4	11 12	Feb 9 Feb 11	10:30 11:30	Principles of fracture repair & fracture first aid *Fracture cases*
5	13 14	Feb 16 Feb 18	11:30 10:30	Osteoarthritis Osteochondrosis
6	15	Feb 23	10:30	Foot conditions I
	16 17	Feb 24 Feb 25	11:30 9:30	Foot conditions II *Foot cases*
7		Mar 4	12:00	**MIDTERM** lectures 1-14
8	18 19	Mar 9 Mar 11	10:30 9:30	Digit and distal limb conditions *Digit cases*
9	20 21	Mar 16 Mar 18	11:30 10:30	*Distal limb cases* Tendon and ligament injury
10	22 23 24	Mar 22 Mar 23 Mar 25	10:30 10:30 9:30	Angular and flexural limb deformities Tendon and DOD *cases* Upper limb conditions
11	25 26	Mar 30 Apr 1	10:30 10:30	*FL cases HL cases*
12	27 28	Apr 6 Apr 8	11:30 10:30	Respiratory conditions I Respiratory conditions II
13	29 30	Apr 12 Apr 13	11:30 8:30	*Respiratory cases I Respiratory cases II*
14		Apr 29		**FINAL** lectures 1-30
15&16				

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 29 and a cumulative Final with 58 questions (87 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.

Three additional points can be achieved by completing the 6 quizzes (0.5 points per quiz) within 1 week of the last lecture on the topic and achieving a pass grade (>69.5%). Reminder deadlines are in the calendar and checklist for each week.

A grade reduction of 5% will be applied to that exam if students do not observe the parameters listed in the Assessment Policy for Students.

All other exam policies are followed according to the SGU Examination policy (https://mycampus.sgu.edu/unifyedmydrive/open/file/download/SGUPROD/61b79d984ef3090018b27134/latest) and the Student Handbook.

In addition, there will be formative quizzes (bonus points) and clinical reasoning cases for self-assessment of understanding of the material and concepts. Feedback will be available immediately upon submission.

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.

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.

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.

Attendance 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.

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 1-631-6658500 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.

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.
    1. A Examsoft/ExamID quick guide for students
    2. The examsoft student perspective video 30mins
    3. The Examsoft/ExamID FAQ
    4. Examsoft information page
    5. The general Reminders/Guidelines

Master Syllabus
School of Veterinary Medicine Master Syllabus

Livestock Medicine 1

Course
LAMS 544
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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. Kerri Nigito, DVM, CPH, MPH, DABVP, *Assistant Professor*, knigito1@sgu.edu
- 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

Course Location
Sis Lecture Hall and Sakai My Courses

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.

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.

Accommodation

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

Other Requirements
Not applicable

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 clinical practice. This course will continue to build on the livestock topics presented in earlier courses.

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

1. Explain the etiology and pathophysiology for livestock animal diseases.
2. Create appropriate differential diagnoses based on presenting complaints, history, physical exam findings, and clinical signs.
3. Determine the appropriate diagnostic tests and interpret the results.
4. Recognize emergency presentations and determine appropriate management strategies.
5. 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.
6. 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.

Lesson Learning Outcomes
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 posthitis.
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.

Alignment of Course Learning Outcomes with Program Learning Outcomes
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.	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. 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.
B. Create appropriate differential diagnoses based on presenting complaints, history, physical exam findings, and clinical signs.	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 veterinary medicine. PLO 7 Evaluate and analyze normal versus abnormal animal behavior. PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create a differential list.
C. Determine the appropriate diagnostic tests and interpret the results to rule in or rule out differential diagnoses to make a diagnosis.	PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine. PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create a differential list.
D. Recognize emergency presentations and determine appropriate management strategies.	PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals. 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 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 7 Evaluate and analyze normal versus abnormal animal behavior. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare. 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.
E. Formulate appropriate treatment and prevention regimens for individual and herd level issues. Integrate knowledge of legislation regarding appropriate use of therapeutic agents in food producing animals.	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 10 Recall, understand, and adequately utilize knowledge of animal nutrition for common domestic animals under a variety of husbandry conditions. PLO 21 Create comprehensive treatment plans. Includes prognosis PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare. PLO 24 Analyze, design and execute appropriate plans for medical case management. PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.
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.	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 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. 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. Create a differential list. PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.

Course 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 No.	Faculty	wTopic
1	17-Jan	Mon				
	18-Jan	Tue				
	19-Jan	Wed	3:30	1	Byers	Livestock Med I – Review
	20-Jan	Thu	3:30	2	Janicke	LAS
	21-Jan	Fri	3:30	3	Byers	Livestock Med I – Review
2	24-Jan	Mon				
	25-Jan	Tue				
	26-Jan	Wed	1:30	4	Janicke	LAS
	27-Jan	Thu	1:30	5	Self Study	Therapeutic Cases
	28-Jan	Fri	1:30	6	Byers and Werners	Therapeutic Cases
3	31-Jan	Mon	1:30	7	Byers and Werners	Therapeutics Cases
	1-Feb	Tue	4:30	8	Byers	Urinary Tract
	2-Feb	Wed	3:30	9	Janicke	LAS
	3-Feb	Thu	2:30	10	Janicke	LAS
	4-Feb	Fri	2:30	11	Byers	Urinary Tract
4	7-Feb	Mon	holiday			
	8-Feb	Tue	3:30	12	Janicke	LAS
	9-Feb	Wed	3:30	13	Byers	Urinary Tract
	10-Feb	Thu	3:30	14	Janicke	LAS
	11-Feb	Fri	1:30	15	Byers and Janicke	Urinary Tract Case
5	14-Feb	Mon	3:30	16	Janicke	LAS
	15-Feb	Tue	1:30	17	Janicke	LAS
	16-Feb	Wed				
	17-Feb	Thu				
	18-Feb	Fri				
6	21-Feb	Mon	4:30	18	Janicke	LAS
	22-Feb	Tue	1:30	19	Byers	Neonates
		Tue	3:30	20	Janicke	LAS
	23-Feb	Wed				
	24-Feb	Thu	1:30	21	Byers	Neonates
	25-Feb	Fri	3:30	22	Byers	Neonates
7	28-Feb	Mon	3:30	23	Janicke	LAS
	1-Mar	Tue	2:30	24	Janicke	LAS
		Tue	4:30	25	Nigito	Dermatology
	2-Mar	Wed	3:30	26	Nigito	Dermatology
		Wed	4:30	27	Janicke	LAS
	3-Mar	Thu	3:30	28	Nigito	Dermatology
	4-Mar	Fri				Neonatal homework due Sunday 11:55 pm AST
8	8-Mar	Tue	LAMS 544 midterm			
9	14-Mar	Mon	NO LAMS/LAS this week			

10	21-Mar	Mon	3:30	29	Janicke	LAS
	22-Mar	Tue	2:30	30	Byers	Cardiology
	23-Mar	Wed				
	24-Mar	Thu	3:30	31	Byers	Cardiology
	25-Mar	Fri				
11	28-Mar	Mon	2:30	32	Janicke	LAS
	29-Mar	Tue	2:30	33	Byers	GIT
		Tue	3:30	34	Janicke	LAS
	30-Mar	Wed	1:30	35	Byers	GIT
	31-Mar	Thu	2:30	36	Janicke	LAS
	1-Apr	Fri	4:30	37	Byers	GIT
12	4-Apr	Mon	2:30	38	Janicke	LAS
	5-Apr	Tue	2:30	39	Byers	GIT
	6-Apr	Wed	3:30	40	Byers	GIT
	7-Apr	Thu	2:30	41	Byers	GIT
	8-Apr	Fri	2:30	42	Byers	GIT
13	11-Apr	Mon	1:30	43	Byers	GIT
		Mon	2:30	44	Janicke	LAS
	12-Apr	Tue	1:30	45	Byers and Janicke	GIT
		Tue	2:30	46	Janicke	LAS
	13-Apr	Wed	4:30	47	Nigito	MSK
	14-Apr	Thu	1:30	48	Janicke	LAS
	15-Apr	Fri	holiday			
14	18-Apr	Mon	holiday			
	19-Apr	Tue	1:30	49	Nigito	MSK
	20-Apr	Wed	2:30	50	Janicke	LAS
	21-Apr	Thu				
	22-Apr	Fri	3:30	51	Nigito	MSK; GIT homework due Sunday 11:55pm AST
15	25-Apr	Mon	1:30	52	Janicke	LAS
	26-Apr	Tue	1:30	53	Nigito	Tjo
	27-Apr	Wed	2:30	54	Janicke	LAS
	28-Apr	Thu	1:30	55	Janicke	LAS
	29-Apr	Fri	1:30	56	Janicke	LAS
16	2-May	Mon	holiday			
	3-May	Tue	1:30	57	Byers	Ophtho
	4-May	Wed	1:30	58	Byers	Ophtho
		Wed	2:30	59	Byers and Janicke	Ophtho
	5-May	Thu				
	6-May	Fri				
17	11-May	Wed	**LAM Final**			

Grading and Assessment Policy
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 will be posted in the Weekly Lessons.

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

Assessments using ExamSoft and ExamMonitor: A grade reduction of 5% will be applied to that exam if students do not observe the parameters listed in the Assessment Policy for Students.

Recommended Study Strategies
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Livestock Medicine II

Course
LAMS 515
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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, MSC, CVA, *Associate Professor*, Ikarasek1@sgu.edu

Dr. Kerri Nigito, DVM, CPH, MPH, DABVP, *Assistant Professor*, knigito1@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

Course Location
Sis Lecture Hall and Sakai My Courses

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.

Recommended Resources

- Supplemental reading will be posted on Sakai.
- Useful livestock-oriented texts. Some are available as ebooks through the library or for purchase.
    - 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.
    - Iowa State University Swine Disease Manual or online at: Iowa State University Swine Diseases Index
    - 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.

Accommodation

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

Other Requirements
Not applicable

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 clinical practice. This course will continue to build on the livestock topics presented in earlier courses.

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

1. Explain the etiology and pathophysiology for livestock animal diseases.
2. Create appropriate differential diagnoses based on presenting complaints, history, physical exam findings, and clinical signs.
3. Determine the appropriate diagnostic tests and interpret the results.
4. Recognize emergency presentations and determine appropriate management strategies.
5. 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.
6. 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.

Lesson Learning Outcomes
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.
3. 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.

Endocrine/Electrolytes

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 multisystemic diseases such as BVDV, listeriosis, leptospirosis, salmonellosis, Histophilus, Mycoplasma, and CAEV/OPPV.
2. Select the appropriate diagnostic tests for each and explain the results.
3. Explain treatment and control strategies for these diseases.

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Learning Outcomes	Program Learning Outcomes (PLO)
A. Explain the etiology and pathophysiology for livestock animal diseases.	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. 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.
B. Create appropriate differential diagnoses based on presenting complaints, history, physical exam findings, and clinical signs.	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 veterinary medicine. PLO 7 Evaluate and analyze normal versus abnormal animal behavior. PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create a differential list.
C. Determine the appropriate diagnostic tests and interpret the results to rule in or rule out differential diagnoses to make a diagnosis.	PLO 6 Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence-based veterinary medicine. PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. Create a differential list.
D. Recognize emergency presentations and	PLO 2 Analyze homeostasis and disturbances of basic structures and functions of healthy animals.
determine appropriate management strategies.	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 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 7 Evaluate and analyze normal versus abnormal animal behavior. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare. 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.
E. Formulate appropriate treatment and prevention regimens for individual and herd level issues. Integrate knowledge of legislation regarding appropriate use of therapeutic agents in food producing animals.	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 10 Recall, understand, and adequately utilize knowledge of animal nutrition for
	common domestic animals under a variety of husbandry conditions. PLO 21 Create comprehensive treatment plans. Includes prognosis PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare. PLO 24 Analyze, design and execute appropriate plans for medical case management. PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.
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.	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 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. 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. Create a differential list.

	PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.

Course Schedule

Week #	**Date**		**Time**	**Lecture #**	**Topic**	**Instructor**	Notes
0	10-Jan	Mon					
	11-Jan	Tues					
	12-Jan	Wed					
	13-Jan	Thurs	10:30	1	Intro	Dr. Byers	
	14-Jan	Fri	10:30	2	Small Ruminants	Dr. Byers	
1	17-Jan	Mon	10:30	3	Small Ruminants	Dr. Byers	
	18-Jan	Tue	10:30	4	Camelids	Dr. Byers	
	19-Jan	Wed	9:30	5	Camelids	Dr. Byers	
	20-Jan	Thu	10:30	6	Euthanasia - LA	Dr. Karasek	
	21-Jan	Fri	11:30	7	Euthanasia cases - LA	Drs. Karasek and Byers	
2	24-Jan	Mon	9:30	8	Parasites	Dr. Byers	
	25-Jan	Tue	9:30	9	Parasites	Dr. Byers	
	26-Jan	Wed	9:30	10	Parasites and cases	Dr. Byers	
	27-Jan	Thu	11:30	11	Weight Loss	Dr. Byers	
	28-Jan	Fri					
3	31-Jan	Mon	8:30	12	Vaccine case	Dr. Byers	
	1-Feb	Tue	9:30	13	Vaccine self-study + group work	Dr. Byers	I will be in SIS/Zoom for questions
	2-Feb	Wed					
	3-Feb	Thu	9:30	14	Swine	Self-directed	
	4-Feb	Fri					
4	7-Feb	Mon		holiday			
	8-Feb	Tue	8:30	15	Swine	Self-directed	
	9-Feb	Wed	8:30	16	Swine	Self-directed	
	10-Feb	Thu					
	11-Feb	Fri	8:30	17	Swine	Self-directed	Part 1 vaccine case due Sun 13 Feb
5	14-Feb	Mon	8:30	18	Swine	Self-directed	
	15-Feb	Tue	9:30	19	Swine	Self-directed	
	16-Feb	Wed	8:30	20	Swine	Self-directed	
	17-Feb	Thu	11:30	21	PBP swine case	Dr. Byers	
	18-Feb	Fri					Part 2 vaccine case due Sun 20 Feb
6	21-Feb	Mon	10:30	22	Respiratory Tract	Dr. Nigito	
	22-Feb	Tue	10:30	23	Respiratory Tract	Dr. Nigito	
	23-Feb	Wed	11:30	24	Respiratory Tract	Dr. Nigito	
	24-Feb	Thu	9:30	25	Respiratory Tract	Dr. Nigito	
	25-Feb	Fri					
7	28-Feb	Mon					
	1-Mar	Tue					

	2-Mar	Wed	12:00		Livestock Med II midterm		
	3-Mar	Thu					
	4-Mar	Fri					
8	7-Mar	Mon					
	8-Mar	Tue	9:30	26	Liver	Dr. Byers	
	9-Mar	Wed	9:30	27	Liver	Dr. Byers	
	10-Mar	Thu	10:30	28	Liver	Dr. Byers	
	11-Mar	Fri					
9	14-Mar	Mon	9:30	29	Hemolytic Disorders	Dr. Byers	
	15-Mar	Tue	10:30	30	Hemolytic Disorders	Dr. Byers	
	16-Mar	Wed					
	17-Mar	Thu	9:30	31	Lymphoid Disorders	Dr. Byers	
	18-Mar	Fri					swine modules close Sun Mar 20
10	21-Mar	Mon	9:30	32	Neurology	Dr. Byers	
	22-Mar	Tue					
	23-Mar	Wed	9:30	33	Neurology	Dr. Byers	
	24-Mar	Thu	10:30	34	Neurology	Dr. Byers	
	25-Mar	Fri	11:30	35	Neurology	Dr. Byers	
11	28-Mar	Mon	9:30	36	Neurology	Dr. Byers	
	29-Mar	Tue	9:30	37	Neurology	Dr. Byers	
	30-Mar	Wed					
	31-Mar	Thu	9:30	38	Neuro case	Dr. Byers	
	1-Apr	Fri					
12	4-Apr	Mon	9:30	39	Electrolyte Disorders	Dr. Nigito	
	5-Apr	Tue	9:30	40	Mammary Gland	Dr. Nigito	
	6-Apr	Wed	9:30	41	Mammary Gland	Dr. Nigito	
	7-Apr	Thu	9:30	42	Mammary Gland	Dr. Nigito	
	8-Apr	Fri					
13	11-Apr	Mon	9:30	43	Multisystemic Diseases	Dr. Byers	
	12-Apr	Tue	9:30	44	Multisystemic Diseases	Dr. Byers	
	13-Apr	Wed					
	14-Apr	Thu					
	15-Apr	Fri		holiday			
14	18-Apr	Mon		holiday			
	19-Apr	Tue	9:30	45	Multisystemic Diseases	Dr. Byers	
	20-Apr	Wed					
	21-Apr	Thu					
	22-Apr	Fri					
15	Finals				Finals		
16	3-May	Tues?	12:00		Livestock Med II Final - exact date is still TBD		

Grading and Assessment Policy
Grades for this course will be based on 2 assignments and midterm and comprehensive final exams. The final exam will focus on multisystemic diseases so will include relevant information from Term 5 Livestock Medicine I.

The assignment links are in the Weekly Lessons; they are untimed but must be completed by the due dates. The due dates will also be posted on the calendar.

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Topics and Points

Assessment	**Points**
Vaccine protocol	10
Swine Modules (7 parts)	20
Midterm exam	50
Final exam	55
Total	**135**

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84.50-89.49	B+
79.50-84.49	B
74.50-79.49	C+
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Pathology 1

Course
PTHB 506
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information

1. **Course Director:**
    a. Dr. Brian Butler, DVM, MPH, PhD, Dipl. ACVP, *Professor*
    b. Email: bbutler@sgu.edu
    c. Office Location: SVM trailer
    d. Office Hours: by appointment
2. **Additional faculty:**
    a. Dr. David Marancik, DVM, PhD, *Associate Professor*, dmaranci@sgu.edu
    b. Dr. Melinda Wilkerson, DVM, PhD, Dipl. ACVP, *Professor*, mwilkers@sgu.edu
3. **Staff members:**
    a. Ms. Cindy Edwards, Executive secretary, cedwards@sgu.edu
    b. Mr. Ferron Victor, Laboratory technician (A/V support)
    c. Ms. Veronica Mapp-Alexander, Laboratory technician (Histology lab)

Course Location
Online and In-person. Course content will be delivered via My Courses, Panopto, Zoom, and TopHat.

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.

Recommended Resources
Textbook: Pathologic Basis of Veterinary Disease, 6th edition. Zachary and McGavin. 2016.

Accommodation

1. Students with disabilities who may require 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

Other Requirements
None

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.

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).

Lesson Learning Outcomes

Lec.	Topic	Learning Outcomes	CLO
1	Introduction to pathology	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.	1
			1

			1,6
			6
		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.	1
			1,7
			1,4,5
2	Cellular injury, adaptation, and death Part 1		2
		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.	2
			2
			2
			2
3	Cellular injury, adaptation, and death Part 2		1,2
		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.	1,2
			1,2
			1,2,3
		4. Describe the mechanisms, morphologic features, and sequelae of apoptosis. 5. 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	1. Review structural and functional characteristic of arteries, capillary types, venules, and lymphatics that maintain the circulatory system. 2. 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). 3. Describe four alterations in capillary dynamics that cause edema and list the causes. 4. Recognize and describe the gross and histopathologic appearance of edema. 5. Explain how pulmonary edema, pleural and peritoneal effusions occur. 6. List and describe the different types of cavitary effusions and recognize the pathophysiology of each type.	1,2
			2,3,6
			2,6
			2,3,6
			2,6
5	Hemostasis and Thrombosis		1,2,6
			2,7
		1. Describe the role of primary and secondary hemostasis and the types of hemorrhage that occur when there are defects in each. 2. Identify proteins important for primary hemostasis and identify vitamin K dependent coagulation factors. 3. Describe causes of thrombus formation (Virchow's triad). 4. Describe the different types of thrombi (arterial and venous), their removal process from vessels, and consequences of recanalization.	2,6
			2,6
			2
			2.7
			2,3,6,7

6	Inflammation (1) Introduction to inflammation	1. List the causes of inflammation and compare and contrast how each varies in their pathologic presentation. 2. Recognize that inflammatory lesions by applying the Cardinal Signs of Inflammation.	1,2,6
			1,2,6
			2,6
		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)	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
	Exudates		
			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. 2. Integrate your knowledge of inflammation to explain disease pathogenesis, pathophysiology, prognosis, and treatment.	1,2,3,6,7
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)	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.	1,2,7 2 2,7
20	Neoplasia (5)	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.	2,6 2 2,6
21	Infection (1)	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.	1,2,6 1,2,6 1,2,3,6,7
22	Infection (2)	1. Identify and analyze the pathogenesis and clinical significance of coinfections and infectious disease complexes.	1,2,6,7

		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.	1,2,6 1,2,6 1,2
23	Gross Pathology	1. Discuss the clinical importance of the postmortem examination.	1 1,3
		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.	3 1,3 1,3,4 1,5
24	Surgical Pathology	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.	1,7 1 1 1 1
25	Urinary (1)	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.	1,6 1,7 1,7 1,6

			2 1,3,6,7
26	Urinary (2)	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 vasculature respond to injury (basic pathogenesis). 4. Evaluate and understand the pathophysiology of glomerular disease.	1,3,7 1,6 1,6
27	Urinary (3)	1. Review the structure and function of the lower urinary tract with emphasis on vulnerabilities to injury and defense mechanisms. 2. Recognize and evaluate the responses to injury and lesion development within the lower urinary tract (pathogenesis). 3. Identify and evaluate the congenital diseases of the urinary system. 4. Evaluate and understand the pathogenesis and pathophysiology of renal glomerular disease. 5. Recognize which diseases are associated with the development of immune complex glomerulonephritis in different species.	1,6 1,3,6 1,6 1,3.6,7 6,8
28	Urinary (4)	1. Evaluate and understand the pathogenesis and pathophysiology of renal tubular diseases. 2. Identify and evaluate the most common nephrotoxins for different species of domestic animals and describe the pathophysiology for each. 3. Evaluate and understand the pathogenesis and pathophysiology of diseases of the renal **pelvis**. 4. Evaluate and understand the pathogenesis and pathophysiology of diseases of the renal **interstitium**. 5. Classify the different types of neoplastic tumors of the kidney and lower urinary tract. 6. Classify and evaluate the pathophysiology of congenital developmental anomalies of the lower urinary tract.	1,3,6,7 1,7 1,3,6,7 1,3,6,7 1,6 1,7

11129	Urinary (5, 6)	1. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in **horses**. 2. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in **ruminants**. 3. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in **pigs**.	6,7,8 6,7,8 6,7,8
		4. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in **cats**. 5. Evaluate and understand the pathogenesis and pathophysiology of urinary disease in **dogs**.	6,7,8 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. 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. 3. Discuss and evaluate the concepts of hepatic functional reserve and hepatic failure. 4. Evaluate and understand how the liver responds to various types of injury (basic pathogenesis). 5. Review and classify the different causes of hyperbilirubinemia. 6. Identify the clinical indicators of hepatic failure. 7. Evaluate and understand the pathogenesis and pathophysiology of congenital liver diseases. 8. Compare and contrast the pathogenesis and pathophysiology of acute and chronic hepatitis and cholangitis. 9. Compare and contrast the pathogenesis of extrahepatic and intrahepatic cholestasis.	1,6 6 7 3,6 6,7 6,7 6,7 6,7 6
31	Hepatobiliary (2)	1. Evaluate and understand the pathogenesis and pathophysiology of the four types of circulatory disorders of the liver. 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 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) 2. Evaluate and understand the basic pathogenesis of hepatotoxicity.	1,3,6,7 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)	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**.	1,6 6,7,8 6,7,8 6,7,8
34	Hepatobiliary (5)	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**.	6,7,8 6,7,8 6,7
35	Alimentary (1)	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.	1,6 6 1,3,6,7
36	Exam Review	NA	NA
37	Alimentary (2)	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.	1,6 1,6,7
38	Alimentary (3)	1. Identify and understand the pathogenesis and pathophysiology for diseases of the rumen, reticulum, abomasum, and stomach.	1,3,6,7
39	Alimentary (4)	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.	1,6 6 1,3,6

			1,3,6,7
40	Alimentary (5)	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.	1,3,6,7 1,3,6,7 1,3,6,7
41	Alimentary (6)	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**.	6,7,8 6,7,8
42	Alimentary (7)	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**.	6,7,8 6,7,8 6,7
43	Integumentary (1)	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 epidermis to injury.	1,6 6 1,6 1,6
44	Integumentary (2)	1. Identify and evaluate the responses of the epidermis to injury (cont.). 2. Identify and evaluate the responses of the dermis to injury. 3. Identify and evaluate the responses of the adnexa to injury.	1,6 1,6 1,6
45	Integumentary (3)	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.	1,6 1,6
46	Integumentary (4)	1. Identify, compare, and classify the four types of endocrine-associated dermatopathy. 2. Identify, compare, and evaluate immune mediated skin diseases – hypersensitivity, autoimmune diseases.	1,6,7 1,6,7
47	Integumentary (5)	1. Identify, compare, and evaluate immune mediated skin diseases – autoimmune diseases (cont.). 2. Identify, compare, and evaluate the most important viral skin diseases.	1,3,6

		3. Recognize the associated skin lesions and analyze the pathogenesis of infection with poxviruses, herpesviruses, and papillomaviruses.	1,6 1,3,6
48	Integumentary (6)	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.	1,6 6,7 3,6
49	Integumentary(7)	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.	1,6 3,6
50	Integumentary (8)	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.	1,6 6 3,6
51	Integumentary (9)	1. Identify, compare, and evaluate the most important neoplastic skin diseases in domestic animals.	1,6 1,6,7
		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.	1,6 6,7
52	Integumentary(10)	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.	1,3,6 1,6 1,6 1,6
53	Exam Review	NA	NA
Lab.	**Topic**	**Learning Outcomes**	**CLO**
1	Inflammation – case-based active learning	1. Evaluate gross tissues for inflammatory lesions. 2. Propose the pathogenesis of disease.	3,6

		3. Determine the likely clinical outcome.	6 7
2	Neoplasia – case-based active learning	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.	6 2,3,6 2,3,6 2

Alignment of Course Learning Outcomes with Program Learning Outcomes

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.

Course Schedule

Week	Date	Daily Lectures/Lessons	Weekly Assignments	Office Hours
1	Jan 17	Lec 1 - Intro to pathology – Butler		
	Jan 18	Lec 2 - Cell injury and death 1 - Butler	No assignments	
	Jan 19	No lecture		
	Jan 20	No Lecture		
	Jan 21	Lec 3 - Cell injury and death 2 – Butler		
2	Jan 24	Lec 4 - Vascular disorders – Wilkerson		
	Jan 25	Lec 5 – Hemostasis Congestion – Wilkerson	No assignments	Zoom Office Hours – Butler/ Wilk
	Jan 26	Lec 6 - Inflammation 1 – Marancik		

				TBA
	Jan 27	Lec 7 - Inflammation 2 – Marancik		
				Optional
	Jan 28	Lec 8 - Inflammation 3 – Marancik		
3	Jan 31	Lec 9 – Inflammation 4 - Marancik		
	Feb 1 Feb 2	Lec 10 – Inflammation 5 - Marancik No lecture	**Case Study Assignment 1** (Sakai – 1 pt) Deadline: Thursday Feb 3, 11:55 pm	Zoom Office Hours – Marancik
				TBA
	Feb 3	Lec 11 - Inflammation 6, Case Study – Marancik		*Optional*
	Feb 4			
		Lec 12 - Inflammation 7 – Marancik		
4	Feb 7	Independence Holiday		
			Case Study Assignment 2	Zoom Office
	Feb 8	Lec 13 – Inflammation 8 - Marancik	(Sakai – 1 pt)	Hours –
			Deadline: Wednesday Feb	Marancik
	Feb 9	Lec 14 - Inflammation 9, Case Study -	9, 11:55 pm	
		Marancik		TBA
	Feb 10		**Laboratory**: Tuesday,	
		Lec 15 - Neoplasia 1 – Butler	February 8th or Thursday,	*Optional*
	Feb 11		February 10th, 8:30 am	
		Lec 16 – Neoplasia 2 - Butler	(Micro Lab)	
5	Feb 14 Feb 15 Feb 16	Lec 17 - Neoplasia 3 – Butler Lec 18 - Neoplasia 4 – Butler No lecture	**Neoplasia Lab Assignment**: Tumor Nomenclature (Sakai – 2 pts)	
	Feb 17 Feb 18	Lec 19 – No lecture (Neoplasia 1-4 only) Lec 20 – Integumentary 1 – Butler	*Deadline Sunday Feb 20th, 11:55 pm	
6	Feb 21	Lec 21 - Integumentary 2 - Butler		

			Dermpath Lab	Zoom Office
	Feb 22	Lec 22 - Integumentary 3 - Butler	**Assignment:**	Hours –
			Patterns of Skin Lesions	Butler
	Feb 23	Lec 23 - Integumentary 4 - Butler	(Sakai – 2 pts)	
			*Deadline Sunday Feb	TBA
	Feb 24	No lecture	27th, 11:55 pm	
				Optional
	Feb 25	Lec 24 - Integumentary 5 – Butler		
7	Feb 28	Lec 25 - Integumentary 6 - Butler		
	Mar 1	Lec 26 - Integumentary 7 – Butler		Zoom Office Hours – Butler
	Mar 2	Lec 27 - Integumentary 8 - Butler		
				TBA
	Mar 3	No lecture		
				Optional
	Mar 4	Lec 28 - Integumentary 9 – Butler		
8 MIDTERMS Week	Mar 7	**Midterm Exam – Mon 12:00 noon** (40 pts)		
	Mar 8			
	Mar 9			
	Mar 10			
	Mar11			
9		**Urinary Pathology (Week 1/2)**		
	Mar 14	No class (ClinPath Midterm Exam)		
				Zoom Office
	Mar 15	TopHat Lesson 1 **(2 pts)**		Hours –
				Butler
	Mar 16	TopHat Lesson 2 **(2 pts)**	***Must complete all*	
			TopHat Lessons by	TBA
	Mar 17	TopHat Lesson 3 **(2 pts)**	*deadline Sunday Mar*	
			20th, 11:55 pm. ***Late***	*Optional*

	Mar 18	Review TopHat Lessons 1-3	***lessons will not receive***	
			points.	
		Expected time commitment = 4 hours		
10	Mar 21	**Urinary Pathology (Week 2/2)** Time for Review Papers	**Reading Assignment**	
	Mar 22 Mar 23 Mar 24 Mar 25	Time for Review Papers and Lesson Review Time for TopHat Lab Assignment (morning) **Live Review Session with exam practice** Thursday at 10:30 am (2 hours) **Attendance is mandatory.** No class *Expected time commitment = 6 hours*	Review Papers 1 - 3 **Urinary Lab Assignment –** TopHat Virtual Necropsy **(2 pts)** ****Must complete all lab and reading assignments by deadline Wed Mar 23rd, 11:55 pm.*** ***Late assignments will not receive points.***	Zoom Office Hours – Butler TBA *Optional*
11		**Hepatobiliary and Exocrine Pancreas**		
		(Week 1/2)		
	Mar 28	TopHat Lesson 1 **(2 pts)**		
				Zoom Office
	Mar 29	TopHat Lesson 2 **(2 pts)**	****Must complete all*	Hours –
			lessons by deadline	Butler
	Mar 30	TopHat Lesson 3 **(2 pts)**	*Sunday Apr 3rd, 11:55 pm.*	
			Late lessons will not	TBA
	Mar 31	TopHat Lesson 4 **(2 pts)**	***receive points.***	
				Optional
	Apr 1	Time for Lessons Review		
		Expected time commitment = 5 hours		
12		**Hepatobiliary and Exocrine Pancreas**		
		(Week 2/2)	**Reading Assignments**	
			Review Paper 1	
	Apr 4	Time to read Review Papers	Review Paper 2	
			Review Paper 3	
	Apr 5	Time for Review Papers and Lesson Review		Zoom Office
			Liver Lab Assignment	Hours –

	Apr 6	Time for Lab Assignment (morning)	TopHat Virtual Necropsy	Butler
			(2 pts)	
	Apr 7	**Live Review Session with exam practice**		TBA
		Thursday at 10:30 am (2 hours)	****Must complete lab*	
		Attendance is mandatory.	*and reading assignments*	*Optional*
			by deadline Wed Apr 6th,	
	Apr 8	No class	*11:55 pm.* ***Late***	
			assignments will not	
		Expected time commitment = 6 hours	***receive points.***	
13	Apr 11 Apr 12	**Alimentary Pathology (Week 1/2)** TopHat Lesson 1 **(2 pts)** TopHat Lesson 2 **(2 pts)**	****Must complete all lessons by deadline Sunday Apr 17th, 11:55*	
	Apr 13 Apr 14 Apr 15	TopHat Lesson 3 **(2 pts)** TopHat Lesson 4 **(2 pts)** Good Friday Holiday. No class. *Expected time commitment = 4 hours*	*pm.* ***Late lessons will not receive points.***	
14		**Alimentary Pathology (Week 2/2)**		
			Reading Assignment	
	Apr 18	Easter Monday. No class.	Review Paper 1	
			Review Paper 2	Zoom Office
	Apr 19	Time for Review Papers and Lesson Review		Hours –
			Alimentary Lab	Butler
	Apr 20	Time for Lab Assignment (morning)	**Assignment**	
			TopHat Virtual Necropsy–	TBA
	Apr 21	**Live Review Session with exam practice**	Diarrheal Disease **(2 pts)**	
		Thursday at 10:30 am (2 hours)		*Optional*
		Participation is mandatory.	****Must complete all*	
			assignments by deadline	
	Apr 22	No class	*Wednesday Apr 20th,*	
			11:55 pm. ***Late***	
			assignments will not	
		Expected time commitment = 5 hours	***receive points.***	
15				

	Apr 25	Time for Lessons Review and Study		
	Apr 26	No class		Zoom Office Hours – Butler
	Apr 27	No class		
				TBA
	Apr 28	No class		
				Optional
	Apr 29	No class		
16 FINAL Exams	May 2	Labor Day		
	May 3			
	May 4			
	May 5			
	May 6	**Final Exam – Friday 12:00 pm** (50 pts)		
17 FINAL Exams				
18 CAPPS				

Grading and Assessment Policy
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**

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.

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.

Professionalism Statement
Please refer to SVM Student Manual.

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.

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 (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) 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.

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.
    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

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.

Pathology 2

Course
PTHB 507

Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information

1. Course Directors:
    1. Dr. M. I. Bhaiyat, BVM, PhD; Professor (Veterinary Pathology)
        a. e-mail: mibhaiyat@sgu.edu
        b. Tel.: 444-4175, EXT. 3338
        c. 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.
    2. Dr. C. Dores, DVM, MSc, PhD, Diplomate ACVP; Associate Professor (Veterinary Pathology)
        a. email: cdores@sgu.edu
        b. Tel: 444- 4175 EXT. 3618
        c. Office Location: SVM Trailer Offices
    3. Office Hours:
        a. On Zoom by availability or on regular schedule
2. Staff members:
    1. Ms. Cindy Edwards; Executive Secretary
        a. e-mail: <cedwards@sgu.edu>
        b. Tel.: 444-4175, EXT. 3339
    2. Mr. Ray Samuel; Laboratory Technician (Necropsy)
        a. e-mail: <rsamuel@sgu.edu>
        b. Tel.: 444-4175, EXT. 357
    3. Ms. Ava McIntyre; Laboratory Technician (Necropsy)
        a. e-mail: <amcinty4@sgu.edu>
        b. Tel.: 444-4175, EXT. 3570
    4. Ms. Veronica Mapp-Alexander; Laboratory Technician (Histopathology)
        a. e-mail: <vmappal1@sgu.edu>
        b. Tel.: 444-4175, EXT. 3415

Course Location

1. This course will be taught using a hybrid format with in-person and asynchronous online lectures, and in person and online laboratory activities
2. Online lectures and laboratories
    1. Location: Sakai resources being used (i.e., Panopto, Lessons)
    2. Online synchronous laboratory Zoom sessions (Appendix 2)
3. In person lectures and laboratories
    1. Lectures: Ray & Jan Sis Hall East (RJSH-2), Lower True Blue Campus
    2. Laboratories: Charter Hall Lab

Required Resources

1. Pathologic Basis of Veterinary Disease, 6th Edition (2017). By James F. Zachary. St.Louis, Elsevier. ISBN: 978-0-323-35775-3
2. Computer with functional microphone, camera, and speakers
3. Internet connection with bandwidth supportive of streaming videos and online video calls.

Recommended Resources

1. 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
2. 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

Accommodation

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

Other Requirements
NA

Course Rationale

1. Pathology II is a four-credit course taught in the 4th term of the DVM program. This course consists of 56 lectures of one-hour duration and four (4) 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.
2. 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, Respiratory, and Reproductive.
3. 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.

Course Learning Outcomes

1. Upon successful completion of this course, the student should be able to develop pathology skills in the following systems: Lymphoid, Special senses (Eye/Ear), Nervous, Skeletal, Muscular, Cardiovascular, Endocrine, Respiratory, and Reproductive.
2. The Course Learning Outcomes for each module and each system are:
    1. Describe the reactions of each organ to injury.
    2. Define terms used in disease of each organ.
    3. Outline the pathogenesis of major disease groups of each organ including congenital, degenerative, necrotic, inflammatory, hyperplastic and neoplastic processes, and place specific diseases in context of prevalence, morbidity, mortality and "one health".
    4. 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.
    5. Effectively communicate and explain disease's pathophysiology and associated lesions to professional colleagues, clients, lay public and responsible authorities.

Lesson Learning Outcomes

1. **Pathology of the lymphoid system**
    a. Recall the formation of lymphoid cells and the role of their regulatory factors.

b. Recall the function and architecture of the lymphoid system.
c. List the primary and secondary lymphoid organs.
d. Recall the function and the architecture of the thymus.
e. Describe the lesions of the thymus and the diseases causing them (combined immunodeficiency, lymphoid atrophy, thymic hemorrhage/hematoma, thymic neoplasia, thymic cysts, thymitis).
f. Recall the function and the architecture of the spleen.
g. Describe the lesions of the spleen and the diseases causing them (physical injury, degeneration, pigmentation, disturbances of circulation, inflammation, disturbances of growth, neoplasia, splenomegaly, small spleens).
h. Recall the function and architecture of the lymph node.
i. Describe the lesions that affect the lymph node and the diseases causing them (small lymph nodes [lymphoid atrophy], lymphadenopathy [hyperplasia, inflammation, neoplasia]).
j. Recall the function and architecture of the lymph nodules, tonsils and bone marrow.
k. Describe the lesions that affect the lymph nodules, tonsils and bone marrow and the diseases causing them (disturbances of growth, necrosis, inflammation, neoplasia).
l. Recall the different cells of the hemopoietic system
m. Describe the major neoplasms that affect the hematopoietic cells (hematopoietic neoplasia: lymphoproliferative and myeloproliferative).

2. Pathology of the eye and ear (special senses)
   a. Review the structure (anatomy, microanatomy) and function (physiology) of the eye globe
   b. List and describe disorders of ocular development
   c. Explain the pathophysiology of glaucoma and list associated histological and gross lesions
   d. Define cataracts and list possible etiologies
   e. Describe major histological changes associated with cataracts
   f. Explain the pathophysiology of diabetic cataracts
   g. List, compare and contrast developmental disorders of the eyelid and conjunctiva and associate them with the development of associated diseases
   h. List inflammatory diseases of the cornea and conjunctiva, and categorize them in infectious and non-infectious.
   i. List, compare and contrast neoplasms from the eyelid, and conjunctiva
   j. Describe how the cornea responds to injury and which factors dictate the repair's outcome
   k. List, compare and contrast inflammatory corneal diseases
   l. List infectious etiologies of keratitis and associate their prevalence amongst different species
   m. List, compare and contrast neoplasms of the cornea
   n. List and describe how the uvea reacts to injury and associate these reactions with disturbances in ocular homeostasis and function
   o. List, compare and contrast the two types of lens induced uveitis
   p. List, compare and contrast the most common cases of uveitis
   q. List, compare and contrast neoplasms of the uvea
   r. Describe how the retina reacts to injury and associate these responses with ocular function and regeneration
   s. List common etiologies of retinitis and retinal degeneration
   t. Explain retinal dysplasia and list all possible etiologies
   u. List, compare and contrast toxic causes of retinal degeneration
   v. List neoplasms of the retina
   w. List, compare and contrasts acquired diseases of the lens
   x. Explain the pathophysiology of Feline post traumatic ocular sarcoma
   y. List, compare and contrast developmental disorders of the ear and associate them with development of diseases
   z. Define otitis externa, list predisposing, primary and secondary factors of otitis and explain their relationship in the context of pathophysiology
   aa. List and explain structural changes associated with chronic inflammation of the external and middle ear
   ab. List, compare and contrast the most frequent neoplasms of the ear
   ac. List, compare and contrast vascular lesions of the ear.

ad. Explain the pathophysiology of otitis media and its related clinical presentations and possible sequelae
ae. Define nonpharyngeal polyps and explain its relationship with the ear and predisposing conditions
af. Define and explain the pathophysiology of Vestibular Disease.
ag. List, compare and contrast etiologies of hearing loss and deafness, and explain different forms or categorizing the disease.

3. Pathology of the nervous system
    a. Recite the terminology of the nervous system and its disorders.
    b. Illustrate the ways in which the cellular components of the nervous system respond to injury.
    c. Describe the unique histopathologic reactions in nervous tissue.
    d. Describe the spectrum of congenital/inherited abnormalities which can occur in the central nervous system (brain & spinal cord).
    e. Describe the spectrum of degenerative diseases of the CNS.
    f. Describe the process of degeneration and regeneration in peripheral nerves.
    g. Describe necrosis/malacia in the CNS giving examples of the major causes and the consequences thereof.
    h. Enumerate the types of metabolic disorders which can affect the nervous system of domestic animals (viz: vitamin deficiency, mineral deficiency, toxins [plant, chemicals, fungal, bacterial]).
    i. Describe the major circulatory disturbances which can occur in the CNS.
    j. Recognize color change and mass lesions in gross specimens of the central nervous system.
    k. Describe how infectious agents gain access to the nervous system.
    l. Give examples of specific infectious/inflammatory diseases affecting the nervous system of domestic animals (viz: bacterial diseases, viral diseases).
    m. Give examples of specific infectious/inflammatory diseases affecting the nervous system of domestic animals (viz: parasitic, mycotic).
    n. Give examples of non-infectious & immune-mediated diseases affecting the nervous system of domestic animals (viz: SRMA, EME, GME, NME/PDE, NE, Little white shaker syndrome).
    o. Describe the consequences of trauma and pressure changes within the central nervous system (CNS).
    p. Describe the type of disorders which can affect the spinal cord and appreciate their consequences.
    q. Recognize color change and mass lesions in gross specimens of the central nervous system.
    r. Describe the main types of tumors of the CNS which occur in domestic animals.
4. Pathology of the musculoskeletal system
    a. List cells of the skeletal system and associate them with bone homeostasis and development of disease.
    b. Describe how bone reacts to injury.
    c. List types of bone fractures
    d. Outline cell types involved with bone healing process, and describe phases of bone healing
    e. List factors which delay healing of a fracture.
    f. List the common examples of congenital skeletal abnormalities
    g. Describe the pathogenesis and consequences of inflammation of the bone.
    h. List, compare and contrast causes of osteomyelitis in small animals, horses and cattle.
    i. List and describe the pathogenesis of metabolic bone disease (deficiency of, and excess, mineralized bone).
    j. Describe acute and chronic the reaction of the joint to injury.
    k. Describe the pathogenesis and consequences of degenerative joint disease.
    l. Give examples of degenerative joint diseases
    m. Describe the pathogenesis and consequences of degeneration of intervertebral discs.
    n. List, compare and contrast common forms of infectious and non-infectious arthritis in domestic animals
    o. List compare and contrast tumors of the skeletal system of domestic animals and associate them with disease progressions
    p. List the acute and chronic responses of muscle to injury.
    q. List the causes, and describe the consequences of muscle atrophy.

r. List the causes, and describe the consequences of muscle hypertrophy.
s. List the common causes of myositis and where appropriate identify the species in which they occur most frequently.
t. 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]).
u. Outline the lesions associated with severe muscular traumatic injury.
v. List the common tumors of muscles.
w. Laboratory (Scheduled Zoom session).

5. Pathology of the cardiovascular system
    a. Discuss the basic pathophysiologic mechanisms of cardiovascular dysfunction.
    b. Explain the pathogenesis of congestive cardiac failure (CHF).
    c. Enumerate the changes characteristic of common types of congenital cardiac diseases and their significance.
    d. List the different types of pericardial disease and how they develop.
    e. List the various acquired diseases of the myocardium (degeneration, necrosis, mineralization).
    f. Describe the etiology and pathogenesis of endocardial diseases particularly those affecting the cardiac valves (valvular endocardiosis).
    g. Describe the etiology and pathogenesis of inflammatory diseases of the heart (pericarditis, endocarditis, myocarditis).
    h. Describe the etiology and pathogenesis of disturbances of growth particularly those affecting the myocardium (hypertrophy, atrophy/dilatation).
    i. Describe the etiology and pathogenesis of cardiomyopathy in the dog and cat.
    j. List the most common neoplasms of the heart.
    k. Enumerate the disease processes that affect arteries and veins (rupture/aneurysms, hemorrhage, pericardial effusions, thromboembolism, degeneration, necrosis, inflammation, disturbances of growth, neoplasia).
    l. Recognize cardiac diseases post-mortem and collect appropriate tissues for histopathologic evaluation.

6. Pathology of the endocrine system
    6. Describe the basic anatomical structure and hormone produced by the pituitary, adrenal, thyroid and parathyroid gland and endocrine pancreas.
    7. 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.
    8. List primary and secondary structural and function changes that occur with disease of endocrine organs.
    9. List common endocrine neoplasms and their functional outcomes.
    10. Interpret a postmortem, or biopsy report from a submitted tissue from theendocrine system.
    11. Discuss and explain the usefulness of clinical pathology tests and internal medicine in the diagnosis of endocrine diseases in large and small animals.

7. Pathology of the respiratory system
    7. Recall the function and architecture of the respiratory system.
    8. Recall the defense mechanisms of the respiratory system and the consequences of impairment of the defense mechanism.
    9. Identify the significance of the factors involved in respiratory disease due to air-borne and blood-borne agents.
    10. List the specific diseases of nasal cavity in bovines, equines, cats, and pigs describing the etiology, gross and microscopic lesions, and diagnostic methods.
    11. List the neoplasms of the nasal cavity.
    12. 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.
    13. Recall the basic structure and function of the lung.
    14. Associate pulmonary disease with other organ systems.
    15. List the defense mechanisms of the lung.

16. Understand the pathophysiology of respiratory failure.
17. List the different types of pulmonary vascular disease and their pathological significance.
18. List of the different types of disturbances of aeration and their pathological significance (atelectasis, emphysema).
19. Outline the defense mechanisms of the lung.
20. Define pneumonia and outline the etiology, predisposition factors, pathogenesis, lesions, and sequelae of pneumonia.
21. Classify pneumonia and describe the etiology, pathogenesis, lesions, and sequelae of the basic morphological types of pneumonia.
22. Describe the specific types of pneumonia in ruminants (cattle, sheep, goat), horse, pig, dog, and cat including the etiology, clinical signs/lesions, sequelae, and diagnostic methods.
23. List the miscellaneous diseases of the lung in domestic animals describing the etiology, gross and microscopic lesions.
24. List the main types of primary pulmonary tumors and the involvement of the lungs in disseminated neoplastic disease in domestic animals.
25. Describe the noninflammatory and inflammatory conditions and tumors affecting the pleura and mediastinum including the etiology, pathogenesis, lesions, and sequelae.
26. Describe the inflammatory diseases affecting the airsacs (air sacculitis).
27. Be able to recognize, at necropsy, the common pulmonary lesions of ruminants (cattle, sheep, goats), horse, pig, dog, and cat.

8. Pathology of the reproductive system
    a. List and compare the Disorders of Sexual Development
    b. List, compare and contrast infectious agents that can affect the ovaries
    c. List and compare ovarian neoplasms regarding cellular origin, hormone production, and neoplasm behavior
    d. List, compare and contrast infectious agents that can affect uterine tubes, uterus, vagina and vulva
    e. Compare and contrast the effect of reduced estrogen and progesterone stimulation in the female reproductive tract and associate them with the development of disease
    f. List etiologies that cause a reduction in the hormonal stimulation in female reproductive organs
    g. Compare and contrast the effect increased estrogen and progesterone stimulation in the female reproductive tract
    h. List and compare uterine neoplasms regarding cellular origin, and neoplasm behavior
    i. List, compare and contrast infectious agents that can affect the vagina and vulva
    j. List, compare and contrast neoplasms that can develop in the vagina and vulva and associate them with behavior
    k. List the main infectious agents associated with mastitis in animals.
    l. Compare and contrast all presentations of mastitis and associate them with etiologic organisms
    m. Describe the main types of mammary tumors and list the most common types of tumors in the queen and bitch.
    n. List and compare histological features from benign versus malignant mammary tumors in domestic animals.
    o. List and compare the major non-infectious causes of early embryonic death and abortion
    p. List and compare the major causes of infectious abortions
    q. List all zoonotic agents that can cause abortions in domestic species
    r. List the major developmental anomalies of the male reproductive system.
    s. Describe the degenerative, inflammatory and neoplasms of the testes
    t. List zoonotic agents that can infect the male reproductive tract
    u. Compare and contrast testicular neoplasms regarding cellular origin, hormone production and associated lesions
    v. List the main inflammatory, infectious and neoplastic lesions of the epididymis and the accessory sex glands.
    w. List the inflammatory, hyperplastic and neoplastic abnormalities occurring in the prostate gland.

x. List the main inflammatory, infectious and neoplastic lesions of the scrotum, penis and prepuce.

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.

Course Schedule

LECTURE SCHEDULE FOR VETERINARY PATHOLOGY II, TERM 4 SPRING 2022						
Week	**Lecture**	**Day**	**Date**	**Time**	**Lecturer**	**Lecture Topic**
1	1	Monday	17-Jan	8:30 AM	Bhaiyat	Lymphoid System
	2	Tuesday	18-Jan	8:30 AM	Bhaiyat	Lymphoid System
	3	Wednesday	19-Jan	8:30 AM	Bhaiyat	Lymphoid System
	4	Thursday	20-Jan	8:30 AM	Bhaiyat	Lymphoid System
	5	Friday	21-Jan	8:30 AM	Bhaiyat	Lymphoid System
2	6	Monday	24-Jan	8:30 AM	Bhaiyat	Lymphoid System
	7	Tuesday	25-Jan	8:30 AM	Dores	Special Senses
	8	Wednesday	26-Jan	8:30 AM	Dores	Special Senses
	9	Thursday	27-Jan	8:30 AM	Dores	Special Senses
	10	Friday	28-Jan	8:30 AM	Dores	Special Senses
3	11	Monday	31-Jan	8:30 AM	Bhaiyat	Nervous System
	12	Tuesday	1-Feb	8:30 AM	Bhaiyat	Nervous System
	13	Wednesday	2-Feb	8:30 AM	Bhaiyat	Nervous System
		Thursday	3-Feb	-	-	-
	14	Friday	4-Feb	8:30 AM	Bhaiyat	Nervous System
4		**Monday**	**7-Feb**	-	**Grenada Independence Day Holiday**	
	15	**Tuesday**	**8-Feb**	**11:30 AM**	**Pathology II, Quiz 1 (Lymphoid & Special Senses)**	
	16	Wednesday	9-Feb	8:30 AM	Bhaiyat	Nervous System
		Thursday	10-Feb	-	-	-

	17	Friday	11-Feb	8:30 AM	Bhaiyat	Nervous System
5		**Monday**	**14-Feb**	**12:00 PM**	**Epidemiology Final Examination**	
	18	Tuesday	15-Feb	8:30 AM	Bhaiyat	Nervous System
	19	Wednesday	16-Feb	8:30 AM	Bhaiyat	Nervous System
	20	Thursday	17-Feb	8:30 AM	Bhaiyat	Nervous System
		Friday	18-Feb	-	-	-
6	21	Monday	21-Feb	9:30 AM	Dores	Skeletal System
	22	Tuesday	22-Feb	8:30 AM	Dores	Skeletal System
	23	Wednesday	23-Feb	8:30 AM	Dores	Skeletal System
	24	Thursday	24-Feb	8:30 AM	Dores	Skeletal System
		Friday	25-Feb	-	-	-
7	25	Monday	28-Feb	8:30 AM	Dores	Skeletal System
	26	Tuesday	1-Mar	8:30 AM	Dores	Muscular System
	27	Wednesday	2-Mar	8:30 AM	Dores	Muscular System
	28	Thursday	3-Mar	8:30 AM	Dores	Muscular System
		Friday	4-Mar	-	-	-
8		**Monday**	**7-Mar**	**12:00 PM**	**Pathology II Mid-Term Exam (Nervous & Musculoskeletal)**	
		Tuesday	**8-Mar**	**12:00 PM**	**VPH Mid-Term Examination**	
		Wednesday	**9-Mar**	**-**	-	-
		Thursday	**10-Mar**	**12:00 PM**	**AFEAD Mid-Term Exam**	
		Friday	**11-Mar**	**12:00 PM**	**Intro Clin Med Mid-Term Exam**	
9		**Monday**	**14-Mar**	**12:00 PM**	**Anesthesiology Mid-Term Exam**	
	29	Tuesday	15-Mar	8:30 AM	Bhaiyat	Cardiovascular System
	30	Wednesday	16-Mar	8:30 AM	Bhaiyat	Cardiovascular System
	31	Thursday	17-Mar	8:30 AM	Bhaiyat	Cardiovascular System
	32	Friday	18-Mar	9:30 AM	Bhaiyat	Cardiovascular System
10	33	Monday	21-Mar	8:30 AM	Bhaiyat	Cardiovascular System
	34	Tuesday	22-Mar	8:30 AM	Bhaiyat	Cardiovascular System
	35	Wednesday	23-Mar	8:30 AM	Dores	Endocrine System

	36	Thursday	24-Mar	8:30 AM	Dores	Endocrine System
	37	Friday	25-Mar	9:30 AM	Dores	Endocrine System
11	38	Monday	28-Mar	8:30 AM	Dores	Endocrine System
	39	Tuesday	29-Mar	8:30 AM	Dores	Endocrine System
	40	Wednesday	30-Mar	8:30 AM	Bhaiyat	Respiratory System
	41	Thursday	31-Mar	8:30 AM	Bhaiyat	Respiratory System
42		Friday	1-Apr	8:30 AM	Bhaiyat	Respiratory System
12 44	43	Monday Tuesday	4-Apr 5-Apr	8:30 AM 8:30 AM	Bhaiyat Bhaiyat	Respiratory System Respiratory System
45 46		Wednesday Thursday **Friday**	6-Apr 7-Apr 8-Apr	8:30 AM **-** 8:30 AM	Bhaiyat - Bhaiyat	Respiratory System - Respiratory System
13	47	**Monday**	**11-Apr**	**11:30 AM**	**Pathology II, Quiz 2 (Cardiovascular & Endocrine)**	
	48 49 50	Tuesday Wednesday Thursday	12-Apr 13-Apr 14-Apr	8:30 AM 8:30 AM 8:30 AM	Bhaiyat Bhaiyat Dores	Respiratory System Respiratory System Reproductive System
		Friday	**15-Apr**	**-**	**Good Friday Holiday**	
14		**Monday**	**18-Apr**	**-**	**Easter Monday Holiday**	
	51 52 53	Tuesday Wednesday Thursday	19-Apr 20-Apr 21-Apr	8:30 AM 8:30 AM 8:30 AM	Dores Dores Dores	Reproductive System Reproductive System Reproductive System
		Friday	22-Apr	-	-	-
15	54 55 56	Monday Tuesday Wednesday	25-Apr 26-Apr 27-Apr	8:30 AM 8:30 AM 8:30 AM	Dores Dores Dores	Reproductive System Reproductive System Reproductive System
		Thursday **Friday**	28-Apr **29-Apr**	- **12:00 PM**	- **Intro Livestock Nutrition Final Exam**	-
16		**Monday**	**2-May**	**-**	**Labor Day Holiday**	

		Tuesday **Wednesday** Thursday **Friday**	**3-May** **4-May** 5-May **6-May**	**12:00 PM** **12:00 PM** - **12:00 PM**	**Pathology II Final Exam (Respiratory & Reproductive)** **Surgical Skills Final Exam** - - **VPH Final Examination**

Laboratory schedule for Veterinary Pathology II, Spring 2022

LABORATORY SCHEDULE FOR VETERINARY PATHOLOGY II, TERM 4 SPRING 2022								
Week	**Lab. No.**	**Day**	**Date**	**Time**	**Venue**	**Group**	**Lecturer**	**Lab Topic**
7	1	Thursday	3-Mar	1:30 PM	Charter Hall Lab	A	Dores	Musculoskeletal System
				3:00 PM	Charter Hall Lab	B	Dores	Musculoskeletal System
8		Monday	7-Mar	12:00 PM	(TBA)	Vet Path II Mid-Term Examination		
10	2	Thursday	24-Mar	1:30 PM	Charter Hall Lab	A	Bhaiyat	Cardiovascular System
				3:00 PM	Charter Hall Lab	B	Bhaiyat	Cardiovascular System
13	3	Thursday	14-Apr	1:30 PM	Charter Hall Lab	A	Bhaiyat	Respiratory System
				3:00 PM	Charter Hall Lab	B	Bhaiyat	Respiratory System
14	4	Thursday	21-Apr	1:30 PM	Charter Hall Lab	A	Dores	Reproductive System
				3:00 PM	Charter Hall Lab	B	Dores	Reproductive System
16		Tuesday	3-May	12:00 PM	(TBA)	Vet Path II Final Examination		

Grading and Assessment Policy

1. 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).
2. 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**.
3. 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.
4. When using ExamSoft and Exam Monitor for assessment, a grade reduction of 5% will be applied to that exam if students do not observe the parameters listed in the Assessment Policy for Students.
5. Exams will have the following point distributions:
    a. Assignments: 20 points (5 points per assignment)
    b. Quiz 1: 40 points – Tuesday 8th February, 2022 @ 11:30 AM
    c. Mid-Term exam: 40 points – Monday 7th March, 2022 @ 12:00 PM
    d. Quiz 2: 40 points – Monday 11th April, 2022 @ 11:30 AM
    e. Final exam: 40 points – Tuesday 3rd May, 2022 @ 12:00 PM

f. Total points: 180 points
g. 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

- 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 (See "I" Grade) 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.
- 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.
    a. Upon obtaining a grade of "C" or better on the re-sit exam, the maximum course grade earned is a "C".
    b. At mid-term, students who are at risk of getting an unsatisfactory grade ("D+", "D", "F") in the course will be advised by the CAPPS to prepare for remediation.
    c. 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.
    d. 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.

Recommended Study Strategies

1. Assignments and exams due dates are fixed, but if accommodations are needed and approved by the Dean of Students (Dr. M. I. Bhaiyat), students will receive an extension to complete assignments and take exams.
2. The course material will be posted on Sakai.
3. The exam material will come from lectures, labs, and classroom discussions.
4. Students are expected to read lecture notes and power points and come prepared to answer questions.

5. 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:
    1. What is the etiology?
    2. What is the pathogenesis?
    3. Is there a specific pathophysiology associated with the disease/condition?
    4. What species are affected?
    5. What age range of animal is affected?
    6. What are the gross lesions? (Not to worry too much about microscopic lesions unless there is a pathognomonic one).
    7. How can you distinguish this disease/condition from other related ones?
6. What are the sequelae?
    1. 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).

Instructor's Expectations of the Student

1. The student is expected to attend all lectures/labs and actively engage in Sakai forums and Zooms sessions (where applicable).
2. All assignments, tests/quizzes must be submitted in a timely manner.
3. 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.**

Course and Instructor Critiques:

1. Students are expected to attend all classes and other related academic activities as defined for each course by the Course Director. One such academic activity is participation in the St. George's University (SGU) Course and Instructor Critique program.
2. Student participation in the evaluation process is mandatory: When requested, students in a course are expected to complete all required faculty and course evaluations. Failure to complete all required course and instructor critiques will mean that students did not fulfill all course requirements. The critiques coordinator notifies students when evaluation periods have begun and sends periodic reminders to ensure that critiques are submitted within the allotted time frame.
3. The Importance of Evaluation: Evaluation is a necessary component of any course. Just as students anticipate a fair and accurate evaluation of their performance and achievement in a course, SGU requires that faculty and course evaluations be completed each term. Continual evaluation and assessment of faculty ensures that the instructional program not only remains consistent, but also improves as students' needs and expectations are considered.
4. Feedback: At the beginning of each term, Course Directors will address the class and summarize the results of the Course and Instructor Critiques from the previous semester. In this summary, Course Directors will report areas that students rated highly and the areas that received the lowest ratings. For areas receiving low ratings, the Course Director details what changes were made to address students' concerns, thus ensuring that course evaluation influences course design and delivery.
5. Your Participation in the Evaluation Process is **MANDATORY**: When you are expected to complete a course and/or instructor critique, the Office of Educational Assessment (OEA) will notify you via your SGU e-mail account and post a notice outside the lecture hall. This notification will include instructions on how to access and complete the necessary critique(s). Once you access a required course or instructor critique, you can either complete it or indicate that you do not want to complete the critique by checking the appropriate box on the form. Students who have not submitted evaluations within the allocated period will be placed on a "registration hold" by the Registrar's Office. A registration hold bars students from registering for future classes until all

outstanding evaluations are completed. At registration time, students on “registration hold” will be directed to the OEA for instructions on how to complete remaining evaluations. Once these are submitted, the registration hold will be lifted.

6. Please be assured that the information you provide will remain strictly confidential because your identification and your responses will always be separated. If you have any questions about the Course and Instructor Critique System, please contact Ms. Raynelle Benjamin at the OEA – EXT. 3879 or rbenjam2@sgu.edu

Professionalism Statement

1. Please exhibit professional behavior in class (online or otherwise).
2. Some of the important values and characteristics that are expect include: respect, honesty, trust, reliability, commitment, equality, justice and discretion.
3. Students are expected to log in on time for scheduled meetings, and exams.
4. Submission of tests/quizzes and assignments must be done in a timely manner.
5. The use of mobile phones or any educational material is not allowed during exams
6. Students who breach any of the above rules can be subjected to disciplinary action.
7. 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 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

Attendance/Participation Policy

refer student to the student manual page if applicable)

1. 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.
2. System’s assigments 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.
3. 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.
4. Students who have technical issues during the examination MUST inform the Course Director(s) (Dr. M. I. Bhaiyat: mibhaiyat@sgu.edu and/or Dr. C. 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.

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

5. Absence Reporting Procedures
    1. 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 form on the University Portal. This self-report form should be submitted before the end of the scheduled examination time. This form will be sent automatically to the Course Director(s), University Health Services, Dean of Students Office, and Dean of the School of Veterinary Medicine. 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. The Medical Excuse covers all examinations and other mandatory academic activity within a 7-day period starting from the date of submission of the Medical Excuse. If a student becomes able to take some or all of the examinations/ mandatory academic activity during the timeframe covered by the Medical Excuse, he/ she may take any remaining examinations/mandatory academic activity. If a student chooses to resume exam activity after submission of a medical excuse, the student should proceed with all scheduled examinations during the current testing period. Students are only allowed two such excuses in an academic year. The third excuse results in the case being reviewed by the Dean of Students (DOS), the SVM Dean's Council, and the Director of the University Health Services (UHS), which may result in a Mandatory Medical Leave of Absence (MMLOA). Refer to the policies on Completion Examinations in this manual located further below in this section.
    2. If illness persists for more than seven (7) days, students are not advised to fill out a second Medical Excuse Form. Students are directed to visit or call University Health Services (UHS).
    3. See the Student Manual for further details.
6. **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.
    4. **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.

Policy Regarding Missing Examinations and/or Failure of Submission of Assignments

1. 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 (submitted before the deadline), will receive a score of zero ("0") points for the assessment. Excuses are vetted as valid or not by the Associate Dean of Students (see student manual: SGUSVM POLICY ON AN EXCUSED ABSENCE (EA) FOR STUDENTS).
2. Students who have technical issues during the examination MUST inform the Course Director (s) (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.

3. Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University.
4. Completion exams will be scheduled within seven (7) calendar days of the original exam date. Re-sit examination will be scheduled in the week prior to the beginning of classes in the following term as scheduled by the School.

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.
    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 30 mins
    3. The Examsoft/ExamID FAQ
    4. Examsoft information page
    5. 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.
5. All other exam policies are followed according to the SGU Examination Policy (https://mycampus.sgu.edu/unifyed- mydrive/open/file/download/SGUPROD/60cb7112ec12c400185be4fa/latest) and the Student Handbook.

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.

Pharmacology 2

Course
ANPH 505
Semester
Fall
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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).

Course Location
Lectures that are delivered/offered face-to-face are indicated in the course schedule. The material for each week will be available under “Resources” in the Sakai menu. The “Lessons” tab on Sakai will contain a checklist for each week with the material that is covered in that week. All scheduled face-to-face lectures will be available via Zoom; check the Zoom tab on the menu panel on Sakai for the links. Panopto recordings will become available shortly after each of the face-to-face lectures via the Panopto tab in the menu on Sakai.

Required Resources
I will use long notes and lecture slides. Long notes and slides will be available on Sakai under “Resources”. The slides will be accessible for digital note taking. 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, 5th edition; Giguere, Prescott, and Dowling editors; John Wiley & Sons” can be very helpful when preparing for the course and in general practice.

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

- Pharmacology, 9th edition; Ritter, Fowler, Henderson, Loke, MacEwan and Rang editors; Churchill Livingstone
- Antimicrobial therapy in Veterinary Medicine, 5th edition; Giguere, Prescott, and Dowling editors; John Wiley & Sons
- Veterinary Pharmacology and Therapeutics, 10th edition; Riviere and Papich editors; John Wiley & Sons
- 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

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

Other Requirements
None

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.

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

Lesson Learning Outcomes

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

Cardiavascular pharmacology	CV 1. Identify the drug targets and mechanisms of action of drugs with an effect on the heart and/or the vasculature CV 2. Compare and contrast clinical effects of drugs with an effect the heart and or the vasculature CV 3. Evaluate the adverse effects and contraindications of drugs with effects on the heart and/or the vasculature CV 4. Create a treatment protocol for diseases of the heart and/or the vasculature	1, 2, 3, 4, 5
Ophthalmic pharmacology	OPTH 1. Clarify the pharmacokinetic characteristics required for treatment of ocular diseases OPTH 2. Identify the drug targets and mechanisms of action of drugs that are used to treat common ocular diseases OPTH 3. Evaluate the adverse effects and contraindications of drugs used to treat common ocular diseases OPTH 4. Create treatment protocols for common diseases in and around the eye	1, 2, 3, 4, 5
Urogenital pharmacoloy	Diuretics UG 1. Identify the drug targets and mdchanisms of action UG 2. Compare and contrast the clinical effects of diuretics UG 3. Evaluate the adverse effects and contraindications UG 4. Create a treatment protocol for diseases requiring the use of diuretics Drugs treating diseases of the kidney UG 5. Identify the drug targets and mechanisms of action of drugs used in acute and chronic kidney disease UG 6. Compare and contrast the effects of different drugs used in acute and chronic kidney disease UG 7. Evaluate the adverse effects and contraindications of drugs used in acute and chronic kidney disease UG 8. Create a treatment protocol for acute and chronic kidney disease Drugs used to treat diseases of urether, urinary bladder and urethra UG 9. Identify the drug targets and mechanisms of action for drugs with an effect on the lower urinary tract UG 10. Compare and contrast the different effects of drugs with an effect on the lower urinary tract UG 11. Evaluate the adverse effects and contraindications of drugs with an effect on the lower urinary tract UG 12. Create a treatment protocol for diseases of the lower urinary tract	1, 2, 3, 4, 5
Gastro-intestinal pharmacology	Drugs with an effect on the stomach GI 1. Identify the drug targets and mechanisms of action for drugs with an effect on the stomach GI 2. Compare and contrast the effects of drugs with an effect on the stomach GI 3. Evaluate the adverse effects and contraindications of drugs with an effect on the stomach GI 4. Create a treatment protocol for common diseases of the stomach Drugs with an effect on the intestines GI 5. Identify the drug targets and mechanisms of action of drugs with an effect on the intestines GI 6. Compare and contrast the effects of drugs with an effect on the intestines GI 7. Evaluate the adverse effects and contraindications of drugs with an effect on the intestines GI 8. Create a treatment protocol for common diseases of the intestines	1, 2, 3, 4, 5
Chemotherapy/ cancer medication	CT 1. Identify the drug targets and mechanisms of action of different anticancer drugs CT 2. Compare and contrast the effects different groups of anticancer drugs CT 3. Clarify different mechanisms of resistance against drugs used to treat cancer CT 4. Evaluate the adverse effects and contraindications of anticancer drugs CT 5. Create a treatment protocol for different types of cancer	1, 2, 3, 4, 5
Food safety	FS 1. Clarify the importance of avoiding residues in edible tissues	6, 7, 8

	FS 2. Identify rules and regulations regarding food safety in different countries FS 3. Clarify which parameters are used to minimise the risk of residues in food FS 4. Identify withdrawal times and explain the influence dose and pharmacokinetic parameters have on the withdrawal time FS 5. Clarify the rules and regulations regarding extra label use of drugs in different countries	
Antiviral drugs	AV 1. Identify the drug targets and mechanisms of action of different antiviral drugs AV 2. Compare and contrast the effects of different groups of antiviral drugs AV 3. Clarify different mechanisms of resistance against drugs used to treat viral infections AV 4. Evaluate the adverse effects and contraindications of antiviral drugs AV 5. Create a treatment protocol for different viral infections	1, 2, 3, 4, 5
Antiprotozoal drugs	AP 1. Identify the drug targets and mechanisms of action of antiprotozoal drugs AP 2. Compare and contrast the effects of different groups of antiprotozoal drugs AP 3. Clarify different mechanisms of resistance against drugs used to treat protozoal infections AP 4. Evaluate the adverse effects and contraindications of antiprotozoal drugs AP 5. Create a treatment protocol for different protozoal infections	1, 2, 3, 4, 5
Ectoparasiticides	ECT 1. Identify the drug targets and mechanisms of action of ectoparasitic drugs ECT 2. Compare and contrast the effects of different groups of ectoparasitic drugs ECT 3. Clarify different mechanisms of resistance against ectoparasitic drugs ECT 4. Evaluate the adverse effects and contraindications of ectoparasitic drugs ECT 5. Create a treatment protocol for different ectoparasitic infestations	1, 2, 3, 4, 5
Antifungal drugs	AF 1. Identify the drug targets and mechanisms of action of antifungal drugs AF 2. Compare and contrast the effects of antifungal drugs AF 3. Clarify different mechanisms of resistance against antifungal drug AF 4. Evaluate the adverse effects and contraindications of antifungal drugs AF 5. Create a treatment protocol for fungal infections	1, 2, 3, 4, 5
Anthelmintic drugs	ANTH 1. Identify the drug targets and mechanisms of action of anthelmintic drugs ANTH 2. Compare and contrast the effects of anthelmintic drugs ANTH 3. Clarify different mechanisms of resistance against anthelmintic drugs ANTH 4. Evaluate the adverse effects and contraindications of anthelminthic drugs ANTH 5. Create a treatment protocol for different helminth infections/infestations	1, 2, 3, 4, 5
Respiratory pharmacology	RESP 1. Identify drug targets and mechanisms of action of drugs used to treat common respiratory diseases RESP 2. Compare and contrast the effects and adverse effects of drugs used to treat common respiratory diseases RESP 3. Evaluate the contraindications and adverse effects of drugs used to treat common respiratory diseases RESP 4. Create treatment protocols for common respiratory diseases in animals	1, 2, 3, 4, 5
Therapeutic decision making	TDM 1. Create treatment plans for common disorders in a variety of relevant veterinary species TDM 2. Evaluate treatment plans based on the therapeutic concept including Good Veterinary Practice and Antimicrobial Stewardship TDM 3. Compare and contrast advantages and disadvantages of different treatment modalities	6, 7, 8

Alignment of Course Learning Outcomes with Program Learning Outcomes

	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
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
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).	A6: Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine A11: Understand and apply basic principles of research and recognise the contribution of research to all aspects of veterinary medicine B4: Model life-long continuing education and professional development B6: Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advise
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 demographical, socio-economical and cultural considerations.	B1: Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities B8: Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences

Course Schedule
see separate schedule on Sakai

Grading and Assessment Policy
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 (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 course material and serve as practice questions. The assignment on treatment of bacterial diseases (10% of the total grade) in different animal species is due towards the end of the term (see course schedule; rubric can be found here) and students are required to complete a peer evaluation document with their group (5%). The first quiz (20 questions) will cover all material presented in the first part of the term. The second quiz (20 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 (15% each), and the mark for the final examination (55%). **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	15%	20	All the material presented before the 1st quiz. See detailed schedule in appendix table 4
Quiz 2	15%	20	All the material presented between the 1st and 2nd quiz. See detailed schedule in appendix table 4
Final examination	55%	60	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.
Antibiotic assignment	10%	30	See topics in the syllabus and grouping on Sakai. Deadline is Saturday April 30th at 17.00pm AST
Peer evaluation	5%	5	See document on Sakai. Deadline is Saturday April 30th at 17.00pm AST

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.**

Material for the quizzes and final examination

Examination	Subject	Total number of questions
Quiz 1	1. Therapeutic concept 2. Antiinfectives 3. Antibiotics	20
Quiz 2	1. Antiprotozoal	20

	2. Antiviral 3. Antifungal 4. Ectoparasiticides 5. Anthelmintic	
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	60

The topics for the assignment and grouping:

Group	Subject	Students
1	A 3-year-old domestic short hair cat presents with a quite severe localised infection on the skin. The cat is known to fight with neighbouring cats and it is likely that the cat was scratched. Your tentative diagnosis is a *Pasteurella multocida* infection.	Boshoven, Jacob Brown, Treg de Haas, Julianna Hein, Raven **Zink, Kayla**
2	A 35-days-old Thoroughbred foal presents with lameness, fever and pain on palpation of the affected limb. After taking an x-ray of the limb you conclude that the foal suffers from osteomyelitis and when culture results come back, the infection seems to be caused by *Escherichia coli.*	Mitchener, Micalah Norton, Brian Waylan, Cathryn Wellejus, Claire **Holtzclaw, Allison**
3	A 6-year-old Warmblood horse presents with unilateral nasal discharge from the left nostril. The discharge is mucoid (whitish) and smells terrible. Upon palpation and percussion of the left frontal sinus, you decide to take and x-ray and confirm sinusitis. Sinusitis is usually caused by *Steptococcus equi zooepidemicus*	Badger, Megan Geiger, Lindsay Leanders, Alexandria Marques, Candis **Flaherty, Victoria**
4	In a flock of sheep the farmer observes discharge from vulva of a few sheep for a few days, then sudden abortion in late pregnancy occurs in a number of ewes, followed by rapidly increasing abortion rate over several days (average outbreak is 20% of the flock, but varies from 5– 50%, with rates of up to 70% reported). Weak and dead lambs are born and you now observe brownish discharge from the vulva for up to two weeks following abortion. You diagnose ovine campylobacteriosis caused by *Campylobacter ovis*	MarDnez, Keila Schaeffer, Samantha Verma, Niharika Wahl, Alexandria
5	A group of swine shows clinical signs of porcine respiratory disease complex. This is a multifactorial problem and to make sure you know what bacterium is causing this, you do necropsy on one of the pigs that has just died. Culture of lung tissue is positive for *Bordetella bronchiseptica*	Crosbie, Hayley Dembitsky, Andrew Mahecha-Diago, Sixto MarDnez, Xavier
6	A 7-year-old Ragdoll presents with pollakiuria, dysuria, stranguria, hematuria, and inappropriate urination. You perform cystocentesis and send the urine of for culture and sensitivity testing. Your tech took a small amount of urine and did a quick Gram-stain and evaluated the urine under a microscope. The bacteria are Gram-negative and most likely *E. coli.*	McGregor, Natalie Nguyen, Jacqueline Linh My Perdue, Brian Widenbaum, Megan

7	A 3-months-old Standardbred foal presents with fever, laboured breathing, cough, a rattling sound in the windpipe, and depression. An x-ray examination of the thorax is performed and cotton-ball like structures are identified. You suspect the foal of pneumonia caused by *Rhodococcus equi,* and decide to take a trans-tracheal aspirate for confirmation (culture and sensitivity testing).	Andrade Godoy, Julia Capuano, Marie-Benedicte Coughlin, Jacqueline Michaloski, Lauren
8	A 13-year-old Lusitano stallion presents with a fever, anorexia, bilateral nasal discharge (foul-smelling), cough, weight loss, tachypnea, and respiratory distress. You perform a physical examination, decide you want an X-ray of the thorax, take blood and a trans-tracheal aspirate. The culture results indicate a *Mycoplasma* spp. infection	Nickel, Nina Roncone, Ericah Ruiz Anaya, Brenda Yarrington, Daniela
9	A 9-year-old Warmblood gelding presents to a referral hospital with a sudden onset of diarrhoea, lethargy, fever, anorexia and colic. You receive the horse in the ICU unit, perform a physical examination and collect a fecal sample that is send to the microbiology lab. You suspect the horse of a *Salmonella typhimirium* enterocolitis and start treatment.	Casavant Kubwimana, Kayla Cruz Cordova, Paula **Gonzalez, Victoria** Nickerson, Stephanie
10	An 7-months old Dartmoor pony foal presents with ventral oedema, lethargy, diarrhoea, fever, colic, potbelly appearance, poor hair-coat and weight loss. You take a blood sample and find low total protein and low albumin levels. These sings are most likely caused by a proliferative enteropathy caused by *Lawsonia intracellularis*.	Rosado, Melanie Schafsteck, Emily SchleTe, Sarah Tucker, Emily
11	A 2-day-old Thoroughbred foal presents with the clinical signs of neonatal septicaemia, including lethargy, fever, and leucocytosis. Although you have started a culture of the foals blood to identify the bacterial species causing the septicaemia, you start empirical treatment.	Brundage, Kiely Casanova Crespo, Fabiola Coimbatore, Sudarshini Evans, Joel
12	A 3-year-old Warmblood gelding presents with left front limb lameness. You notice a small wound in the carpal region and upon palpation, there is evidence of effusion of the carpal joint horse. You aseptically take a sample of the joint fluid and after culture of the fluid conclude that the horse suffers from a septic arthritis caused by *Staphylococcus* spp.	Graham, Rowan Ibarra, Noelly Miyamoto, Karrie Solis, Alexis
13	A 3-year-old Great Dane presents with erythematous papules and pustules. Crusts of variable thickness are identified, as well as alopecia, erythema and hyperpigmentation of these area's. You conclude, the dog suffers from a superficial pyoderma caused by *Staphylococcus pseudointermedius*.	Casey, Alexa Elford, Emma Fornengo, Joshua Frith, Lilly
14	A 5-year old male Golden Retriever presents with scooting, licking, biting at the anal area, and painful defecation (dyschezia) with tenesmus. After a physical examination you conclude that the dog suffers from an anal sac abscessation caused by *Proteus* spp.	Howell, Alyssa Kroning, Brianna Luscinski, Jillian Madden, Anne
15	A 3-year-old Maltese bitch presents with a sudden onset of harsh cough, nose and eye discharges, and a mild fever. The owners have noted the dog gagging (or retching) with mucous froth produced that can look like vomit. Your tentative diagnosis is canine infectious respiratory disease complex caused by *Bordetella bronchiseptica*.	Thomas, Britny Brannon, Parker Cedarleaf-Pavy, Lily Cooper, WyLee
16	An 11-year-old Jack Russell terrier presents after episodes of vomiting, poor appetite, abdominal pain, weight loss and diarrhoea. After a thorough physical examination, you perform an endoscopy and take a sample from the stomach wall. The results indicate an *Heliobacter* spp. infection.	Langeness, Alexis MarDn, Bei Li Townsend, Joseph Webster, Kathleen
17	A 5-year old German Shepherd presents with fever, inappetence and diarrhoea. Your tentative diagnosis is a bacterial enteritis caused by *Clostridium perfringens*	Barrientos, Paola Easterling, Ashley Flores, TaDana Gosch, Caitlyn
18	A 4-year-old male Rhodesian ridgeback presents with fever, anorexia, vomiting, and lethargy, stiff gait, and preputial discharge and be unwilling to breed. Upon physical diagnosis , the dog has caudal abdominal pain and you conclude that he has a bacterial infection of the prostate caused by *Enterobacter* spp.	Maguire, Jennifer Valle, Roxana Youssef, Joy **Kilpatrick, Ariel**
19	A 3-year-old Labrador retriever presents with, lethargy, arthralgia and myalgia, polydipsia and polyuria, decreased appetite, vomiting, diarrhoea, icterus. After careful examinations, you conclude that the dog has a *Leptospira interrogans* infection.	Sarver, Madelynn Bargiacchi,

		Emma Benjamin, Janeila Dempsey, Jacob
20	A 4-year-old Persian cat presents with a history of sneezing, ocular and nasal discharge. On otoscopic examination, a polyp is visible after the ear is cleaned of the dried dark, crumbly exudate in the ear canal. an otitis media and interna caused by *Staphylococcus* spp.	DeviT, Lindsey Stevenson, Christopher Wilson, Daria Boyd, Alexander
21	A 4-year old Abyssinian cat presents with ocular discharge and swelling and redness of the conjunctiva. After taking a sample, culture results confirm a *Mycoplasma* spp. infection.	Abrams, Lauren AugusDne Tillock, Ashika Calderon, Lexi GiganDno, Giana
22	A 5-year old Persian cat presents with sudden onset rapid shallow, open-mouth breathing that is painful, depression, lethargy, and decreased. After physical examination you suspect fluid in the thorax. You take an X-ray and confirm fluid in the thorax. You take a sample through thoracocentesis and confirm that the pyothorax is caused by *Actinomyces* spp.	Mendoza, Jose Quarnberg, Shelby Vasquez, Isis Becker, Alexis
23	A 7-year old domestic short hair cat presents with loss of appetite, fever, vomiting, and jaundice. You suspect cholangiohepatitis caused by *Salmonella* spp.	Dublinsky, Miriam Gomez OrDz, Andrea Liu, Cassie Rijhwani, Simran
24	A 3-year-old stray cat suddenly shows clinical signs of congestive heart failure. You can not find any cause for the disese and after studying the literature you conclude that the most likely cause is a *Bartonella henselae* infection.	Smith, NicoleTe Swanson, KaDe Villarreal Andrade, Ana Rubio, Catherine
25	A calf has been a bit under the weather with clinical signs of a viral respiratory tract infection. The calf now presents with depression, toxaemia and fever (104°–106°F [40°–41°C]). You suspect a pneumonia caused by *Mannheimia haemolytica*	Curbelo, Helena Cunningham, Kimberly Kirkham, BriTany Mendonca, Gynelle
26	An older cow presents with anorexia, depression, lethargy, fever, hyperpnea, respiratory distress and weight loss suggestive of broncho-pneumonia. Lameness has also been observed and you suspect that the cow suffers from *Mycoplasma bovis* pneumonia.	Schaufeld, Haley Dawson, Jordan Coley, Mackenzie Liu, Annie
27	A diary cow presents with abdominal pain. After a careful physical exam you decide to do an ultrasound on the abdomen and detect several abscesses in the liver of the cow. You know that these abscesses are usually caused by *Fusarium necrophorum*	Hogle, Breanna Cantu, Soledad Connelly, Mackenzie Jones, Kathryn
28	Several 3-4 day old calves present with diarrhoea, dehydration, with anorexia, depression, and fever for approximately five days. After 10 days some of the claves have died. You have taken a fecal sample and culture results indicate that the diarrhoea is caused by *Salmonella* spp.	Zanley, Beth Galafate, Jonathan Sapienza, Sara **King, Nathan**

Recommended Study Strategies

This course will be assessed in a midterm and final examination, SAQs, an assignment and a peer evaluation. It is therefor 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 start 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.

Instructor's Expectations of the Student
Students are expected to familiarise themselves with the materials before coming to the lectures and are expected to actively participate in the discussions in class.

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 de nes 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 t 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.

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.

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

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.
    1. A Examsoft/ExamID quick guide for students
    2. The examsoft student perspective video 30mins
    3. The Examsoft/ExamID FAQ
    4. Examsoft information page
    5. The general Reminders/Guidelines

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.

Physical Diagnosis I

Course
SAMS 515
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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 Thomas DVM MSc, Assistant Professor; lthomas8@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)

Course Location
Dual Delivery Online-

ZoomLink: https://sgu.zoom.us/j/95027512883?pwd=ek9PNERkTTlmRS84ZFJReWt qdUVOdz09

Andrew Belford Hall, 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

Required Resources

1. Lecture and lab resources provided on SAKAI
2. Video resources provided on Panopto

Recommended Resources

1. Any physiology text, e.g. Guyton, Sjaastad, Eckert, Cunningham
2. Anatomy text, e.g. Dyce, Sack & Wensig, Pasquini
3. Resources provided in Panopto and SAKAI
4. Laptop or computer with functional camera, microphone and internet connection

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

Other Requirements

1. Stethoscope
2. The skills you will be exposed to require repetition on a live animal (cat or dog) or life-like model, like a stuffed animal
3. 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

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

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

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:	**1,2**
	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	
	Identify signs of dehydration in small animal patient	
	Observe physical examination of the eye	
	Discuss clinical signs of ocular disease	
	Evaluate ocular structures and adnexa for abnormalities, including eyelashes, conjunctiva, nictitating membrane, cornea, anterior chamber, iris, pupil	

Ophthalmology examination	Evaluate cranial nerve function by examining cranial nerve reflexes and responses, including palpebral, and pupillary light reflex, and menace response	
	Evaluate vision	
	Understand anatomical location of lacrimal glands, evaluate patency of nasolacrimal duct	
	Observe ocular minimum database, including Schirmer tear test, fluoresceine stain	
	Understand intraocular pressure and how to obtain	
	Discuss and describe the examination of the retina	**1**
	Observe direct and indirect ophthalmologic exam	
Musculoskeletal examination	Observe complete musculoskeletal examination in distant and near evaluation including postural reaction tests (proprioceptive tests), cutaneous trunci and perineal reflexes	
	Observe spinal palpation and neck range of motion	
	Observe proper musculoskeletal exam of a standing dog	
	Observe proper musculoskeletal exam of a recumbent dog	
	Evaluate muscle tone and symmetry	
	Observe Campbell test technique for elbow stability	**1**
	Observe examination for patellar luxation	
	Observe techniques for evaluation of stifle for ruptured cranial cruciate ligament, cranial drawer evaluation and tibial compression test.	
	Observe techniques to evaluate stability of the hip joint, Ortolani technique to diagnose hip dysplasia and palpation of landmarks for evaluation of hip luxation	
Dermatological examination	List the basic structures of the skin & cite the functions of the skin	
	List the anatomic sites that should be examined during a dermatologic examination	
	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	
	Identify dermatologic lesions using images of actual derm cases	
	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	
	Identify the following microbes: cocci bacteria, rod-shaped bacteria, yeast	**1**
	Describe how to perform an otoscopic exam	
Respiratory examination	Determine the respiratory rate in the dog and discuss normal values	
	Perform percussion of the thorax	
	Perform palpation of the trachea	
	Observe proper use of stethoscope, and discuss parts of stethoscope	
	Perform auscultation of the lungs and trachea	
	Identify and discuss breathing patterns	
	Discuss difference between stridor and stertor	
	Evaluate patency of the external nares	
	Identify common clinical signs associated with nasal cavity disease	
	Discuss significance of “crackles” when ausculted in the lungs	**1**

	Discuss possible causes for decreased/absent bronchovesicular sounds	
Cardiovascular examination	Determine the heart rate in the dog and discuss normal values	**1**
	Discuss sites of pulse evaluation in dogs and cats	
	Explain what a “pulse deficit” is	
	Identify Apex beat	
	Perform auscultation of the heart, including all valve areas	
	Explain heart sounds (S1, S2, S3, S4)	
	Discuss what a murmur is, and what lesions can be associated with murmurs	
Oral and Gastrointesti nal examination	Observe how to perform an examination of the oral cavity, including evaluation of the mucous membranes, tongue, hard palate, pharyngeal region	**1**
	Identify and describe dental and gingival abnormalities, recall timing or eruption of deciduous and adult teeth in dogs and cats	
	Observe and discuss abdominal palpation technique and findings	
Urogenital examination	Discuss rectal examination, including normal findings and possible abnormalities	**1**
	Evaluate and discuss male and female external urogenital system	
Neurological examination	Perform a thorough neurologic examination, including distant and near exams	**1**
	Observe evaluation of the cranial nerves	
	Observe postural reaction tests (proprioceptive tests), including hopping, hemi-walking, wheelbarrowing, proprioceptive positioning, extensor postural thrust, placing, both tactile and visual, and righting.	
	Observe evaluation of spinal reflexes	
	Observe cutaneous trunci and perineal reflex	
	Observe gentle spinal palpation and neck range of motion	
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	**6**
	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	
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**

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.

	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.
CLO 3: Understand the basics of proper medical record keeping	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.

Course Schedule

SAMS 515 Physical Diagnosis I Spring 2022						
Date	Time	Type	Location	Faculty	Group Order	Hour Eq
Tues 18-Jan-22	11:30-12:20	**Lecture** Intro PE Handling and Restraint	Belford Level 3 West rm IL 3095	Ivaldi		1
Thursday 20-Jan-22	1:30-4:20	**Lab** PE Handling and Restraint	VSL Prep		A, B, C	0.3
Friday 21-Jan-22	1:30-2:50 3:00-4:20	**Workshop** Clinical Reasoning Behavior	Zoom PANOPTO	Corrigan / Ivaldi Bain		1 1
Tues 25-Jan-22	10:30-11:20	**Lecture** GI/UG	David Brown Hall	Thomas		1
Wed 26-Jan-22	9:30-10:20	**Lecture** Injection Guidelines	David Brown Hall	Miccio		1
Wed 26-Jan-22	1:30-3:00	**Workshop** Medical Records	Synchronous Zoom	Ivaldi / Corrigan		1
Thursday 27-Jan-22	1:30-4:20	**Lab** GI/UG	VSL Prep SIM Lab Low Fidelity		B, C, A	0.3
Tues 01-Feb-22	8:30-9:20	**Lecture** Neurology	David Brown Hall	Narak		1
Thurs 03-Feb-22	1:30-4:20	**Lab** Neurology	VSL Prep		C, A, B	0.3
Tues 08-Feb-22	10:30-11:20	**Lecture** Ophthalmology	David Brown Hall	Ivaldi		1
Thurs 10-Feb-22	1:30-4:20	**Lab** Ophthalmology	VSL Prep		A, B, C	0.3
Tues 15-Feb-22	9:30-10:20	**Lecture** Cardio/Resp	David Brown Hall	Corrigan		1

Thurs 17-Feb-22	1:30-4:20	**Lab** Cardio/Resp	SIM Lab Hi Fidelity		B, C, A	0.3
Tues 22-Feb-22	8:30-9:20	**Lecture** Musculoskeletal	PANOPTO	Guerrero		1
Thurs 24-Feb-22	1:30-4:20	**Lab** Musculoskeletal	VSL Prep		C, A, B	0.3
Tues 01-Mar-22	8:30-9:20	**Lecture** Dermatology	David Brown Hall	Paterson		1
Wed 02-Mar-22	11:30-12:20	**Lecture** OSCE PREP	David Brown Hall	Ivaldi		0.5
Thur 03-Mar-22	1:30-4:20	**Lab** Dermatology	VSL Prep		A, B, C	1
Thur 14-Apr-22	8:30-12:20	**OSCE**	ONLINE	Multiple		0.3
					Total	14.6
		ONLINE				
		IN PERSON LECTURE				13
		IN PERSON LAB				

SAMS 515 Physical Diagnosis I Spring 2022 **Assessment Schedule: Due at MIDNIGHT (11:55pm)**				
Day	Due Date	Material	Assessment	Points
Sunday	23-Jan-22	Review Lecture 1: PE, Handling, Restraint	Take Quiz A	5 points
Sunday	23-Jan-22	Review Behavior Workshop	Take Quiz B	5 points
Sunday	23-Jan-22	Review Clinical Reasoning Workshop	Forum participation	5 points
Sunday	30-Jan-22	Review Lecture 2: GI/UG	Take Quiz C	5 points
Sunday	30-Jan-22	Review Lecture 3: Injection Guidelines	Take Quiz D	5 points
Sunday	30-Jan-22	Review Medical Records Workshop	Take Quiz E	5 points
Sunday	**06-Feb-22**	**Review Lecture 4: Neuro**	**Take Quiz** F	**5 points**
Sunday	13-Feb-22	Review Lecture 5: Ophthalmology	Take Quiz G	5 points
Sunday	20-Feb-22	Review Lecture 6: Cardio / Resp	Take Quiz H	5 points
Sunday	27-Feb-22	Review Lecture 7: Musculoskeletal	Take Quiz I	5 points
Sunday	**06-Mar-22**	Review Lecture 8: Dermatology	Take QuizJ	5 points
Thursday	14-Apr-22	Review Lab Information	Submit OSCEvideo	30 Points
			Total	85 points

Grading and Assessment Policy
The grade for this one-credit course will be as follows: Forums (SAKAI) interactions 5 points

Quizzes (SAKAI) 50 points

OSCE examination 30 points (requirement for advancement)

Forums: You will be required to participate in forums discussions for the Clinical Reasoning Workshop

Quizzes: After each lecture, you will take an online quiz consisting of 5 multiple choice questions. You will be given 10 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. If you run into a problem you must let me know within the

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 VISIBLE to the evaluators. They cannot grade what they cannot see.

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.

SAMS 515 Spring 2022 Student Group Lab Assignments			
GROUP A	**GROUP B**	**GROUP C**	**Online Learners**
Archibald, Taela	Hayes, Brandon	Perry, Rebecca	Adkins, Brandon
Argiro, Juana	Hendrickson, Sarah	Peterson, Matthew	Azizi, Arvin
Baptiste, Elvena	Holman, Bradford	Pinto, Bianca	Bong, Seung Hyun
Basch, Matthew	Hope-Tomlinson, Chenoa	Quinn, Chelsea	Delgado, Walter
Bass, Marissa	Hottois, Brooke	Richterkessing, Andrew	Fox, Melissa
Beers, Colleen	Ioannou, Melitsa-elene	Riel, Hannah	Kroenert, Megann
Bernal, Megan	Jones, Averil	Ripani, Rita	Kwon, Hyeseong
Birkl, Samantha	Jones, Molly	Santangelo, Nicholas	MacLaren, Cassandra
Bontrager, BethaLynn	Jurenka, Isabel	Schmelz, Zachary	Morales, Natasha
Brownsberger, Patricia	Kaminsky, Mia	Schmidt, Erinn	Moran, Catherine
Brue, Dana	Keaney, Mackenzie	Serna, Cristie	Odling, Avonlea
Burovic, Zerina	Lagimoniere, Kaitlyn	Sheinman, Fannie	Osejo, Brittany
Capelle, Jordan	Lawson, Alexandra	Shero, Bella	Park, Sunwoo
Carlisle, Christopher	Longo, Tiffany	Shewbart, Erica	Rodriguez, Nathalie

Carpenter, Alyssa	Lott, Allison	Shuler, Nicole	Rodriguez-Vazquez, Sara
Cerami, Kristi	Luzenski, Logan	Soler, Diego	Sforza, Taylor
Cheron, Valeria	MacPherson, Sean	Stalker, Megan	Washburn, Lauren
Ciaramitaro, Victor	Manganelli, Alyssa	Stoica, Steven	Wright, Chelsea
Clark, Cameron	Marchiano, Mya Lynn	Strunk, Megan	
Cooke, Trevor	McKenzie, Brittni	Suarez-Ahumada, Valeria	
Costlow, Catherine	Medrano, Gabriela	Sutton, Amanda	
Crutchlow, Elise	Mercado, Maria	Tanakova, Elena	
Curtsinger, Dylan	Messick, Megan	Tedesco, Alexis	
Davila, Luis	Minchin, Kyle	Thomas-Paetkau, Seth	
Daza, Marivi	Moon, Arcelia	Travers, Abby	
Del Rio, Marlena	Mower, Bianca	Tremor, Liani	
Dhot, Chandandeep	Myers, Morgan	Truong, Abbie	
Dixon, Ghislaine	O'Leary, Mikayla	Ulyak, Paula	
Duguay, Courtney	Osorio, Nicole	Ussery, Madison	
Dykes, Ashlyn	Owens, Elizabeth	Vega Acosta, Eric	
Ehlinger, Alexandra	Padriza, Juan	Walsh, Jessica	
Ferguson, Lindsay	Pardo, Esperanza	Walz, Kalli	
Flanagan, Brianne	Parker, Kailen	Wentland, Hannah	
Fletcher, Sarah	Parot, Caroline	Willoughby, McKenna	
Garcia, Sydney	Passannante, Veronica	Wood, Emma	
Goldring, Gabriella	Peck, Marissa	Young, Miller	
Guerra, Jacqueline	Perry, Heather	Young, Whitley	
		Zalegowski, Dawson	

Zoom Link for all interactions:

https://sgu.zoom.us/j/95027512883?pwd=ek9PNERkTTlmRS84ZFJReWtqdUVOdz09

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.

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.

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.

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.

Students are expected to participate in all workshop associated Forum discussions, quizzes, and OSCE.

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.

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.
    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

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Production Animal Medicine and Surgery

Course
LAMS 539
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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

Course Location
Miscellaneous – see syllabus

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).

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.

Accommodation

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

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.

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.

Course Learning Outcomes

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.
2. Demonstrate how to perform appropriate analgesic and surgical procedures used in livestock.
3. Explain how to establish a valid veterinary, client, patient relationship (VCPR) for individual animals and herds. Explain how to end a VCPR.
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.
5. Identify, evaluate, and appropriately manage disease outbreak/emergency situations and communicate information to clients.
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.

Lesson 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	1. Identify the most common local nerve blocks used for on-farm procedures in livestock. 2. Formulate an appropriate anesthetic protocol for common surgical procedures performed in livestock species. 3. 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	1. Identify key features of ruminant foot anatomy as well as common causes of foot disease and lameness in ruminants 2. Assess hoof overgrowth and appropriately trim a ruminant foot using the 'Dutch 5 Step Method. 3. Differentiate how and when to use block placement and claw amputation techniques to treat common causes of hoof disease and lameness in ruminants. 4. Demonstrate appropriate use of local anesthetic techniques including a ring block and Bier block when performing a claw amputation in ruminants.
Lab: Ophthalmic procedures	1. Identify and demonstrate the various nerve blocks, analgesia, and antimicrobial protocols used for ophthalmic conditions. 2. Demonstrate how to perform a third eyelid flap and amputation. 3. Demonstrate how to perform an enucleation.
Lab: Suture techniques	1. Identify and explain which suture pattern would be used in the common surgical procedures performed on livestock and why. 2. Demonstrate the Utrecht suture pattern. 3. Demonstrate a suture pattern used to close a flank incision. 4. Demonstrate the suturing technique used for mammary/teat surgery.
Lab: Ultrasound lab	1. Identify organ structures using correct ultrasound technique in the abdomen and thorax
Discussion session: Cow-calf beef production	1. Discuss the events occurring throughout a typical calendar year in a cow-calf beef production system. These include vaccination, nutritional needs, veterinary intervention points. 2. Describe the main health concerns surrounding a cow- calf operation and what can be done to prevent those from occurring. 3. Identify the common welfare issues in beef operations.
Discussion session: Dairy Production	1. Examine basic principles of nutrition and feeding in dairy production systems. 2. Review common herd management problems associated with feed intake and nutrition.
Discussion session: Case studies	1. Apply clinical reasoning skills to work through a herd health case problem. 2. Develop teamwork and case presentation skills
Discussion Session:	1. Identify appropriate rations for different food animal production groups 2. Discuss basic nutritional strategies for different food animal production groups

Basic Production Nutrition and Ration analysis or formulation	
Discussion session: Case studies presentations	1. 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	1. Classify what constitutes a veterinary client patient relationship (VCPR) and appropriate medical records in production management systems. 2. Explain the use of a veterinary feed directive (VFD) and how to establish one. 3. Examine current recommendations and guidelines regarding judicious use of antimicrobials in food producing animals. 4. 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).

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	**SVM program level outcome**
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.	1. **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. 2. **Core Professional Attributes** Model lifelong continuing education and professional development. Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.
b. Demonstrate how to perform appropriate analgesic and surgical procedures used in livestock.	**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. **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. **C. Core Clinical Competencies (Skills)** Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
c. Explain how to establish a valid veterinary, client, patient relationship (VCPR) for individual animals and herds. Explain how to end a VCPR.	1. **Core Medical Knowledge** Analyze homeostasis and disturbances thereof. Apply multidisciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine.

	2. **Core Professional Attributes** Model lifelong continuing education and professional development. Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice.
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.	**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. **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. **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.
5. Identify, evaluate, and appropriately manage disease outbreak/emergency situations and communicate information to clients.	**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. Apply multidisciplinary scientific knowledge to clinical situations and
	understand evidence-based veterinary medicine. 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. Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine. **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.

	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.
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	1. **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. 2. **Core Professional Attributes** Demonstrate, evaluate, and model effective communication with clients,
complete regulatory paperwork.	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 adaptability and resilience. Understand and evaluate the organization, management and legislation related to veterinary practice. **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.

Course Schedule

PAMS Lecture/Lab SCHEDULE Spring 2022

Date	Time	Topic	Venue	Faculty
Mon, Jan 10		Self-directed learning / preparation (Review the course syllabus and resources for VCPR and regulatory medicine)		
Fri, Jan 14	1:30- 3:20	Intro, VCPR and pharmaceuticals & Antibiotics/FARAD/Pain Management	Andrew Belford Center Level 3 Break Room	Byers, Nigito
Mon, Jan 17	1:30 - 3:20	Case Review/Clinical Reasoning Preparation	Andrew Belford Center Level 3 Break Room	Byers
Fri, Jan 21		Self-directed learning / preparation (Review lab resources and Dairy production articles)		
Mon, Jan 24	1:30-3:20	Anesthesia lab	LARF	Janicke, Nigito
Mon, Jan 31	1:30-3:20	Suture techniques wet lab	LARF	Janicke, Nigito
Mon, Feb 14	1:30-3:20	Basic Production Nutrition and Ration analysis or formulation	Andrew Belford Center Level 3 Break Room	Winchester

Mon, Feb 21	1:30-3.20	Dairy production Discussion Session	Andrew Belford Center Level 3 Break Room	Nigito, Khan
MIDTERMS				
Mon, Mar 14	1:30-3:20	Limbs/Ophthalmic wet lab	Anatomy lab	Janicke Nigito
Mon, Mar 21	Self-Directed Study (Review Resources for Beef Session)			
Mon, Mar 28	2:30-4:20	Beef Production Discussion Session	Andrew Belford Center Level 3 Break Room	Winchester, Khan
Mon, Apr 4	1:30-3:20	Case Preparation	Andrew Belford Center Level 3 Break Room	Nigito, Byers
Mon, Apr 11	2:30-4:20	Ultrasound Wet Lab	LARF	Byers, Hanson? Nigito
Tue, Apr 19	1:30-3:20	Case presentations	Andrew Belford Center Level 3 Break Room	All available LAMS faculty

Grading and Assessment Policy
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**	**Pts**
	1 point	**2 points**	**3 points**	**4 points**	
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	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	

		evidence with improvements needed, overall 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					

Rubric for Case Presentations

	Competent	**Developing**	**Incomplete**	**Insufficient**	**Pts**
	4 points	**3 points**	**2 points**	**1 point**	
Title	Explains the case diagnosis and captures audience's attention	Includes the case diagnosis but not explanatory or captivating	Includes some explanation of the case without the case diagnosis	Does not include the case diagnosis or any explanation of the case itself	
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	
Differentials	Complete	Adequate but not complete	Lacked a few important details	Absent or incorrect	
Diagnostics	Complete	Adequate but not complete	Lacked a few important details	Incomplete	
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 to low, unprofessional appearance, talk not practiced, overall poor	
Total Score					

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.

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.

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

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.

Attendance is mandatory for this course. Participation in discussions, case workups, and laboratories will assist in your learning of the materials

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) (sbyers1@sgu.edu; knigito1@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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

ExamSoft Policy
Not applicable

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.

Professional Development 1

Course
LAMS 541
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information

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Co-course Director
Assistant Professor, Department of Large Animal Medicine and Surgery
knigito1@sgu.edu
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Amanda Marancik, DVM
Co-course Director
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Other lecturers/faculty:

Dr. Austin Kirwan
Email: barnlodge@aol.com

Dr. Adria Rodriguez
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Dr. Heather Douglas
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Dr. Anne Corrigan
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Dr. Heidi Janicke
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Dr. Peter Slinger DES
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Ms. Keshia John
Email: kjohn5@sgu.edu

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.

Required Resources

A functional computer with microphone and camera.

Recommended Resources
None.

Accommodation

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

Other Requirements
None.

Course Rationale
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.

Course Learning Outcomes

1. Upon completion of this course, students will be able to:
    1. Discuss the fundamentals of the six domains of professional development

2. Recognize the professional attributes of a successful veterinarian including attitude, appearance, respect, responsibility, self-awareness and social awareness, tolerance, and self-management.

Lesson Learning Outcomes

Lesson	Outcomes
Domain 1: Professionalism lecture series and PAWS 2-day seminar	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.
Domain 2: Wellness lecture series and faculty mentor group meeting	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	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	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	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.

	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. 15. Develop skills essential to obtaining IACUC 16. and IRB approval for animal use in teaching or research.

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	**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 limitations and willingness to seek advice. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.
Recognize the professional attributes of a successful veterinarian including attitude, appearance, respect, responsibility, self-awareness and social awareness, tolerance, and self-management	**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 limitations and willingness to seek advice. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.

Course Schedule

Date / Hour	Lecture topic	Faculty	Assignment	Cr Hrs
January 17 & 18 ALL DAY	PAWS Workshop!	PAWS Faculty and Facilitators		8
January 19th 1.30-2.20p	Personal Budgeting, Finance and Loans	Dr. Heather Douglas	**Mandatory** Budgeting Workshop Activities Workbook: Create a personal budget reflecting your current financial status and upload the entire workbook to Sakai (2 hour) Opens January 19 and Due: February 6th by 11:55pm AST	2
January 20th 1.30-2.20p	Job Opportunities During Breaks	Dr. Heather Douglas		1
January 21th	Scholarships & Grants	Dr. Heather Douglas		1

1:30-2:20p				
January 26th 1.30-2.20p	Study Skills	Dr. Peter Slinger		1
February 3rd 1.30-2.20p	Wellness in Vet Med	Dr. Adria Rodriguez		1
February 3rd 2:30-3:20p	Coping with Stress	Ms. Jackie Tuason (DES) & Ms. Lorraine Steele (PSC)		1
February 8th 8.30a-9.20a	Your Veterinary Career	Self- directed learning (no in class lecture)	Review the provided resources and start to conduct externship searches using the links/resources in the weekly requirements tab	1
February 15th 10.30-11.20p	Professional Etiquette & Class Code of Conduct	Dr. Kerri Nigito	**Mandatory** In Class Activity (10 min): 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	1
February 21st and 22nd	Your Veterinary Career	Faculty Mentor Meeting	**Mandatory** Externship Assignment Opens: Research 3 externship opportunities and discuss how they would be helpful for your veterinary career/education. Full instructions in ExamSoft Due: March 1st @ 11:55pm AST (upload to ExamSoft) Peer Review Due: March 20th @ 11:55pm AST in ExamSoft	1
February 23rd 1.30-2.20p	Intro to EBVM & Research at SGU	Dr. Heidi Janicke		1
March 3rd 1.30-2.20p	Research Possibilities at SGU	Dr. Cheetham-Brow & Dr. Bidaisee		1
Midterm Exams				
March 15th – March 29th	Wellness Self-Assessment	Faculty Mentor Meeting	Wellness Regimen Assignment: AFTER your scheduled mentor meeting, create a wellness regimen to address specific areas in your self-assessment. Due: One Week after your scheduled Mentor Session (Upload in ExamSoft) Full Instructions in ExamSoft	2
March 16th 1.30-2.20p	Approach to Second Half of the Term	Dr. Peter Slinger		1
March 17th 4.30-5.20	Introduction to Ethics Part 1		**Mandatory** In-Class Reflection Activity: (10 min) How do you now compare and contrast human rights and animal rights? Due: March 25th by 11:55pm AST	

March 18th 4.30-5.20	Introduction to Ethics Part 2	Dr. Austin Kirwan		2
March 25th 2.30-3.20	Animals in Society & the Role of the Vet	Dr. Austin Kirwan	**Mandatory** In-Class Reflection Activity: (10 min) What problem(s) do you see with anthropomorphism when treating your patients? Due: April 1st by 11:55pm AST	1
March 28th 1.30-2.20p	Research Methods	Dr. Paul Fields	**Mandatory** In-Class Reflection Activity (10 min): Qualitative and quantitative research questions Due: in Class by April 4th 11:55pm AST (in Weekly Requirements)	1
April 8th 1.30-2.20p	Responsible Conduct of	Dr. Cheryl Cox-Macpherson	**Mandatory** Quiz Research and EBVM at SGU Quiz in Sakai Tests & Quizzes	1
	Research in Veterinary Medicine		Opens April 14th and Due: Sunday, April 24th, by 11:55pm AST	
April 14th 1.30-2.20p	Scientific Inquiry Live via Zoom	Dr. Paul Fields	**Mandatory** In-Class Reflection Activity (10 min): Go through the steps of the inquiry process with one of your research questions Due: April 21st 11:55pm AST (in Weekly requirements)	1
April 21st 1.30-2.20p	Wellness Check In – Focus on Support	Dr. Adria Rodriguez		1

Faculty mentor group meetings will be scheduled in the first and second halves of the term. You will be required to go to **TWO** of these sessions based on your faculty mentor availability. (See Faculty mentor Assignments Posted on Sakai)

Grading and Assessment Policy
The course will be graded Pass/Fail.

100- 69.5% = Pass

<69.5% = Fail

Evaluation	**Weighted**	**Points**
Externship Peer Review Assignment	10%	28pts
Wellness Regimen Assignment	20%	24pts
Budgeting Workshop Activities Workbook	5%	P/F
Class Code of Conduct	5%	P/F
Ethics In-Class Reflection Questions (2)	5% (2.5% Each)	P/F
EBVM Quiz	10%	10 pts
EBVM In-Class Reflection Questions (2)	5% (2.5% Each)	P/F
Professionalism Evaluation at Midterm	20%	20pts

Professionalism Evaluation at Final	20%	20pts

A grade of passing will be determined by:

2. Successful completion of 2 assignments (see below)
3. Mandatory attendance at the Faculty mentor meeting
4. 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.
5. 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. Amanda Marancik, amaranci@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.
6. See Rubrics in Appendix

Course Assignments:

1. **Externship Assignment Peer Review and Faculty Mentor Meeting**: 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 faculty seminar and in the self-directed module titled: "Your Veterinary Career" on **Monday, February 8th @ 8:30am AST**. **The Due Date for this assignment is Monday, March 1st @ 11:55pm**

AST. Assignments must be uploaded as a **single PDF document** in My Courses (Sakai) before the due date expires. Peer Review is due by: March 20th @ 11:55pm in Sakai.

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.

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	Student clearly and concisely described 3 different externship opportunities including the type of experience,	Student generally clearly and concisely described 3 different externship opportunities and may have excluded no more	Student occasionally clearly and concisely described 3 different externship opportunities and/or excluded information on the	The student did not clearly and concisely describe 3 different externship opportunities

of the externship concept	the specific area of specialty, and the format of the experience.	than 1 of the following: the type of experience, the specific area of specialty, and the format of the experience.	type of experience, the specific area of specialty, and the format of the experience.	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 directo

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	Consistently and in a clear schedule format explained the type of activities/techniques	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	The student did not explain or use any type of schedule format the type of activities/

concerns from the self-evaluation	student will utilize to address the wellness areas that received lower scores.		utilize to address the wellness areas that received lower scores.	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 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
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 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 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 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)				

Recommended Study Strategies

Remain engaged throughout the course to benefit from the various active learning activities.

Instructor's Expectations of the Student

1. The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and assignment submission**.**
2. 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.

Professionalism Statement
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.

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

Students are expected to be available during the standard 8:30am- 5:20pm 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 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 a Course Director (Dr. Kerri Nigito knigito1@sgu.edu or Dr. Amanda Marancik, amaranci@sgu.edu) immediately in the event of an unexpected absence due to extenuating circumstances.

Mandatory engagement and participation expectations:

1. Mandatory attendance at the Faculty mentor meeting
2. Mandatory engagement in the course content which includes:
    1. Attendance of all lecture seminar sessions
    2. Review of all mandatory asynchronous recorded seminars
    3. Completion of all assignments and activities.

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. Kerri Nigito, knigito1@sgu.edu or Dr. Amanda Marancik, amaranci@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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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**

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.

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.

Professional Development 2

Course
LAMS 542
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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
- Office: Cassia Building Ground Floor (SGU Campus map #17)
- Office Hours: By appointment (office or Zoom)
- mail: AlRodriguez@sgu.edu

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. Kasey Larson (klarson@sgu.edu)
Ms. Suzanne Paparo (spaparo@sgu.edu)
Course Assistant: Ms. Keshia John (kjohn5@sgu.edu) Faculty Mentors

Course Location
David Brown Hall and live online on Zoom

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

Recommended Resources
Text: *The Art of Veterinary Practice Management*, 2nd ed., 2014; M. Opperman

Accommodation

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

Other Requirements
Reliable internet connection

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.

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.

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 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. Demonstrate how to search a database to answer a PICO question.
2. Identify resources and tools available for literature search
3. Obtain articles in full text.
4. Identify the significance and key components of a literature review.
5. Identify the significance and function of style guides.
6. Recognize the importance of professional writing in research.
7. Identify the importance of how to present research.

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	**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 limitations and willingness to seek advice. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.

Course Schedule

LAMS 542 Lecture and Activities Schedule– Spring 2022

Modality/Activity/ Duration/Date/Time	**Lecture Topic**	**Faculty**	**Open Date/ Due Date**
Week 1 (January 17-23)			
Lecture (1hr) Mon Jan 17 10:30-11:20	Welcome/Course Introduction/Logistics	Dr. Adria Rodriguez	**Lecture Hall: Andrew Belford Level 3 West**
Lecture (1hr) Mon Jan17 11:30-12:20	Escape Debt-Make Room for Success	Dr. Heather Douglas	
Sakai Assignment (1hr)	The Art of Budgeting	Dr. Heather Douglas	Open Jan 17 Due Jan 30
Week 2 (January 24-30)			
Lecture (1hr) **Mon Jan 24 10:30-11:20**	Practice Culture-An Introspective Approach	Dr. Heather Douglas	
Lecture (1hr) **Mon Jan 24 11:30-12:20**	Wellness Effects of Budgeting, Debt Management and Practice Culture	Dr. Heather Douglas	

Lecture (1hr) **Tues Jan 25 11:30-12:20**	Introduction to Communication Labs	Dr. Guttin and Byers	
Lecture (1hr) **Fri Jan 28 10:30-11:20**	Communication Basics Giving Feedback	Dr. Guttin and Byers	
Panopto Lecture (1hr) **Fri Jan 28 11:30-12:20**	Calgary Cambridge Guidelines	Dr. Guttin and Byers	
Forums x2 (1hr)	Leadership Style/Workplace Culture and You	Dr. Heather Douglas	Open Jan 24 Due Jan 30
Week 3 (January 31-Feb 6)			
Lecture (1hr) **Mon Jan 31 11:30-12:20**	Informatics for Veterinary Medicine	Ms. Suzanne Paparo	
Lecture (1hr) Wed Feb 2 11:30-12:20	Literature Review and Reference Management	Ms. Kasey Larson	
Lecture (1hr) Thurs Feb 3 11:30-12:20	Scientific Writing	Ms. Kasey Larson	
Week 4 (February 7-13)			
Lecture (1hr) Wed Feb 9 11:30-12:20	Presenting Research	Ms. Kasey Larson	
Self-Study Module (2hr) Thurs Feb 10 9:30-11:20	CV and Letter of Intent	Dr. Kerri Nigito	**No Lecture**
Week 5 (February 14-20)			
Sakai/Assignment (1hr)	Self-study: EBVM Assignment	Dr. Heidi Janicke	Open Jan 31 Due Feb 20
Week 6 (Feb 21-27) - Communication Labs Start			
Week 7 (Feb 28-March 6)			
Week 8 (March 7-13) MIDTERMS			
Week 9 (March 14-20)			
Lecture (1hr) **Wed Mar 16 10:30-11:20**	Ethics in Scientific Research and Writing	Dr. Austin Kirwan	
Lecture (1hr) **Fri March 18 11:30-12:20**	Ethics in EBVM and Learning in Practice	Dr. Austin Kirwan	
Sakai/Assignment (1hr)	CV/Letter of Intent Writing	Dr. Kerri Nigito/ Faculty Mentors	Open Feb 10 Due Feb 27
Week 10 (March 21-27) -Mentor Meetings Start			
Lecture (1hr) **Wed Mar 23 10:30-11:20**	Developing an Ethical Professional Approach to Life-long Learning	Dr. Austin Kirwan	
Lecture (1hr) **Fri Mar 25 11:30-12:20**	The ethics of money	Dr. Austin Kirwan	
Week 11 (March 28-April 3)			
Lecture (2hr) **Mon Mar 28 10:30-12:20**	Mindfulness and Self- Compassion in Veterinary Medicine	Dr. Adria Rodriguez	
Week 12 (April 4-10)			

Sakai/Assignment (1hr)	QPR Training	Dr. Adria Rodriguez	Open Mar 28 Due Apr 10
Week 13 (April 11-17)			
Week 14 (April 18-24)			
Week 15 (April 25-May 1)			
Lecture (2hr) Thurs Apr 28 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 Feb 21 Due Sunday after YOUR Comm lab by 11:55 pm AST

Domain 1: Personal Development/Leadership

Weeks 6-7 Mon Feb 21 Mon Feb 28 1:30-3:30pm OR 3:30-5:30 AST (2 hrs)	CV and Letter of Intent Q and A with Mentor and Peer Review Workshop ONE session per student Reserve all dates until you get confirmation of your date	Dr. Kerri Nigito Faculty Mentors

Domain 3 Ethics: Professional Development Group Meeting

Weeks 10-13 Mon March 21 Mon March 28 Mon Apr 4 Mon Apr 11 1:30-3:30pm AST (2 hrs)	Ethics and Welfare: Case Scenario Discussion ONE session per student Reserve all dates until you get confirmation of your date	Dr. Austin Kirwan Faculty Mentors

Domain 4 Communication: Live Simulation Labs

Weeks 6,7, 10-15 Feb 21 Feb 28 Mar 21	Communication Live Simulation Labs: ONE session per student Reserve all dates until you get confirmation of your date Self-Assessment Assignment due the Sunday of the week of your Comm Lab Session	Dr. Talia Guttin and Dr. Stacey Byers

Mar 28 Apr 4 Apr 11 Apr 25 1:30-4:30pm AST (3-4hrs)		Communication Coaches

Grading and Assessment Policy
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)	5%	P/F (1/0)
BFL Assignment (1)	5%	P/F (1/0)
CV/Letter of Intent Assignment/Mentor Meeting	15%	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%	20 points
Professionalism evaluation end of term	20%	20 points

1. A grade of passing will be determined by:
    1. Successful completion of assignments (see below)
    2. Mandatory attendance-Faculty mentor meeting
    3. Mandatory attendance/engagement in the course content which includes:
        1. Attendance to ALL lectures (in-person or Zoom)
        2. Viewing of all scheduled Panopto lectures
        3. Completion of asynchronous forums and activities.

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 will 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 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 and Mentor Meeting (See Mentor Meeting Schedule)
2. Domain 2 Wellness: QPR Certificate

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
6. Domain 6 Evidence Based Veterinary Medicine: Assignment

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	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.

			process 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

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.

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.

Instructor's Expectations of the Student

1. The student is expected to adhere to the guidelines provided throughout this syllabus including attendance, engagement, and assignment and forum submission.
2. 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.

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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.

Attendance/Participation Policy
Attendance to lectures is mandatory and may be in person or through Zoom for ALL students. Turning Point will be used to take attendance during the first 10 minutes of every lecture. Students are expected to be available during the standard 8:30am-5:20pm 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.

In-Person or Zoom Synchronous Seminar Attendance policy: 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.

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Failure to submit or re-submit any assignment will result in the student being placed on non-academic probation by the CAPPS committee.

ExamSoft Policy
N/A

Copyright Policy

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Professional Development 3

Course
LAMS 543
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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
- Office: Cassia Building Ground Floor (SGU Campus map #17)
- Office Hours: By appointment (office or Zoom)
- mail: AIRodriguez@sgu.edu

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

Course Location
Ray and Jan Sis Hall II and live online on Zoom

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

Recommended Resources
N/A

Accommodation

1. Students with disabilities who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Welcome Center, inside the International Students Office.

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

Other Requirements
Reliable internet connection

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, and evidence based veterinary medicine.

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.

Lesson 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
5. Describe imposter syndrome
6. Describe the 5 types of imposter syndrome and the challenges imposter syndrome presents, such as links to anxiety and other mental disorders
7. Reflect on personal experiences and identify symptoms in themselves
8. Create a plan to cope and control any identified traits of imposter syndrome
9. Know the history and elements of eCPR
10. Understand the benefits of practicing eCPR
11. Practice and apply the basics of eCPR
12. 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:

1. Discuss how personal and professional wellbeing is enhanced by practicing evidence-based veterinary medicine.

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	**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 limitations and willingness to seek advice. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.

Course Schedule

LAMS 542 Lecture and Activities Schedule– Spring 2022

Modality/Activity/ Duration/Date/Time	**Lecture Topic**	**Faculty**	**Open Date/ Due Date**
Week 1 (January 17-23)			
Lecture (1hr) Mon Jan 17 10:30-11:20	Welcome/Course Introduction/Logistics	Dr. Adria Rodriguez	**Lecture Hall: Andrew Belford Level 3 West**
Lecture (1hr) Mon Jan17 11:30-12:20	Escape Debt-Make Room for Success	Dr. Heather Douglas	
Sakai Assignment (1hr)	The Art of Budgeting	Dr. Heather Douglas	Open Jan 17 Due Jan 30

Week 2 (January 24-30)			
Lecture (1hr) **Mon Jan 24 10:30-11:20**	Practice Culture-An Introspective Approach	Dr. Heather Douglas	
Lecture (1hr) **Mon Jan 24 11:30-12:20**	Wellness Effects of Budgeting, Debt Management and Practice Culture	Dr. Heather Douglas	
Lecture (1hr) **Tues Jan 25 11:30-12:20**	Introduction to Communication Labs	Dr. Guttin and Byers	
Lecture (1hr) **Fri Jan 28 10:30-11:20**	Communication Basics Giving Feedback	Dr. Guttin and Byers	
Panopto Lecture (1hr) **Fri Jan 28 11:30-12:20**	Calgary Cambridge Guidelines	Dr. Guttin and Byers	
Forums x2 (1hr)	Leadership Style/Workplace Culture and You	Dr. Heather Douglas	Open Jan 24 Due Jan 30
Week 3 (January 31-Feb 6)			
Lecture (1hr) **Mon Jan 31 11:30-12:20**	Informatics for Veterinary Medicine	Ms. Suzanne Paparo	
Lecture (1hr) Wed Feb 2 11:30-12:20	Literature Review and Reference Management	Ms. Kasey Larson	
Lecture (1hr) Thurs Feb 3 11:30-12:20	Scientific Writing	Ms. Kasey Larson	
Week 4 (February 7-13)			
Lecture (1hr) Wed Feb 9 11:30-12:20	Presenting Research	Ms. Kasey Larson	
Self-Study Module (2hr) Thurs Feb 10 9:30-11:20	CV and Letter of Intent	Dr. Kerri Nigito	**No Lecture**
Week 5 (February 14-20)			
Sakai/Assignment (1hr)	Self-study: EBVM Assignment	Dr. Heidi Janicke	Open Jan 31 Due Feb 20
Week 6 (Feb 21-27) - Communication Labs Start			
Week 7 (Feb 28-March 6)			
Week 8 (March 7-13) MIDTERMS			
Week 9 (March 14-20)			
Lecture (1hr) **Wed Mar 16 10:30-11:20**	Ethics in Scientific Research and Writing	Dr. Austin Kirwan	
Lecture (1hr) **Fri March 18 11:30-12:20**	Ethics in EBVM and Learning in Practice	Dr. Austin Kirwan	
Sakai/Assignment (1hr)	CV/Letter of Intent Writing	Dr. Kerri Nigito/ Faculty Mentors	Open Feb 10 Due Feb 27
Week 10 (March 21-27) -Mentor Meetings Start			
Lecture (1hr) **Wed Mar 23 10:30-11:20**	Developing an Ethical Professional Approach to Life-long Learning	Dr. Austin Kirwan	
Lecture (1hr)			

Fri Mar 25 11:30-12:20	The ethics of money	Dr. Austin Kirwan	
Week 11 (March 28-April 3)			
Lecture (2hr) **Mon Mar 28 10:30-12:20**	Mindfulness and Self- Compassion in Veterinary Medicine	Dr. Adria Rodriguez	
Week 12 (April 4-10)			
Sakai/Assignment (1hr)	QPR Training	Dr. Adria Rodriguez	Open Mar 28 Due Apr 10
Week 13 (April 11-17)			
Week 14 (April 18-24)			
Week 15 (April 25-May 1)			
Lecture (2hr) Thurs Apr 28 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 Feb 21 Due Sunday after YOUR Comm lab by 11:55 pm AST

Domain 1: Personal Development/Leadership

Weeks 6-7 Mon Feb 21 Mon Feb 28 1:30-3:30pm OR 3:30-5:30 AST (2 hrs)	CV and Letter of Intent Q and A with Mentor and Peer Review Workshop ONE session per student Reserve all dates until you get confirmation of your date	Dr. Kerri Nigito Faculty Mentors

Domain 3 Ethics: Professional Development Group Meeting

Weeks 10-13 Mon March 21 Mon March 28 Mon Apr 4 Mon Apr 11 1:30-3:30pm AST (2 hrs)	Ethics and Welfare: Case Scenario Discussion ONE session per student Reserve all dates until you get confirmation of your date	Dr. Austin Kirwan Faculty Mentors

Domain 4 Communication: Live Simulation Labs

Weeks 6,7, 10-15 Feb 21 Feb 28 Mar 21 Mar 28 Apr 4 Apr 11 Apr 25 1:30-4:30pm AST (3-4hrs)	Communication Live Simulation Labs: ONE session per student Reserve all dates until you get confirmation of your date Self-Assessment Assignment due the Sunday of the week of your Comm Lab Session	Dr. Talia Guttin and Dr. Stacey Byers Communication Coaches

Grading and Assessment Policy
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

1. A grade of passing will be determined by:
    1. Successful completion of assignments (see below)
    2. Mandatory attendance-Faculty mentor meeting
    3. Mandatory attendance/engagement in the course content which includes:
        1. Attendance to ALL lectures (in-person or Zoom)
        2. Viewing of all scheduled Panopto lectures
        3. Completion of asynchronous forums and activities.

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 will 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 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
2. Domain 2 Wellness: Reflective Journaling Assignment and Mentor Meeting (See Mentor Meeting Schedule)
3. Domain 3 Ethics and Welfare:
   Self-Study and Lecture Discussion Preparation
   Reflective Journaling-My current thoughts on Ethics and Welfare
4. Domain 4 Communication: Communication - Medical Errors
5. Domain 5 Business and Financial Literacy: Forum: Purpose is Key
   Assignment: Budgeting-Decreasing Expenses
6. Domain 6 Evidence Based Veterinary Medicine: Fostering Wellbeing by Practicing EBVM Forum

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 directo

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.

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Professional Development 4

Course
LAMS 547
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information

Course director:

Dr Heidi Janicke (Domain 6) 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

Assistant course director:

Dr Hugo Fonseca M.V. MSc PhD
Professor in Physiology Email: hfonsec1@sgu.edu **Course assistant:**

Ms. Keshia John Email: kjohn5@sgu.edu

Other lecturers/faculty:

Dr. Kerri Nigito (Domain 1) Email: nigker1@sgu.edu

Dr. Adria Rodriguez (Domain 2) Email: airodriguez@sgu.edu

Dr. Austin Kirwan (Domain 3) Email: barnlodge@aol.com

Dr. Nicki Wise (Domain 4) Email: lwise1@sgu.edu

Dr. Heather Douglas (Domain 5) Email: hdouglas@sgu.edu

Faculty mentors
Visiting Professors

Course Rationale
This course is the fourth of six (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.

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

1. 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.

Lesson Learning Outcomes

Lessons	Outcomes
Domain 1: Professionalism	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	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:	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

Ethics and Welfare	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	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.
	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
Domain 5: Business & Financial Literacy	1. Perform a self-assessment of the personal budget and detect areas for improvement
Domain 6: Evidence-Based Veterinary Medicine	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. 17. Explain why it is important to assess/audit the implementation of EBVM in practice 18. Describe how to assess/audit EBVM in practice 19. Use practice examples to demonstrate the use of clinical audit and the assessment of EBVM in practice.

Course Schedule

Date/ Time	Lecture Topics	Faculty	Assignment	Credit hours
Wee k 1				
18 Jan 11:30	Introduction to PD IV and EBVM online course	Dr. Heidi Janicke		1
20 Jan 11:30	Conflict management	Dr. Kerri Nigito	Pre-session quiz **Due: January 20 th by 11:30am AST**	1
Week 2				

27 Jan 10:30 11:30	Diversity and inclusion	Dr. Adria Rodriguez		2
Week 3				
1 Feb 11:30	ABC of EBVM and ASK	Dr. Heidi Janicke	http://www.ebvmlearning.org	1
3 Feb 10:30	TBC			
Week 4				
8 Feb 8:30	Acquire	Dr. Heidi Janicke	http://www.ebvmlearning.org	1
10 Feb 11:30	Implicit Bias and Privilege Bringing the Subconscious to Consciousness	Dr. Adria Rodriguez	Reflection on Diversity, Inclusion, Implicit Bias, Privilege and Cultural Sensitivity **Due: February 27 th by 11:55pm AST**	2
Week 5				
15 Feb 11:30	Appraise	Dr. Heidi Janicke	http://www.ebvmlearning.org	1
17 Feb 11:30	Cultural Sensitivity in the Workplace and Life	Dr. Adria Rodriguez		1
Week 6				
22 Feb 11:30	Apply	Dr. Heidi Janicke	http://www.ebvmlearning.org	1
24 Feb 11:30	Societal Expectations: Pre -clinical and Clinical Vet Student	Dr. Adria Rodriguez		1
Week 7				
1 Mar 11:30	Assess	Dr. Heidi Janicke	http://www.ebvmlearning.org	1
3 Mar 11:30	Societal Expectations : Vet Practitioner	Dr. Adria Rodriguez	Reflection on Societal Expectations **Due: March 5 th by 11:55pm AST**	1
MIDTERM Week 8				

Week 9				
15 Mar 11:30	Social Bias	Dr. Austin Kirwan		1
16 Mar 11:30	Ethical aspects of conflict	Dr. Austin Kirwan		1
17 Mar 11:30	Professional misconduct	Dr. Austin Kirwan		1
Week 10				
22 Mar 11:30	Fitness to practice	Dr. Austin Kirwan		1
23 Mar 11:30	Clinical governance	Dr. Austin Kirwan		1
24 Mar 10:30 11:30	Complaints workshop	Dr. Austin Kirwan	**Mandatory attendance**	2
Week 11				
29 Mar 11:30	EBVM Assignm ent		EBVM certificate upload **Due: April 3 rd by 11:55pm AST**	
31 Mar 11:30	Servant Leadership	Dr. Kerri Nigito	Pre-session reading/worksheet **Due: March 31 st by 10:30am AST**	1

Week 12				
5 Apr 11:30	Business assignment		**Due:**	
7 Apr 11:30	Assignm ent	Dr. Adria Rodriguez	Core Values and VIA Strengths **Due: April 10 th by 11:55pm AST**	1
Week 13				
12 Apr 11:30	Connecting with your Client	Dr. Talia Guttin		1

14 Apr 11:30	Hot Topics in Vet Med	Dr. Kerri Nigito/ Gail Golab		1
Week 14				
19 Apr 11:30	Diversity and Communication	Dr. Talia Guttin		1
21 Apr 11:30	Communication Assignment	Dr. Talia Guttin	Written Client Communication **Due: April 24 th by 11:55pm AST**	1
22 Apr 11:30	Communication Assignment	Dr. Talia Guttin	Cultural competence self -assessment **Due: April 24 th by 11:55pm AST**	1
FINAL EXAMS Week 15 -16				

Grading and Assessment Policy
The course will be graded Pass/Fail.

100%-69.5% = Pass

<69.5% = Fail

Evaluation	Weighted	Grade
Wellness	15%	P/F
Ethics and Welfare	10%	P/F
Communication	15%	P/F
Personal Development	5%	P/F
EBVM	15%	P/F
Professionalism evaluation at midterm	20%	20 points
Professionalism evaluation end of term	20%	20 points

A grade of passing will be determined by:

1. Successful completion of all assignments by the scheduled due date (see below)
2. Mandatory attendance at the Faculty mentor meeting
3. Mandatory engagement in the course content which includes:
    1. Attendance of all sessions
    2. Review of all recorded seminars
    3. Completion of "in-class" assignments and activities

No unexcused absences are allowed. Any absences or technical difficulties must be immediately addressed by emailing the course director (Dr. Heidi Janicke hjanicke@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 comittee.

All other exam policies are followed according to the SGU Examination policy (https://mycampus.sgu.edu/unifyedmydrive/open/file/download/SGUPROD/ 60cb7112ec12c400185be4fa/latest) and the Stu dent Handbook.

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.
Communicati on	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)				

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. Assignment will open at the start of the relevant week.

Domain 1: Personal Leadership

Conflict Management Style Quiz

Pre-session assignment in Weekly Requirements Expected maximum time commitment: 15 minutes
Due: January 20th before lecture at 11:30am AST

Reflection on Societal Expectations Answer in Weekly Requirements

Expected maximum time commitment: 20 minutes

Due: March 5th by 11:55pm AST

Domain 2: Wellness

Reflection on Diversity, Inclusion, Bias, Privilege and Cultural Sensitivity In Assignments

Expected maximum time commitment: 2 hours

Due: February 27th 11:55pm AST

Core Values and VIA Strengths In Assignments

Expected maximum time commitment: 2 hours

Due: April 10th by 11:55pm AST

Domain 3: Ethics & Animal Welfare

A 2-hour **mandatory** zoom workshop will consider a complaint and how to investigate and conclude it.

This is timetabled as the last of the sessions in the ethics block

March 24th 10:30am- 12:30pm

Domain 4: Communication Skills

Written Client Communication In Assignments

Expected maximum time commitment: 2 hours

Due: April 24th by 11:55pm AST Cultural competence self-assessment In Assignments

Expected maximum time commitment: 2 hours

Due: April 24th by 11:55pm AST

Domain 6: EBVM

Create an account on the RCVS Knowledge Learn website: https://learn.rcvsknowledge.org/ and complete the course.

Upload the certificate in Assignments

Due: April 3rd by 11:55pm AST

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. Student's 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 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 within a week of the session.

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.

Professional Development 5

Course
LAMS 549
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course directors

- Dr. Stacey Byers, DVM, MS, DACVIM(LA), *Associate Professor*
  - Co-Coordinator Domain 4
  - sbyers1@sgu.edu
  - Office location: Cassia Building, First Floor Office hours: On request
- Dr. Jaelene Haynes, DVM, Instructor jhaynes2@sg u.edu
  - Office locations: LARF Office hours: On request

Other lecturers/faculty:

- Dr. Adria Rodriguez (Domain 2) Email: airodriguez@sgu.edu
- Dr. Austin Kirwan (Domain 3) Email: barnlodge@aol.com
- Dr. Talia Guttin (Co -Coordinator Domain 4) Email: tguttin@sgu.edu
- Dr. Heidi Janicke (Domain 6) Email: hjanicke@sgu.edu

Course assistant:

- Ms. Keshia John
- Email: kjohn5@sgu.edu

Course Location
Sis Hall, Zoom, and Sakai LAMS54 9 Professional Development V

All synchronous (Zoom) and asynchronous (Panopto) lectures, Resources, Tests & Quizzes, Assignm ents, Checklists, etc. will be available through the Lessons tab on the LAMS 549 MyCourses site. Please use the checklists to ensure you have covered all the required material s.

Required Resources

- Working computer with camera, microphone, and internet access.
- Notes, lecture slides, Panopto recordings (see Sakai).

Recommended Resources
None.

Accommodation

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

Other Requirements
N/A

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

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 wellness, ethics and welfare, evidence -based medicine, and communications professional development domains.

Lesson Learning Outcomes

Lessons	**Outcomes**
Domain 2: Wellness	1. List the stages of grief 2. Identify resources to aid clients with the grieving process 3. Discuss the veterinarian's role in the pet grieving process 4. Define compassion fatigue and explain the factors that contribute to this issue 5. Discuss the progress in and changes of their own wellness regimen.
Domain 3: Ethics and Welfare	1. Differentiate euthanasia, dysthanasia and benemortasia 2. Apply different clinical pathways in case scenarios for the aforementioned terms. 3. Describe the three components of ethical action (action, intent and freedom) and how this is applied to double effect. 4. Describe the process of euthanasia from a welfare perspective and care of the owner/ keeper. 5. Discuss appropriate handling of animal remains.
Domain 4: Communication	**Lecture** 1. Discuss the structure of a euthanasia consultation 2. Recognize nuances of these interactions with clients 3. Explain the role that effective communication plays in these appointments **Labs** 1. Review the basics of clinical communication with the Calgary Cambridge Guide. 2. 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 c. Building a relationship with the client d. Explanation and planning related to the patient's presenting complaint e. Closing the session 3. Practice giving feedback to their peers. 4. Practice receiving feedback from their faculty coaches, peers and simulated clients. 5. Engage in self-assessment techniques by reflecting on the interviews and determining what improvements can be made.
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. Understand how to communicate the results into clinical practice.

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcomes	**Program Level Outcome**
Discuss the fundamentals of the six domains of professional development.	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 ember 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.

Course Schedule

Modality/Activity/ **Duration/Date/Time**	**Lecture Topic**	**Faculty**	**Open Date/** **Due Date**
Week 1 (January 17-23)			
Required Lecture (1 hr) Wed 19 Jan 1:30-2:20	Welcome and Introduction to Communications	Dr. Byers	
Required Video (1 hr) No Class Fri 21 Jan 1:30-2:20	CCG Skills Review Video	Dr. Guttin	You must watch before your comm lab
Week 2 (January 24-30)			
	No PD Tasks		
Week 3 (January 31-February 6)			
Required Lecture (2 hrs) Thurs 1 Feb 1:30-3:20	PICO Model of EBVM	Dr. Janicke	Assignment (2 hr) opens 1 Feb
Week 4 (February 7-13))			
Required Lecture (1 hr) Thurs 10 Feb 1:30-2:20	Communications and Euthanasia	Drs. Byers and Guttin	
Week 4 Communication Labs Start: See Schedule Answer communication skills question on Lessons Page to access the communication case details. Answer self-assessment by Sunday after your lab session.			

Week 5 (February 15-20)			
	No PD Tasks		
Week 6 (February 21-27))			
Required Lecture (1 hr) Wed 23 Feb 1:30-2:20	Helping Clients with Grief; Compassion Fatigue, Wellness Check in Part 1	Dr. Rodriguez	Assignment (1 hr) opens 23 Feb
Week 7 (February 28-March 6)			
Required Lecture (1 hr) Thurs 3 Mar 1:30-2:20	Helping Clients with Grief; Compassion Fatigue, Wellness Check-in Part 2	Dr. Rodriguez	Assignment closes 6 Mar 11:55 pm AST
Week 8 (March 7-13) MIDTERMS			
	No PD Activities		
Week 9 (March 14-20)			
Required Lecture (1 hr) Fri 18 Mar 1:30-2:20	Proportionate and Disproportionate Care; End of Life Care Part 1	Dr. Kirwan	Assignment (1 hr) opens 18 Mar
Week 10 (March 21-27)			
Required Lecture (1 hr) Mon 21 Mar 1:30-2:20	Proportionate and Disproportionate Care; End of Life Care Part 2	Dr. Kirwan	
Week 11 (March 28-April 3)			
	PICO Paper Due	Dr. Janicke	Assignment closes 3 Apr 11:55 pm AST
Week 12 (April 4-10)			
	Ethics – CSR policy paper due	Dr. Kirwan	Assignment closes 10 Apr 11:55 pm AST
Week 13 (April 11-17))			
	No PD Activities		
Week 14 (April 18-24)			
	No PD Activities		
Week 15 (April 25-May 1)			
	No PD Activities		
Week 16 (May 2-May 8)			
	No PD Activities		

Domain 4 Communication: Live Simulation Labs

Weeks 4-16 Wednesdays	Communication Live Simulation Labs:
	ONE session per student Reserve all dates until you get confirmation of your date
8:30am-11:20am AST (3hrs)	30-minute Self-Assessment Due the Sunday after your session at 11:55pm AST

Grading and Assessment Policy
The course will consist of a mix of lectures, Zoom sessions and one communication lab.

This course is graded pass (100-69.5%) or fail (<69.5%) based on **attendance AND assignments** described below. You will automatically fail this course for the following reasons:

- Failure to attend your communication lab without an excuse.
- Failure to submit a required assignment.

Attendance is mandatory at all lectures and specified **communication l ab sessions** and participation is expected. Virtual learning students must attend \via the Zoom link provided in the

Weekly Lessons.

Attendance will be taken via TurningPoint and it is your responsibility to ensure your attendance is correctly marked in the Sakai Gradebook for sessions prior to Midterm and Finals weeks respectively. 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.

No unexcused absences are allowed .

- Any absences or technical difficulties must be immediately addressed by emailing the course directors: Dr. Byers (sbyers1@sgu.edu) AND Dr. Haynes (jhaynes2@sg u.edu). Missed lectures will need to be watched via Panopto.
- If you cannot make your communication lab please urgently email: Ms. Keshia John (kjohn5@sgu.edu) AND Dr. Byers (sbyers1@sgu.edu) AND Dr. Haynes (jhaynes2 @sgu.edu) .

A student who fails to adhere to attendance and engagement guidelines will be placed on non -academic probation by the CAPPS committee.

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.

Assignments/Lab: Students must submit the following assignments on time in order to pass the course :

Assessment	Weight	Grade
Wellness	10%	P/F
Ethics	10%	P/F
EBVM	20%	P/F
Communications	10%	P/F
Professionalism Evaluation Midterm (see Rubric)	20%	20 pts
Professionalism Evaluation End of Term (see Rubric)	20%	20 pts
Communications Laboratory	10%	P/F

A grade of passing will be determined by:

1. Successful completion of assignments by the scheduled due date (see below).
2. Mandatory attendance/engagement in the course content which includes:
    1. Attendance of all sessions
    2. Review of all asynchronous recorded seminars
    3. Completion of asynchronous activities.

Course Assignments: The complete assignment and rubric (if applicable) information will be found in Sakai when the assignment opens. Open dates are listed in the Weekly Lessons and on the schedule.

1. Domain 2: Wellness Self-assessment due Sunday 6 March, 11:55pm AST.
2. Domain 3: Ethics Corporate social responsibility statement due Sunday 10 April, 11:55pm AST.
3. Domain 4: Communication Lab Self -assessment due by Sunday 11:55 pm the week after your lab session.
4. Domain 6: EBVM PICO paper due Sunday 3 April, 11:55pm

Professionalism Evaluation 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 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.
Total (20 points)				

Recommended Study Strategies

It is highly recommended to look at the weekly plan at the start of each week in the Sakai Lessons. A tasks checklist and links to all the materials for the week will be provided. Reminders and due dates will be listed at the start of each week, in the calendar, and in a weekly email announcement sent to your SGU email address.

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 student's may be required to turn on their cameras during live sessions. Please be mindful of this regarding attire and surroundings. In the event that 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.

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 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 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 within a week of the session.

Policy Regarding Missing Examinations and/or Failure of Submission of Assignments
You must notify the instructor and course director BEFORE the due date to request an extension for an assignment.

Students who fail to submit or resubmit 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 assignment .

ExamSoft Policy
Not applicable

Copyright Policy
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Professional Veterinary Development

Course
LAMS 533
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Nicki Wise DVM, PhD, DACVIM (LAIM)
Email: lwise1@sgu.edu

Adria Rodriguez DVM, MSc, MS TCVM, CVA, CVCH
Email: airodriguez@sgu.edu

Other faculty/lecturers/coordinators:

Talia Guttin VMD, M.Ed, DACVIM (SAIM)
Email: tguttin@sgu.edu

Heather Douglas DVM, MBA
Email: doctordouglas@douglasanimalhospital.com

Stacey Byers DVM, DACVIM
Email: sbyers1@sgu.edu

Jennifer Frey DVM – AVMA PLIT
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Rebecca Stinson DVM -- AVMA PLIT
Email: rebeccastinsonDVM@AVMAlife.com

Katie Toop – Assistant Director, Financial Aid SGU
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Keshia John, Simulation Technician/Communication Lab Coordinator Email: kjohn5@sgu.edu

Course Location
Sis Hall, Charter Hall Lab, KB Taylor Hall Blue, Panopto, Zoom, Sakai Lessons/Assignments/Tests and Quizzes.

Required Resources
This course does not have a required or recommended textbook. All recommended resources will be provided electronically on Sakai or in class.

Recommended Resources
None

Accommodation

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

Other Requirements
None.

Course Rationale
This course is the sixth 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. The 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.

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

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.

Lesson Learning Outcomes

At the conclusion of the sections listed below, the student will be able to: Domain 1: Personal Development/Leadership

- Prepare for their 4th clinical year
- Discuss all aspects of the NAVLE as well study strategies that can be used to be successful

Domain 2: Wellness

- 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.

Domain 3: Ethics and Animal Welfare:

- Understand ethical and legal issues facing veterinarians Domain 4: Communication

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

Other Communication:

- 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

Domain 5: Business and Financial Literacy:

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 BFL:
- Review aspects of personal financial literacy including clinical year finances, loan repayment and budgeting

Alignment of Course Learning Outcomes with Program Learning Outcomes
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**
	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 4th year veterinary student	**6,7**
	4-Review the importance of teamwork and communication during clinical year	

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

Course Schedule
Changes in this schedule may occur at the course director's discretion, students will be notified at the earliest convenience.

Duration/Date/Time	**Modality/Location**	**Lecture Topic**	**Faculty**	**Due Date***
Week 0 (January 10-14)				
Tuesday Jan 11 1:30-3:20pm (2 hr)	Sis Hall & Zoom	Orientation Year Four Preparation	NW	---
Wed Jan 12 1:30-3:20pm (2 hr)	Sis Hall & Zoom	Feedback & Mindset	NW	Apr 10 & Jan 23
Thursday Jan 13 1:30-3:20pm (2 hr)	Sis Hall & Zoom// Panopto	Comm Intro NAVLE Prep #2	SB/TG	
Week 1 (January 17-21)				
Tuesday Jan 18 1:30-3:30pm (2 hr)	Charter Hall & Zoom	Getting Paid for Doing What You Love	HD	
Wed Jan 19 3:30-5:30pm (2 hr)	Charter Hall & Zoom	The Business of Veterinary Medicine	HD	
Thursday Jan 20 3:30-5:30pm (2 hr)	Charter Hall & Zoom	Veterinary Medicine is More than Puppies and Kittens	HD	Jan 30
Week 2 (January 24-28) – No content				
Week 3 (Jan 31 – February 4) – No content				
Week 4 (February 8-11)- No content				
Week 5 (February 14-18) - No content				
Week 6 (February 21-25) - No content				
Week 7 MIDTERMS				
Week 8 (March 7-11)				
Friday March 11 10:30-12:30 am (2 hr)	Sis Hall & Zoom	Financial Aid and Loan Repayment Webinar	SGU Financial Aid Team	----
Week 9 (March 14-18) - No content				
Week 10 (March 21 – March 5) - No content				
Week 11 (March 28 - April 1) – No content				
Week 12 (April 4-8) – No content				
ICVA Practice Exam Due April 10th 2022				
Week 13 (April 11-15)				
	Charter Hall Lab & Zoom	Managing Risk & Communication Challenges	AVMA PLIT	------

Wednesday April 13 1:30-3:30pm (2 hr)	KB Taylor Blue & Zoom	Wellness Lecture 1	AR	April 12 & April 17
Week 14 (April 18-22)				
Tuesday April 19 1:30-3:30pm (2 hr)	Charter Hall Lab & Zoom	Wellness Lecture 2	AR	

COMMUNICATION LABS:

FRIDAYS, 1:30-5:30 PM AST Week 4 – Week 12 based on SAMS 528 rotation schedule

Communication Self-Assessment due within 1 week of your lab date.

*See Syllabus for description of assignments

Grading and Assessment Policy
The course will be graded Pass/Fail.

100%-69.5% = Pass

<69.5% = Fail

Evaluation	Weighted	Grade
Wellness	20%	P/F
Communication	15%	P/F
Personal Development	5%	P/F
Business and Financial Lit	15%	P/F
ICVA Practice Test	5%	P/F
Professionalism evaluation at midterm	20%	20 points
Professionalism evaluation at end of term	20%	20 points

A grade of passing will be determined by:

1. Successful completion of all assignments by the scheduled due date (see below)
2. Mandatory engagement in the course content which includes:
    1. Attendance of all sessions
    2. Review of all recorded lectures when indicated
    3. Completion of “in-class” and other assignments and activities.

A student who fails to adhere to attendance and engagement guidelines will be placed on non-academic probation by the CAPPS committee.

The course will consist of a mix of lectures, Zoom sessions and one communication lab.

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. Rodriguez (airodriguez@sgu.edu), along with submitting a medical excuse through the DOS.

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 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 January 23rd, 2022.**

Business Assignments: To complete the business module, you must complete the following assignments. More details will be provided by Dr. Douglas. **DUE DATE January 30th, 2022 at 11:55pm**

1. 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.
2. 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
3. SMART Goals - Create a SMART goal for applying for your first position. It must be Specific, Measurable, Attainable, Relevant and Time-Bound.
4. 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.
5. 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.

1. Wellness Assignment 1 **DUE DATE April 12th, 2022 by 11:55pm.**
2. Wellness Assignment 2. **DUE DATE April 17th, 2022 by 11:55pm.**

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 February 10th, 2022. DUE DATE is April 10th, 2022 by 11:55pm. 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. Byers.
- 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 April 10th at**

11:55pm. It Is recommended that you complete this assignment by 1 week from your lab date. Failure to complete the assignment on time will result in an incomplete grade in the course.

Recommended Study Strategies
Remain engaged throughout the course to benefit from the various active learning activities.

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.

Respond to emails from faculty within 24 hours.

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 student's 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.

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/medic al/ personal issues.	Student submitted assign ment 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 reflecti on question was not submitted, and student communicated with course director **more than 24 hours** after assignment deadlin e with any technical/medical/p ersonal 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/p ersonal issues.	Student submitted reflectio n 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 deadlin e with any technical/medical/p ersonal 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)				

Attendance/Participation Policy
Students are expected to be available during the standard 8:30am-5:20pm 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 (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 within a week of the session.

Attendance is required for ONE communication lab session. If you cannot attend the session you signed up for, notify Dr. Byers and Dr. Wise immediately. Please see section XIII for details about mandatory attendance at lectures.

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 (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) 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.

Failure to submit or re-submit any assignment will result in the student being placed on non-academic probation by the CAPPS committee.

ExamSoft Policy
N/A

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.

Radiology I

Course
SAMS 501
Semester
Spring

Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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 or zoom session

Administration:

Ms Ruth Thornhill
SAMS, Cassia building, lower floor, True Blue Campus Email Address: rthornhill@sgu.edu

Course Location
Lectures: In-person lecture delivery

Labs: Interactive positioning and anatomy sessions

Examination- One quiz delivered within My Courses/Test and quizzes Final examination will be delivered by *Examsoft*

Required 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.

Recommended Resources
Students are NOT required to acquire a textbook. However, the following is recommended:

Thrall, D.E. **Textbook of Veterinary Diagnostic Radiology**, 7th Edition (or newer), 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/**

Accommodation

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

Other Requirements
For the lab sessions, writing material and laptop of your choice are required

Course Rationale
The student should, at the end of the course, be able to competently recognize the normal radiographic 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, how they are obtained, and the anatomy demonstrated. The course offers the theoretical and practical basis for learning and understanding radiographic 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 lectures of basic positioning and normal radiographic anatomy. The 6 lectures cover the anatomic regions of small animals that will be discussed in the labs that follow. Lectures 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. **Lecture attendance is expected, attendance will be taken.**

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 1 and 2. Subsequent labs will include and 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 series of questions on the aspects of imaging as stated above
- Time will be allotted for the preparation and coordination of the questions
- Questions will be answered by the attendees of the lab section.
- Due to the length and high interactivity of the Lab sessions, these sessions are not recorded. **Therefore, attendance is mandatory and attendance will be taken.**
- Note that Lab completion does **not** incur points towards the final course grade, however, materials discussed in lab can be tested on the quiz and exam.

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

Course Learning 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

Lesson Learning Outcomes
Lessons include the Lectures and Laboratory Sessions and together with the Course Level Outcomes are appended as a table as part of the course schedule

Alignment of Course Learning Outcomes with Program Learning 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.	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.
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.	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.
Explain the basic principles of X-ray and image formation in radiology (physics).	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.
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.
	PLO 6 Apply multidisciplinary scientific knowledge to

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.	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. PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity.
Demonstrate proficiency in the correct use of medical terminology when verbally describing and reporting diagnostic radiographic studies of cats and dogs.	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.

Course Schedule

Date **Time**	**Lecture content**	**Lecture learning outcome**	**Credit**
Week 3 **Feb. 1, 2022**	**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 radiationsafety	1 lecture hour
Week 4 **Feb. 8, 2022**	**Lecture 2** **Artifacts and Radiation safety**: Time, shielding, technique, monitoring, methods of radiation protection(ALARA)	1. Explain definition, causes, examples and prevention of typical artifacts 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 radiographyof animals	1 lecture hour
Week 5 **Feb. 15. 2022**	**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 radiationsafety	1lecture hour
Week 6	**Quiz**	Quiz is based on Lectures 1 and 2 ,and lab 1 10 MCQ questionswith/without images Total points 10 Given in Sakai Test/Quizzes	

Week of Feb. 21, 2022			
Week 7 **Mar. 1, 2022**	**Lecture 4** **Small Animal Abdomen**	1. list and identify the standard projections & positioning for radiographing the abdomenof 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 radiationsafety	1 lecture hour
Week 8 **Week of Mar. 7, 2022**	**MIDTERM WEEK**	No radiology Mid-term	
Week 9 **Mar. 15,** **2022**	**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 radiationsafety	1 lecture hour
Week 10 **Mar. 22,** **2022**	**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 radiationsafety	1 lecture hour
Week 11 Week of Mar. **28, 2022**	**No Radiology I**		
Week 12 **Apr. 3, 2022**	**Lecture 7** **Small Animal Vertebral Column**	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	1 lecture hour
Week 13 **Apr. 12, 2022**	**Lecture 8** **Small Animal Skull**	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	1 lecture hour

		4. demonstrate an understanding of the principles of radiationsafety	
Weeks 14-15	**Review for final exam**	Review lectures 3-8 AND labs 2-7	
Week 16	**Final exam**	**May 4, 2022**	

Radiology Labs:

Week number	**Lab No & content**	**Lab learning outcome**	**Credit Hours**
Week 4 **Feb. 9, 2022**	**Lab 1 Physics of radiology/** Artifacts/ Radiation safety/ Radiographic technique	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	2 Lab hours
Week 5 **Feb. 16, 2022**	**Lab 2** **Small Animal Thorax**	- research, development and presentationon the aspects of imaging of the normal small animal thorax -patient positioning -normal anatomy -image quality/critique -comparative anatomy	2 Lab hours
Week 6 **Week of Sept. 20, 2021**	**QUIZ**	Lectures 1A and 1B, Lab 1	
Week 7 **Mar. 2, 2022**	**Lab 3 Small Animal Abdomen**	-group development of a set of questions basedon the current lecture material -question topics include normal anatomy, comparative anatomy, positioning and image equality -group sharing and answering of questions -topic review session	2 Lab hours
Week 8 **Week of Mar. 7, 2022**	**Midterm week**	No radiology midterm	
Week 9	**Lab 4 Small Animal Thoracic Limb,**	-group development of a set of questions basedon the current lecture material	2 Lab hours

Mar. 16, 2022		-question topics include normal anatomy, comparative anatomy, positioning and image equality -group sharing and answering of questions -topic review session	
Week 10 **Mar. 23, 2022**	**Lab 5 Small Animal** **Pelvis and Pelvic** **Limb**	-group development of a set of questions basedon the current lecture material -question topics include normal anatomy, comparative anatomy, positioning and image equality -group sharing and answering of questions -topic review session	2 Lab hours
Week 11 **Week of Mar.** **28, 2022**	**No Radiology I**		
Week 12 **Apr. 6, 2022**	**Lab 6** **Small Animal Vertebral Column**	-group development of a set of questions basedon the current lecture material -question topics include normal anatomy, comparative anatomy, positioning and image equality -group sharing and answering of questions -topic review session	2 Lab hours
Week 13 **Apr. 13, 2022**	**Lab 7** **Small Animal Skull**	-group development of a set of questions basedon the current lecture material -question topics include normal anatomy, comparative anatomy, positioning and image equality -group sharing and answering of questions -topic review session	2 Lab hours
Weeks 14-15	**REVIEW**	Lectures 2-8, Labs 2-7	
Week 16 **Wednesday May 4, 2022** **@ NOON**	**Final Exam**		

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 and identification question types. A number of the questions will include images. It will account for 22% of the overall points. The final examination will be cumulative and cover course material since the quiz and will account for 78% of the overall points. The final exam will be given via ExamSoft. The final exam may contain question types other than multiple choice. 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 parameters listed in the Assessment Policy for Students.

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 to be asked. An effort is made to communicate Exam details prior to the examinations. 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.

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: 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 Feb. 21, 2022	10	10 points (1/question)	Lectures 1 & 2	Lab 1
Final Exam In ExamSoft	Week 16 May 4, 2022	35	35 (1/question)	**Lectures** 3-8	**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.**

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 Radiology is the interpretation of diagnostic 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 radiographic appearance of normal anatomy. *Images presented on the quiz and final exam are not necessarily the same images from lecture and lab.* If the visual aspect of Radiology 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.

Instructor's Expectations of the Student
The student should at the end of the course be able to competently recognize the radiographic anatomy of the dog and cat 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. Review of corresponding material from Anatomy I 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.

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.

Attendance/Participation 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

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 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. ***Portal/ 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.

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.
7. 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

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 Radiology 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.

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Radiology II

Course
SAMS 502
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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 or zoom session

Administration:

Ms Ruth Thornhill
SAMS, Cassia building, lower floor, True Blue Campus Email Address: rthornhill@sgu.edu

Course Location
Lectures: In-person, recorded via Zoom

Labs; in person, due to the highly interactive nature, lab sessions are NOT recorded

Examination- One quiz delivered within Sakai/My Courses/Test and quizzes

Final examination will be delivered by Examsoft

Required Resources
(texts, journal articles, course notes, laptop specs, etc.)

Radiology I course notes

Anatomy I and II for reference

Recommended Resources
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/

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

Other Requirements
For the lab sessions, writing material of your choice is required to write responses for the cases provided during the labs.

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 radiolographic anatomy of the equine and bovine species. The course serves as a basis for clinical radiology taught in terms 5 and 6.

Lectures are delivered in-person with Powerpoint slides available 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. **Lecture attendance is expected, attendance will be taken.**

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 lecture 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
- No points towards the course grade are earned in lab, however, any subject material discussed in lab can be tested on the quiz or final exam
- Lab attendance is mandatory, attendance will be taken

Office hours available by appointment.

Course Learning 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

Alignment of Course Learning Outcomes with Program Learning 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 of the use of ionizing radiation in veterinary medicine to the patient, staff, the public and the environment.	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.
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.

Course Schedule

Week	Lecture content	Lecture learning outcome
Week 9 **Tuesday, March 15** **Lecture 1**	**Equine and Bovine Thorax/ Spine**	Explain how the equine and bovine thorax is radiographed. List and identify the standard radiographic projections for the thorax. Identify the normal radiographic anatomy of the adult and juvenile equine and bovine thorax. List and identify the standard radiographic projections for the bovine and equine thoracic vertebral column- adult and juvenile. Identify the normal radiographic anatomy of the adult and juvenile equine and bovine vertebral column and the anatomical variations
Week 10 **Tuesday, Mar. 22** **Lecture 2**	**Bovine Radiography**	Explain how the bovine limbs are radiographed List and identify the standard projections, identify the normal radiographic anatomy of the juvenile and adult bovine limbs
Week 11 **Wednesday, Mar. 30** **Lecture 3**	**Equine Foot/ Fetlock** **(Quiz due this week)**	Explain how the equine foot, phalanges and fetlock are radiographed. List and identify the standard and common oblique radiographic projections, using correct descriptive terminology, for the equine foot and phalanges and metacarpal/metatarsal joints. Be aware of the reasons for the use of standard oblique projections. Identify the normal radiographic anatomy of the adult and juvenile equine foot, phalanges and fetlock joint and the anatomical variations.
Week 12 **Tuesday, Apr. 5** **Lecture 4**	**Equine Carpus, Thoracic Limb**	Explain how the equine shoulder, elbow, carpus and metacarpus are radiographed. List and identify the standard radiographic projections, using correct descriptive terminology, for each of these joints and the metacarpus. List and identify the common oblique radiographic projections of the equine carpus and metacarpus and be aware of the reasons for their use. Identify the normal radiographic anatomy of the adult and juvenile equine carpus, metacarpus, elbow and shoulder and the anatomical variations.
Week 13	**Equine Tarsus and Stifle**	Explain how the equine stifle, tarsus and metatarsus, are radiographed.

Wednesday, Apr. 13 **Lecture 5**		List and identify the standard radiographic projections, using correct descriptive terminology, for each of these joints and the metatarsus. List and identify the common oblique radiographic projections of the equine tarsus, metatarsus and stifle and be aware of the reasons for their use. Identify the normal radiographic anatomy of the adult and juvenile equine tarsus, metatarsus and stifle
Week 14 **Wednesday, Apr. 20** **Lecture 6**	**Equine Skull**	Explain how the equine skull is radiographed List and identify the standard radiographic projections, using correct descriptive terminology for the teeth, paranasal sinuses and pharynx. List and identify the common oblique radiographic projections of the equine skull and be aware of the reasons for their use. Identify the normal radiographic anatomy of the adult and juvenile equine skull and the anatomical variations.
Week 15 **Thursday, Apr. 28** **Lecture 7**	**Avian**	Explain the practical aspects of avian radio- graphy including positioning and the standard projections and radiation safety issues. Identify the normal radiographic anatomy of the avian species
Week 17, Friday, May 13 FINAL EXAM **Material from Lectures 2-7, Labs 2-5**		

Lab location: Charter Hall,, Ground floor

Date	Lab	Lab learning outcome
Week 10 **Wed. Mar. 23** **Fri. Mar. 25**	**Lab 1** **Thorax/Bovine radiography**	Explain how the bovine limbs are radiographed, list and identify the standard (including oblique) projections. Explain how the equine and bovine thorax is radiographed. List and identify the standard radiographic projections for the thorax Identify the normal radiographic anatomy of the juvenile and adult bovine limbs
Week 11 **Wed. Mar. 30** **Fri. Apr. 1**	**Lab 2** **Equine Foot and Fetlock**	Explain how the equine foot, phalanges and fetlock radiographed. List and identify the standard and oblique projections of the foot, phalanges and fetlock Identify the normal radiographic anatomy of the equine foot and fetlock; juvenile and adult
Week 12 **Wed. Apr. 6** **Fri. Apr. 8**	**Lab 3** **Equine Thoracic Limb**	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. List and identify the standard projections Identify the normal radiographic anatomy of the equine forelimb
Week 13	**Lab 4**	Explain how the equine hindlimb (including stifle, tarsus and metatarsus) is radiographed.

Wed. Apr. 13 **Week 14** **Wed. Apr. 20**	**Equine Tarsus and Stifle**	List and identify the standard and oblique projections. Identify the normal radiographic anatomy of the equine hindlimb (including stifle, tarsus and metatarsus)
Week 14 **Fri. Apr. 22** **Week 15** **Thurs. Apr. 26**	**Lab 5 Equine Skull**	Explain how the equine skull is radiographed, including sinuses, teeth List, identify and explain the standard projections. Identify the normal radiographic anatomy of the equine skull
Week 17, Wednesday May 11, FINAL EXAM Material from Lectures 3-7, Labs 2-5		

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/ *Examplify* 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 parameters listed in the Assessment Policy for Students.

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/Quiz details: SAMS 502 / Radiology II

Examination	Spring 2022	MCQs	Total points	Content
Quiz 1 Via My Courses/ Test and Quizzes tab	Week 11, Week of March 28	**10**	**10 questions @ 1 pt**	Lectures 1 & 2 Labs 1
Final Examsoft		**35**		Lectures 3-7
Total	Week 17 Friday, May 13	**45**	**35 questions @ 1 pt**	Labs 2-6

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.

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 radiographic 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.

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 radiographic 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.

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.

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.

Lecture attendance policy: Students are **expected** to attend all of the lectures. Attendance will be taken

Laboratory session policy: Lab session attendance is **mandatory**. Attendance will be taken. Due do the length and interactive nature of labs, these sessions are NOT recorded.

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 (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 inform Dr Hanson **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.

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. If on Grenada 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.
    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

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 querymust 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 *Examplify*, 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.

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Shelter Medicine Selective

Course
SAMS 539
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course Directors:

Ms. Elizabeth Peach and Dr. Marta Lanza-Perea

LVT/CVT, Demonstrator IV DVM, MsC, Associate Professor

epeach@sgu.edu 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. Jennifer Bolser, DVM
- Dr. Joellen Bruinooge, DVM
- Dr. Melissa Bain, DVM, DACVB, MS, DACAW
- Dr. Katherine Polak, DVM, MPH, MS, DACVPM
- Ms. Consie von Gontard
- Dr. Elise Gingrich, DVM, MPH, MS

GSPCA:

- Staff and Volunteer Veterinarians
- Ms. Luanna Levy, President and Executive Director
- Ms. Paula Lehov, Kennel Coordinator, Education Officer, Behaviorist
- Shelter Technicians, Kennel Assistants, Administrative and Support Staff, Volunteers

VSL Faculty and Staff:

- JSAL DVMs and VPs
- Mr. Jakobus Louw, Veterinary Technician jlouw@sgu.edu
- Mr. Quacy Matthew, Veterinary Technician qmatthew@sgu.edu
- Mr. Jude Modeste, Veterinary Technician jmodeste@sgu.edu
- Mr. Jemmon Wilkinson, Veterinary Technician jwilkins@sgu.edu
- Mr. Reon Patrice, Veterinary Technician rpatrice@sgu.edu

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).

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.

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/s ervices/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 MohanGibbons, 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.
- *Wildlife Care Basics for Veterinary Hospitals: Before the Rehabilitator Arrives*. Irene Ruth, Humane Society of the United States, 2012.

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://fearfreeshelters.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.**

Accommodation

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

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.

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.

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.

Lesson Learning Outcomes

Lecture/Lab	Lesson Learning Outcomes
1. Shelter Animal Physical Health and Management	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. 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. 14. Identify appropriate Biosafety and Biosecurity measures specific to a shelter environment.
2. Models of Sheltering and Population Statistics	1. Define the terms open admission and limited admission. 2. Discuss advantages and disadvantages of open versus limited admission shelter models. 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, treatablemanageable, 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 fundraising tips. 15. Discuss the positive and negative role public and social media can play in the reputation of the shelter in the public eye.
3. Animal Welfare, Animal Cruelty and Neglect, and Veterinary Forensics	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. 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.
4. Shelter Animal Behavioral Health	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.
5. Management of Feline Overpopulation in Communities	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.
6. Disaster Preparedness	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.
7. Spay and Neuter Programs	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 pediatric surgical and anesthetic considerations and discuss the benefits and disadvantages of the procedure. 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.
8. High-Quality High-Volume (HQHV) Spay and Neuter Surgical Techniques and Medical Protocols	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, preoperatively, intra-operatively, and postoperatively. 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.
9. Shelter, Community, and Public **Health**	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. 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. 13. Identify appropriate Biosafety and Biosecurity measures specific to a shelter environment.
10. Euthanasia and Emotional Well- **Being in the Shelter Environment**	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.

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.	1. **Core Medical Knowledge** PLOs 1,2,3,4,5,6,7,8,9,10,11 2. **Core Professional Attributes** PLOs 12,13,15,17,18,19 3. **Core Clinical Competencies (Skills)** PLOs 22,23,24,25,26,27,28
CLO 2. Utilize resources to provide appropriate and humane care for shelter animals and communities.	1. **Core Medical Knowledge** PLOs 1,2,3,4,5,6,7,8, 9,10,11 2. **Core Professional Attributes** PLOs 12,13,14,15,17,18,19 3. **Core Clinical Competencies (Skills)** PLOs 20,21,22,23,24,25,26,27,28
CLO 3. Illustrate the variety of career paths associated with shelter medicine.	1. **Core Medical Knowledge** PLOs 7,8,9,11 2. **Core Professional Attributes** PLOs 12,13,14,15,16,17,18,19 3. **Core Clinical Competencies (Skills)** PLOs 23,24,25,26,27,2
Course Level Outcome	**SGU SVM Program Level Outcome**
CLO 1. Discuss current topics and emerging trends in the field of shelter medicine.	**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. 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 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 7 Evaluate and analyze normal versus abnormal animal behavior. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable 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. PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine. **B. 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. PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice. PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences. **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. 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.
CLO 2. Utilize resources to provide appropriate and humane care for shelter animals and communities.	**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 PLO3 Recall, understand, and adequately utilize nowledge 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 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 7 Evaluate and analyze normal versus abnormal animal behavior. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable 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. 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 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences. **C. Core Clinical Competencies (Skills)** PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis. 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 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. 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.
CLO 3. Illustrate the variety of career paths associated with shelter medicine.	1. **Core Medical Knowledge** PLO 7 Evaluate and analyze normal versus abnormal animal behavior. PLO 8 Apply principles of animal welfare and articulate relevant legislation, including notifiable diseases. PLO 9 Apply the principles of veterinary public health for the promotion of human and animal health. PLO 11 Understand and apply basic principles of research and recognize the contribution of research to all aspects of veterinary medicine. 2. **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 16 Demonstrate and model adaptability and resilience.

	PLO 17 Demonstrate and model self-awareness including understanding personal limitations and willingness to seek advice. PLO 18 Understand and evaluate the organization, management and legislation related to veterinary practice, including biosafety and biosecurity. PLO 19 Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences. **C. Core Clinical Competencies (Skills)** 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. 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.

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, February14 th and March 28 th, 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 Spring 2022 Course Schedule

WEEK	**DATE**	**LECTURE/LAB/ MODULE**	**LECTURER/ INSTRUCTOR**	**ASSIGNMENT/ ASSESSMENT**	**STUDENT TIME COMMITMENT**
Week #0	Jan. 10- Jan. 14	No Lecture	NA	**None**	**None**
Week #1	Jan. 17- Jan. 21 **(January 17, Monday, 1:30-2:20 PM AST- Live Lecture)**	Shelter Animal Physical Health and Management	Dr. Marta Lanza and Ms. Liz Peach	**None**	**Lecture=1.0 Hour**
Week #1	Jan. 17- Jan. 21 **(January 21, Friday, 1:30-2:20 PM AST- Live Lecture)**	Models of Sheltering and Population Statistics	Dr. Jennifer Bolser	**None**	**Lecture=1.0 Hour**
Week #2	Jan. 24- Jan. 28 **(Recorded Lecture)**	Animal Welfare, Animal Cruelty and Neglect, and Veterinary Forensics	Dr. JoEllen Bruinooge	1. **Forum Post for Personal Introduction (Due Jan. 28)** 2. **Fear Free Shelters Module 1 (Due Jan. 28)**	1. **Lecture=1.0 Hour** 2. **Forum Post=15.0 Minutes**

					3. **Fear Free Shelters Module 1=1.0 Hour**
Week #3	Jan. 31 - Feb. 4 **(January 31, Monday, 1:30-2:20 PM AST- Live Lecture)**	Shelter Animal Behavioral Health	Dr. Melissa Bain	**Fear Free Shelters Module 2 (Due Feb. 4)**	1. **Lecture=1.0 Hour** 2. **Fear Free Shelters Module 2=1.0 Hour**
Week #4	Feb. 7- Feb. 11	Holiday-No Lecture	NA	**1. Enrichment Activity/Toy Design for JSAL (Due Feb. 11)** **2.Short Answer Assignment for Lectures from Weeks 1, 2, and 3 (Due Feb. 11)**	**1. Enrichment/ Toy Activity=30.0 Minutes** **2.Short Answer Assignment=15.0 Minutes**
Week #5	Feb. 14- Feb. 18 **(February 14, 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	**1.Fear Free Shelters Module 3 (Due Feb. 18)** **2. Shelter Visit and Analysis Utilizing ASPCA Shelter Care Checklists (Due Feb.18Remote Students/Alternative Assignment)**	1. **Wet Lab=2.5 Hours** 2. **Alternative Assignment=2.5 Hours** 3. **Fear Free Shelters Module 3=1.0 Hour**
Week #6	Feb. 21- Feb. 25 **(February 21, Monday, 1:30-2:20 PM AST- Live Lecture)**	Management of Feline Overpopulation in Communities	Dr. Katherine Polak	**SOPs/ASV Group Presentation Assignment (Due Feb. 25)**	1. **Lecture=1.0 Hour** 2. **SOP/ASV Group Presentation Assignment=1.0 Hour**
Week #7	Feb. 28- March 4	Midterms-No Lecture	NA	**None**	**None**
Week #8	March 7- March 11	Midterms-No Lecture	NA	**1.Fear Free Shelters Module 4 (Due March 11)** **2.Fear Free Shelter Program Certificate Upload/Course Completion (Due March 11)** **3. Forum Post for SOPs/ASV Guidelines Assignment (Due March 11)**	**1.Fear Free Shelters Module 4=1.0 Hour** **2.Fear Free Shelter Program Certificate Upload=5.0 Minutes** **3. Forum Post=15.0 Minutes**
Week #9	March 14- March 18 **(Recorded Lecture)**	Disaster Preparedness	Ms. Consie von Gontard	**Short Answer Assignment for Lectures from Weeks 6 and 9 (Due March 18)**	**1.Lecture=1.0 Hour** **2. Short Answer Assignment=15.0 Minutes**
Week#10	March 21- March 25 **(March 21, Monday, 1:30-2:20 PM AST- Live Lecture)**	Spay and Neuter Programs	Dr. Marta Lanza and Ms. Liz Peach	**None**	**Lecture=1.0 Hour**
Week #11	March 28- April 1 **(March 28, Monday, 1:30-4 PM AST- Live Wet Lab) Location: JSAL**	HQHV Spay and Neuter Surgical Techniques and Medical Protocols Wet Lab	Dr. Marta Lanza and Ms. Liz Peach	**1. Multiple Choice Quiz for Lectures from Weeks 10 and 11 (Due April 1)** **2.HQHV Spay and Neuter Surgical Techniques and Medical**	1. **Wet Lab=2.5 Hours Alternative Assignment=2.5 Hours**

				Protocols Lab (Due April 1Remote Students/ Alternative Assignment)	**2. Multiple Choice Quiz=30.0 Minutes**
Week #12	April 4- April 8 **(April 4, Monday, 1:30-2:20 PM AST- Live Lecture)**	Shelter, Community, and Public Health	Dr. Elise Gingrich	**None**	**Lecture=1.0 Hour**
Week #13	April 11- April 15 **(April 11, Monday, 1:30-2:20 PM AST- Live Lecture)**	Euthanasia and Emotional Well-Being in the Shelter Environment	Dr. Elise Gingrich	**Wellness Case Scenarios Group Assignment** **(Due April 15)**	1. **Lecture=1.0 Hour** 2. **Wellness Assignment=30.0 Minutes**
Week #14	April 18- April 22	No Lecture	NA	**Short Answer Final Exam (Due April 22)**	**Short Answer Final Exam=1.0 Hour**
Week #15	April 25 - April 29	No Lecture	NA	**Finals**	**None**
Week #16	May 2- May 6	No Lecture	NA	**Finals**	**None**
Week #17	May 9- May 13	No Lecture	NA	**End of Term/CAPPS**	**None**

Grading and Assessment Policy

- **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	15.0 / 10%
7. Wellness and Euthanasia Case Scenarios Group Assignment	10.0 / 10%
8. Enrichment Activity/Toy Design for JSAL	5.0 / 5 %
9. Shelter Visit and Analysis Utilizing the ASPCA Shelter Care Checklists	Pass/Fail
10. HQHV Spay and Neuter Surgical Techniques and Medical Protocols Lab	Pass/Fail

- **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 (Please see all Grading Rubrics appended at end of Syllabus):**

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.

- ***During the GSPCA site visit, students should inquire about specific SOPS that may assist/ benefit the GSPCA.**
- 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.

AND

1. A 500 word or less **OR** a10 minute video presentation or less which details the current existing conditions of the shelter and summarizes your recommendations.
2. 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.
3. 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.
4. Please see the Grading Rubric at the end of the Syllabus in the Appendix.
5. **Discussions Post (Forums) x 2 Posts = 10 Points (10%)**

➢ Discussion Post #1

- **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.

➢ Discussion Post #2

Standard Operating Procedure (SOP) Protocols for Shelters SOP/ASV Guidelines Assignment Peer Review Post=5 Points (5%)

Please select one of the group presentations (written and/or video) submitted by your classmates to review. Please include in your response the following:

1. One thing you learned from the SOP.
2. One recommended area of improvement, medically or presentation style.
    1. Your Discussion Posts will be shared with the entire class and course directors.
    2. Your Discussion Posts should be made to Discussions (Forums) in Sakai, "Personal Introductions" and "Standard Operating Procedure (SOP) Protocols for Shelters Peer Review."
    3. Please see the Grading Rubric at the end of the Syllabus in the Appendix

3. **Short Answer Assignment x 2 Assignments=10 Points (10%)**

- **Short Answer Assignment for Lectures from Weeks 1, 2, and 3=5 Points (5%)**
  - Please identify and describe 3 main concepts in total you learned or were impacted by from the Lectures from Weeks 1, 2, and 3. Please refer to the lecture learning outcomes for assistance.
- **Short Answer Assignment for Lectures from Weeks 6 and 9=5 Points (5%)**
  - Please select **one** of the articles listed under Required Readings or Additional

Resources for **one** of the Lectures from Weks 6 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 1, 2, and 3" and "Short Answer Assignment for Weeks 6 and 9."
- Please see the Grading Rubric at the end of the Syllabus in the Appendix.

6. **Multiple Choice Quiz= 15 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."

6. 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 be required to submit a written copy of the Checklists for their 2 Sections, along with any pertinent notes or commentary.**
- Students will discuss your observations with the course directors during mandatory scheduled office hours.
- Please see the Grading Rubric at the end of the Syllabus in the Appendix.
- 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.
- Students unable to participate in the wet lab (with acceptable excuses) 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.

1. **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						

2. **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 • 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 • 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 • 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 • Student (s) utilizes scientific and professional language, minimal errors in grammar, spelling, pronunciation. • Student (s) drafts an SOP in a concise, simple stepstep 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.

Total Score and Comments

3. 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 · 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 · 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 · Student responds 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							

4. 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							

5. 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 • 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. 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 • 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 • 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							

6. 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 • 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

• Student provides JSAL Team Members with appropriate and practical recommendations, taking into account safety, affordability, and accessibility of household items.					
2. Knowledge • 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 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 • 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					

7. **Shelter Visit and Analysis Utilizing the ASPCA Shelter Care Checklists: Putting the Association of Shelter Veterinarians Guidelines for Standards of Care in Animals into Action Grading Rubric**

5	A+						
4	A						
3	B						
2	C						
1	D						
0	F						
			Poor		Average		Excellent
1. Completeness • Student physically visits shelter and meets with a member of the shelter team. • Student provides a thorough analysis of the current protocols and practices being utilized at the shelter. • 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, including the Association of Shelter Veterinarians (ASV) Guidelines for Standards of Care in Animal Shelters and the ASPCA Shelter Care Checklists. • Student identifies and appropriately utilizes the terms **Must, Should, Ideal, and Unacceptable**.			1.0	2.0	3.0	4.0	5.0
3. Analysis • Student identifies the type of shelter being visited and describes the community accessing the shelter. • 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/Verbal Skills and Communication • Student utilizes scientific and professional language, minimal errors in grammar, spelling, pronunciation.	1.0	2.0	3.0	4.0	5.0
• Student clearly and concisely describes observations. • Student submits a written copy of the Checklists for their 2 Sections, along with any pertinent notes or commentary.					
Total Score and Comments					

8. 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 • Student directly answers each question: 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 • 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						

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 email, Zoom scheduled office hours, or by appointment: Ms. Peach (epeach@sgu.edu) or Dr. Lanza (mperea@sgu.edu).

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).

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.

Attendance/Participation Policy

- Students are expected to be available during the standard 8:30-5:20 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.
- 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). 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.
- 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.
- Please refer to the Student Manual for further clarification.
- **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 Mandatory. 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).

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.

ExamSoft Policy

Not Applicable to SAMS 539

Copyright Policy
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Master Syllabus
School of Veterinary Medicine Master Syllabus

Small Animal Dermatology

Course
SAMS 535
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course Director:

- Tara Paterson, DVM, MSc., Associate Prof
- Email: tpaterson@sgu.edu

Visiting Professor:

- Robert Kennis, DVM, DACVD
- Email: kennira@auburn.edu

Office *Hours*: by appointment only

Course Location
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 as needed.

Required Resources
All required materials will be provided in electronic form on the course Sakai site.

Recommended Resources
Kirk & Muller's Small Animal Dermatology (7^{th} ed). Miller, Griffin & Campbell (2013).

Accommodation

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

Other Requirements
Access to an electronic device that will enable the student to view lectures, participate in live Zoom sessions, and has word processing & presentation software (ie. MS Word, Powerpoint).

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 conditions. 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 ***hybrid*** version of the course, students will gain hands-on clinical experience (onisland students) or virtually (remote learning students) using clinical cases. Both experiences 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.

Course Learning Outcomes

The student is expected to be able to obtain a thorough dermatologic history from a client and perform a dermatological exam on a cat or dog
The student is expected to be able to generate an appropriate list of differential diagnoses based on a patient's history, physical & dermatological exams
The student is expected to be able to list and perform (in some cases) the appropriate dermatologic diagnostic test(s) and interpret the results
With regards to common small animal dermatoses (discussed wtihin the course), the student is expected to be able to recognize symptoms, discuss disease pathogenesis and list the therapeutic options
The student is expected to be able to identify key diagnostic features on cytologic evaluation for select dermatologic conditions

Lesson Learning Outcomes

Lecture/lab Learning Outcome	**Course Learning Outcome (CLO)**
LLO1: Anti-pruritic therapies [Kennis]	
LLO1-1: Understand that anti-pruritic therapeutics each have different binding sites and affect the itch pathway in different ways	**4**
LLO1-2: Dispel the common myths surrounding the use of glucocorticoids	**4**
LLO1-3: List the commonly used glucocorticoids and discuss how each type of glucocorticoid differs in its potentcy and duration of action	**4**
LLO1-4: List the effects of glucocorticoids on the cell and cite the potential adverse effects of this type of medication	**4**
LLO1-5: Explain why oral administration of glucocorticoids is recommended over injectable in most cases	**4**
LLO1-6: Discuss the risks associated with topical application of glucocorticoids	**4**
LLO1-7: Discuss the use of glucocorticoids in cats and the potential adverse effects in this species	**4**
LLO1-8: Define tachyphylaxis and discuss what should be done in the event that it should occur	**4**
LLO1-9: Calculate the appropriate doses of prednisone for a dog when prescribing a tapering regime of prednisone in the management of pruritus	**4**
LLO1-10: List therapeutic alternatives to glucocorticoids for the management and control of allergy-induced pruritus; for each therapeutic, describe its mode of action and possible adverse effect(s)	**4**
LLO2: Canine pyoderma & antibiotic resistance [Kennis]	
LLO2-1: Differentiate between superficial and deep pyoderma; list the common bacteria implicated in dog and cat bacterial skin infections	**4**
LLO2-2: List the current antibiotic susceptibility & resistance patterns of *S. pseudintermedius*	**4**
LLO2-3: Define methicillin resistance and its implications in small animal dermatology	**4**
LLO2-4: List the appropriate diagnostic procedures for obtaining a culture sample for suspected superficial pyoderma; briefly describe the technique and indications and/or limitations of each procedure	**3**
LLO2-5: Define minimum inhibitory concentration and mutant prevention concentration; explain how to interpret the results of culture and sensitivity testing	**3, 4**

LLO2-6: Develop an appropriate treatment plan for the treatment of superficial; list commonly used antimicrobials used in the treatment of superficial pyoderma and discuss their respective side effects and contraindications for use	4
LLO2-7: Develop an appropriate treatment plan for the treatment of methicillin resistant *Staphylococcal* infections; list antimicrobial treatment options and discuss their respective side effects and contraindications for use	**4**
LLO3: Feline pruritic skin disorders [Kennis] (revised SP2022)	
LLO3-1: Formulate lists of differential diagnoses based upon history and distribution pattern of pruritus	**2**
LLO3-2: Differentiate forms of clinical eosinophilic disorders in cats	**2, 4**
LLO3-3: Identify appropriate diagnostic procedures for each disorder	**3**
LLO3-4: List treatment options for each pruritic disorder	**4**
LLO3-5: Identify common causes of feline pruritus	**4**
LLO4: Dermatophytosis diagnosis & treatment [Kennis] (revised SP2022)	
LLO4-1: Describe important historical factors, risk factors and clinical presentation in cases of dermatophytosis	**2, 4**
LLO4-2: List appropriate differential diagnoses in cases of suspected dermatophytosis	**2**
LLO4-3: List the common species of dermatophytes affecting dogs & cats	**4**
LLO4-4: Develop an appropriate diagnostic plan for cases of suspected dermatophytosis	**3**
LLO4-5: Discuss the systemic and topical therapeutic options for treatment of dermatophytosis; state the advantages and/or disadvantages of each	**4**
LLO4-6: Formulate an appropriate therapeutic plan for cases of dermatophytosis; discuss the potential side effects of these therapeutics and their contraindications	**4**
LLO5: Zoonotic skin diseases [Kennis]	
LLO5-1: Discuss the risk factors for exposure to zoonotic pathogens and precautions that should be taken by veterinarians to minimize the risk for exposure	**2, 4**
LLO5-2: Formulate a list infectious and parasitic zoonotic diseases	**4**
LLO5-3: List the species of dermatophytes which are zoonotic (small & large animal species)	**4**
LLO5-4: Describe the clinical presentation in dogs, cats & horses with Sporotrichosis (*Sporothrix schenckii*); develop diagnostic and therapeutic plans and discuss risk factors & prognosis for this zoonotic disease	**2, 3, 4**
LLO5-5: Describe the clinical presentation, develop a diagnostic plan and formulate a treatment plan for dogs & cats with zoonotic fungal disease (coccidiomycosis)	**2, 3, 4**
LLO5-6: Describe the characteristics of *Dermatophilus congolensis* & its clinical presentation; develop a diagnostic plan, formulate a treatment plan and list the risk factors associated with “rain scald”	**2, 3, 4**
LLO5-7: Formulate a list bacterial pathogens with zoonotic potential	**4**
LLO5-8: Describe the lesions caused by flea bites on humans; formulate a treatment strategy for flea infestation	**4**
LLO5-9: List the species of zoonotic mites and note which ones are reportable diseases	**4**
LLO5-10: Describe the clinical presentation mite infestation in dogs & cats and formulate a treatment plan	**2, 4**
LLO5-11: List the species of Cheyletiella infesting dogs, cats and rabbits; describe clinical presentation and formulate a treatment plan	**2, 4**
LLO5-12: List the viral pathogens with zoonotic potential	**4**
LLO5-13: Cite the intermediate hosts which play a role in transmission of zoonotic disease and state the diseases they transmit	**4**
LLO6: Non-inflammatory alopecias [Kennis]	
LLO6-1:Identify clinical signs associated with endocrine skin disorders	**4**
LLO6-2: Differentiate skin disorders of Cushing’s, Hypothyroidism, Hypo & hyperestrogenism based on history and clinical findings	**2, 4**
LLO6-3: Identify breeds and clinical signs associated with flank alopecia in dogs	**2, 4**
LLO6-4: Learn breeds and clinical signs associated with pattern baldness	**2, 4**
LLO6-5: Identify clinical findings of black hair follicular dysplasia	**2, 4**

LLO6-6: List appropriate diagnostic techniques to differentiate causes of non-inflammatory alopecias in dogs	**3**
LLO11: Management of autoimmune skin disease [Kennis]	
LLO11-1: List clinical findings and distribution patterns of lesions associated with pemphigus foliaceus in dogs.	**4**
LLO11-2: Understand how acantholysis occurs leading to the formation of acantholytic cells. Identify the spinous cell layer of the	**4**
epidermis as the source and the key inflammatory cell present in pustule	
LLO11-3: Understand treatment options for pemphigus foliaceus in dogs. Identify important side effects and toxicities	**4**
LLO11-4: List treatment options for discoid lupus erythematosus. Identify differences in treatment options for pemphigus foliaceus	**4**
LLO11-5: Identify clinical findings, age of onset, and breed predisposition for symmetrical lupoid onychodystrophy (SLOD)	**2, 4**
LLO11-6: List treatment options for SLOD	**4**
LLO10: Clinical case (lab)	
LLO10-1: Obtain a full history and perform a complete physical and dermatologic examination on a patient presenting for dermatologic evaluation at the Small Animal Clinic.	**1**
LLO10-2: Develop a list of differential diagnoses based on the history and clinical presentation.	**2**
LLO10-3: Based on the history and clinical presentation, perform the appropriate dermatological diagnostics and accurately interpret their results. Demonstrate proficient use of the microscope (where appropriate).	**3**
LLO10-4: Based on your diagnosis/presumptive diagnosis, formulate an appropriate therapeutic plan.	**4**
LLO10-5: Prepare a case report (written and/or Powerpoint) based on the clinical case evaluated	**7**
LLO7: Cytology lab	
LLO7-1: Identify key cytological diagnostic features of common dermatologic diseases of small animals.	**5**
~~LLO7-2: Demonstrate proficient use of the microscope.~~	

Alignment of Course Learning Outcomes with Program Learning Outcomes

	COURSE LEARNING OUTCOMES	PROGRAM LEARNING OUTCOMES
1	The student is expected to be able to obtain a thorough dermatologic history from a client and perform a dermatological exam on a cat or dog	2, 12, 27
2	The student is expected to be able to generate an appropriate list of differential diagnoses based on a patient's history, physical & dermatological exams	6, 20
3	The student is expected to be able to list and perform (in some cases) the appropriate dermatologic diagnostic test(s) and interpret the results	20
4	With regards to common small animal dermatoses (discussed wtihin the course), the student is expected to be able to recognize symptoms, discuss disease pathogenesis and list the therapeutic options	2, 3, 5, 21, 24
5	The student is expected to be able to identify key diagnostic features on cytologic evaluation for select dermatologic conditions	1, 2, 3

Course Schedule

Date Time	Lecture / Lab	Format
Jan 10-14	Canine pyoderma and antibiotic resistance	Async
14-Jan	HOMEWORK DUE: Cytology (part 1)	
1:30 17-Jan 2:30	Distribution patterns and differential diagnoses of canine pruritus Antipruritic therapy for dogs Clinical case - group 1	Sync
18- 3:30 Jan	Feline pruritic skin disorders	Sync
20-1:30 Jan	Dermatophytosis: diagnosis and treatment	Sync
1:30 21-2:30 Jan 3:30	Zoonotic skin diseases Non-inflammatory alopecias Clinical case - group 2	Sync SAC

21- Jan	HOMEWORK DUE: Cytology (part 2)	
Jan 24-28 11:30	Management of autoimmune skin dz LAB: Cytology (part 1)	Async Zoom
24-Jan 1:30 3:30	Clinical case - group 3 & 5 (Zoom) Clinical case - group 4	SAC
28-11:30 Jan	LAB: Cytology (part 2)	Zoom
31-1:30 Jan	Group clinical case presentations	Sync
06-Feb	ASSIGNMENT DUE: Clinical case report	
14-1:30 Feb	**FINAL EXAM**	

Grading and Assessment Policy
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 homework assignments (7.5% each), a presentation & written case report based on a clinical case, a final examination and professionalism.

Final exam	34%
Clinical case – presentation	20%
Clinical case – case report	20%
Cytology lab homework	16%
Professionalism & attendance	10%

Final exam:

All materials covered in the course (including lecture and lab) are examinable material. The exam will be administered through Examsoft and proctored via ExamMonitor. A grade reduction of 5% will be applied to that exam if students do not observe the parameters listed in the Assessment Policy for Students.

Clinical case assignment:

Students will work-up a clinical case in small groups. Students on-island will work-up a clinical case at the Small Animal Clinic on their assigned day. The remote learning students will be assigned to one group and will work-up a virtual clinical case. Each group will be required to prepare a written case report (in SOAP format) and deliver a short Powerpoint presentation. More detailed instructions will be provided to the students on Sakai.

Homework:

There will be two homework assignments to assist students to prepare for the Cytology lab. These homework assignments will be posted on Sakai. Adherence to homework due dates is expected otherwise points will be deducted from the Professionalism grade (see Appendix 5). Grading is based on completeness – NOT accuracy.

Professionalism & attendance:

Students are expected to attend all synchronous activities and view two asynchronous presentations. Professionalism will be assessed based on attendance, adherence to timelines, participation in group activities and interaction with course faculty & peers. See Appendix 5.

Recommended Study Strategies
Since this course is delivered in a condensed manner, it will be important for the students to keep up with course activities over the first few weeks of the term. 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 exam preparations.

Instructor's Expectations of the Student
The student is expected to attend all synchronous course activities including lectures, lab and case presentations as the live interactive nature of these sessions are designed to enhance the student learning experience. It is expected that 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 hybrid 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.

Professionalism Statement
Professional behavior in the classroom is expected at all times. The use of cellphones, social media or other entertainment media are not permitted during lectures/labs. Further, the student is expected to approach all assessments and assignments in a professional and honest manner.

Attendance/Participation Policy
Students are expected to be available during the standard 8:30am-5:20pm 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.

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 (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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
    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

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Master Syllabus
School of Veterinary Medicine Master Syllabus

Small Animal Medicine I

Course
SAMS 522
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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; Bob Kennis, DVM, DACVD, Visiting Professor, kennira@auburn.edu; 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.

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.

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 Sakai or TopHat.

All lectures will be recorded and distributed via Panopto and SAKAI orTopHat. 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 CPCR Guidelines. Journal of Emergency and Critical Care, 22(S1); 2012: S102-131.

Recommended Resources
Videos and articles will be posted on MyCourses.

Accommodation

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

Other Requirements
None.

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.

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

1. 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.
2. Create differential diagnosis lists based on patient clinical data for conditions in specific organ systems.
3. Based on clinical data and differential diagnosis lists, develop diagnostic plans and interpret appropriate diagnostic testing for common diseases in major organ systems.
4. Integrate clinical data and knowledge of pharmacology to design treatment plans for diseases in specific organ systems, considering EBVM and antimicrobial stewardship.

5. Recognize emergency presentations and considerations for specific organ systems.
6. Formulate appropriate verbal and/or written communication to clients and other veterinary professionals regarding history, diagnostic tests, referral, treatment, and prognosis.
7. Recognize zoonotic and contagious disease routes of transmission, associated risks in the workspace, and select patients for isolation.

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:

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.

Alignment of Course Learning Outcomes with Program Learning Outcomes
CLOS: Upon successful completion of this course, the student will be able to:

1. 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.
2. Create differential diagnosis lists based on patient clinical data for conditions in specific organ systems.
3. Based on clinical data and differential diagnosis lists, develop diagnostic plans and interpret appropriate diagnostic testing for common diseases in major organ systems.
4. Integrate clinical data and knowledge of pharmacology to design treatment plans for diseases in specific organ systems, considering EBVM and antimicrobial stewardship.
5. Recognize emergency presentations and considerations for specific organ systems.
6. Formulate appropriate verbal and/or written communication to clients and other veterinary professionals regarding history, diagnostic tests, referral, treatment, and prognosis.
7. 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

Course Schedule

*Note: *= pre-recorded Panopto lecture; **= mandatory live session (yellow)*

Lect Time	Day/Dates	LECTURE TOPIC	Instructor
Week 1			
4:30	**Mon 1/17** *	**Dermatology**: Intro and Bacterial Folliculitis	Kennis
4:30	**Tues 1/18** *	Bacterial Folliculitis and Deep Bacterial Infections	Kennis
3:30	**Wed 1/19** *	Dermatophytes and Demodicosis	Kennis
4:30	**Thurs 1/20** *	Sarcoptic Mange, Flea Allergy, & Malassezia	Kennis
3:30	**Fri 1/21** *	Atopy and Food Allergy	Kennis
Week 2			
4:30	**Mon 1/24** *	Feline Pruritic Skin Disorders	Kennis
4:30	**Tues 1/25** *	Autoimmune Skin Disorders	Kennis
4:30	**Fri 1/28** *	Miscellaneous Dermatologic Disorders	Kennis
Week 3			
4:30	**Mon 1/31**	Otitis	Paterson
1:30	**Fri 2/4****	**CPR live session**	Corrigan
Week 4			
4:30	**Tues 2/8***	**Infectious Diseases**: Clinical Pharm/Antimicrobial	Corrigan
5:30	**Thur 2/10***	Systemic Mycoses	Corrigan
3:30	**Fri 2/11***	Systemic Mycoses Part 2 & Vector-Borne Part 1	Corrigan
Week 5		No lectures this week	
Week 6			
4:30	**Tues 2/22***	Vector-Borne Part 1, and Canine Viral Diseases	Corrigan
4:30	**Wed 2/23***	Feline Viral Diseases	Corrigan
4:30	**Thur 2/24***	Specific Bacterial/Misc.	Corrigan
1:30	**Fri 2/25****	**LIVE ID Session**	Corrigan
Week 7		No lectures this week	
Week 8	**Thurs 3/10** 12:00 AST	**MIDTERM EXAM**	17 lectures on midterm
Week 9			
4:30	**Tues 3/15***	**Hematology and Immunology**: Immune Mediated	Guttin
4:30	**Wed 3/16***	Approach to Anemia	Guttin
Week 10			
4:30	**Mon 3/21***	Approach to Thrombocytopenia	Guttin
4:30	**Tues 3/22***	Hemostasis and Specific Disorders	Corrigan
4:30	**Wed 3/23***	Transfusion Medicine	Corrigan
1:30	**Thur3/24****	**Hematology/Immunology Live Case Discussion**	Corrigan & Guttin
Week 11			
4:30	**Mon 3/28***	**Renal and Urinary**: Intro, and Acute Kidney Injury	Guttin
4:30	**Tues 3/29***	AKI 2 and Renal Surgery	Guttin, Bruhl-Day
4:30	**Wed 3/30***	AKI 3 and Ureteral Surgery	Guttin, Bruhl-Day
4:30	**Thur 3/31***	Chronic Kidney Disease	Guttin
1:30	**Fri 4/1****	**Renal Live Case Discussion**	Guttin
Week 12			
4:30	**Mon. 4/4***	Proteinuria and Glomerular Disease	Guttin
4:30	**Tues. 4/5***	Urolithiasis and Canine Urethral Obstruction	Guttin, Bruhl-Day
4:30	**Wed 4/6***	Urolithiasis and Feline Urethral Obstruction	Guttin, Bruhl-Day

4:30	**Thurs 4/7***	FUO (cont) and FIC	Guttin, Bruhl-Day
4:30	**Fri 4/8***	UTI's, Prostatic Disease, and Urinary Neoplasia	Guttin
Week 13			
4:30	**Mon 4/11***	Micturition Disorders	Guttin, Bruhl-Day
4:30	**Tues 4/12***	Behavior: Fe Inappropriate Elims	Guttin
1:30	**Wed4/13****	**Urinary Live Case Discussion**	Guttin
4:30	**Thurs 4/14***	**Respiratory**: Emergency Considerations	Corrigan
Week 14			
4:30	**Thurs 4/21***	Nasal Disorders	Corrigan
Week 15			
1:30	**Tues 4/26***	Laryngeal and Pharyngeal Disorders	Corrigan
1:30	**Thur 4/28***	Trachea and Bronchi Disorders	Corrigan
Week 16			
4:30	**Tues 5/3***	Pulmonary Parenchyma & Pleural Cavity Disorders	Corrigan
1:30	**Thur 5/5****	**Live Respiratory Double Session**	Corrigan
2:30	**Thur 5/5****	**Live Respiratory Double Session**	Corrigan
Week 17	**Fri. 5/13** 12:00AST	**FINAL EXAM**	26 lectures on final

Grading and Assessment Policy
Grading scale complies with SGU and SVM assessment guidelines:

Total grade in the course will be based on 100 points:

- Midterm Exam (17 lectures)= 35 points
- Final Exam (non-cumulative, 26 lectures)= 55 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: Sakai/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 excuses 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 parameters listed in the Assessment Policy for Students.

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.

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 Sakai/TopHat and at office hours, but not at the live sessions, as other activities are planned for this time.

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 is 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.

Attendance/Participation Policy
Students are expected to be available during the standard 8:30am-5:20pm 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.

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 University. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term

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.
    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

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Master Syllabus
School of Veterinary Medicine Master Syllabus

Small Animal Surgery

Course
SAMS 518
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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 (Orthopedic), 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. Peter Bedford, DVM, MRCVS, DECVO (Ophthalmology); profg1@btinternet.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

Course Location
VSL Sis Hall 1.

All lectures this term will be on site.

All lectures will be recorded and archived via Panopto.

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

Recommended Resources

- Fossum et al. Small Animal Surgery. Mosby 4th edition, 2013
- Fossum et al. Small Animal Surgery. Mosby 5th edition, 2019

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

Other Requirements
N/A

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 the 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
- To reinforce continuing education and research appreciation

Course Learning Outcomes
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.

Alignment of Course Learning Outcomes with Program Learning Outcomes

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, and case work up in small animal surgical conditions.	1, 7, 12, 13, 14, 16, 19, 20, 21, 22, 23, 24,25, 26, 27,
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.	1, 2, 3, 4, 5

	2. Understand the surgical techniques to prevent the recurrence of GDV.	
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 conditions, especially esophageal foreign bodies. Endoscopic surgery	1, 2, 3, 4
10. Surgery of the Urinary tract **Team taught with SAM I**	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	1. Be familiar with the surgical conditions of the ovaries and uterus.	1, 2, 3, 4, 5
12. Prostate surgery	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	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 vascular diseases. Surgical treatment options 6. Recognize the typical features of these common cardiac conditions. Surgical treatment options 7. Recognize the typical features of other cardiac and thoracic/lung conditions. Surgical treatment options	1, 2, 3, 4, 5
14. Upper Respiratory Tract. Brachycephalic Airway Syndrome	1. Understand the pathophysiological consequences of upper airway obstruction 2. Know the surgical options for correction of the various conditions involved.	1, 2, 3, 4, 5
15. Lower Respiratory Tract	1. Be able to recognize the clinical, radiographic, and endoscopic features of tracheal collapse and tracheo-bronchial foreign bodies. 2. Understand the options to correct obstructions of the respiratory tract	1, 2, 3, 4
16. Ear Surgery	1. Recognize otitis externa. 2. Understand lateral ear canal resection. 3. Understand the diseases and correction of problems of the pinna 4. Recognize irreversible otitis externa. 5. Understand the rationale for total ear canal ablation and lateral bulla osteotomy.	1, 2, 3, 4

17. Rectal, perineal surgery	1. Be able to diagnose conditions in the perineal area 2. Understand the management techniques used to correct these problems.	1, 2, 3
18. External genitalia	1. Know the common abnormalities of the external genitalia, mammary tumors, and their treatment	1, 2, 3, 4
19. Hernias: Abdominal, diaphragmatic, and perineal.	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. BOAS	1. Be familiar with the surgical conditions of the head and be able to properly manage them. 2. Salivary gland surgery. 3. Rhinotomy approaches. 4. Ear surgery	1, 2, 3, 4, 5
21. Surgery of the neck	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	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	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 **Team taught with SAM II**	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 **Team taught with SAM II**	1. Know the management and surgical techniques used to correct Portosystemic Shunts.	1, 2, 3, 4, 5
26. Fractures: biomechanics, and classification	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	1. Understand the many factors that influence the bone healing process.	1, 2, 3, 4, 5
28. Fractures: conservative treatment. Pins and wires	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	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.	1. Be able to recognize and treat bone infection.	1, 2, 3, 4, 5
31. Fractures: Decision making. Complications	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	1. Be able to recognize some neurological diseases 2. Know the different clinical and surgical management techniques.	1, 2, 3, 4,
42. Dental anatomy, pathology, and record notation in the dog	1. Know normal anatomical dental structures, names and numbers of teeth. 2. Recognize nomenclature for oral pathology in the dog.	1, 3, 4
43. Dental anatomy, pathology, and record notation in the cat	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 Oral Radiology, Radiographic interpretation	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	1. Understand dental treatment concepts and how they relate to the different case presentations	1, 3, 4, 5
46. Extraction methods, Nerve blocks. 47.Oral and dental conditions I and II	1. Know how to recognize and practice poor, adequate, and superlative dental care, and patient management.	1, 2, 3, 4, 5
48. Ophthalmology examination (with SAMS 526)	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
49. Ocular Pharmacology and Therapeutics (with SAMS 526)	1. Know about ocular treatments and diagnostic aids.	1, 4
50. Eyelid surgery	1. Recognize the most common eyelid pathologies	1, 2, 3, 5

	2. Know how to surgically treat them	
51. Third eyelid and conjunctiva	1. Recognize the most common third eyelid and conjunctival pathologies	1, 2, 3, 5
52. Orbit and globe. 53. Lachrymal system	1. Recognize the most common globe and orbit diseases 2. Recognize the most common lachrymal system pathologies 3. Know how to diagnose and treat KCS	1, 3, 4, 5
54.Cornea and sclera	1. Recognize the most common corneal pathologies 2. Know how to surgically treat them	1, 2, 3, 4, 5
55. Lens and vitreous	1. Recognize the most common lens and vitreous pathologies. 2. Learn how to treat cataracts	1, 2, 3, 4, 5
56. Retina	1. Recognize the most common lens and vitreous pathologies.	1, 3, 4
57. Glaucoma	1. Recognize the different presentations for glaucoma 2. Know surgical and medical treatments for the disease.	1, 3, 4, 5
58. 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 (60) the course has. Is just an index of the content of the course.

Course Schedule

Lecturer **Date, Time**	**Topic**
SOFT TISSUE	
Dr. Bruhl Day Jan 17 2:30	Surgical Approaches to the Abdomen and Incision Closure
Dr. Bruhl-Day Jan 18 2:30	Exploratory Celiotomy & Biopsy Techniques
Dr. Bruhl Day Jan 19 2:30	Castration Dog
Dr. Bruhl Day Jan 20 2:30	Prostate surgery Castration Cat
Dr. Bruhl-Day Jan 24 1:30	Gastric and Pyloric Surgery
Dr. Bruhl-Day Jan 24 2:30	GDV I
Dr. Bruhl-Day Jan 25 2:30	GDV II
Dr. Bruhl-Day Jan 26 2:30	Intestinal Surgery Small Bowel I
Dr. Bruhl-Day Jan 27 2:30	Intestinal Surgery Small Bowel II
Dr. Bruhl-Day Jan 31 2:30	Intestinal Surgery Large Bowel, Rectum
Dr. Bruhl-Day Feb 2	Esophageal Surgery

2:30		
Dr. Bruhl-Day Feb 3 1:30	Spay Dog and Cat I	
Feb 8 **1:30**	**Quiz # 1 20 Points**	
Dr. Bruhl-Day Feb 9 2:30	Spay Dog and Cat II	
Dr. Bruhl-Day Feb 10 2:30	Surgical Approaches to the Thorax and Incision Closure	
Dr. Bruhl-Day Feb 14 2:30	Thoracic surgery: PDA Thoracic surgery: PRAA, vascular ring anomalies	
Dr. Bruhl-Day Feb 15 2:30	Pulmonary Surgery Trachea	
Dr. Bruhl-Day Feb 16 2:30	Upper Respiratory Tract, BOAS	
Dr. Bruhl-Day Feb 17 2:30	GOLPP, Laryngeal paralysis	
Dr. Bruhl-Day Feb 21 2:30	Ear Surgery I	
Dr. Bruhl-Day Feb 22 2:30	Ear Surgery II	
Dr. Bruhl-Day Feb 23 2:30	Salivary glands, Neck surgery	
Dr. Bruhl-Day Feb 24 2:30	Hernias: Classification Abdominal hernias	
Dr. Bruhl-Day Feb 28 2:30	Hernias: Perineal hernia	
Dr. Bruhl-Day Mar 2 1:30	Hernias: Diaphragmatic hernia	
OPHTHALMOLOGY		
	Dr. Bedford Feb 9 4:30	Introduction and Eye anatomy review
	Dr. Bedford Feb 10 4:30	Clinical Examination of the Eye Ocular pharmacology and therapeutics
	Dr. Bedford Feb 11 4:30	Orbit and globe
	Dr. Bedford Feb 14 4:30	Eyelids, Nictitating membrane
	Dr. Bedford Feb 15 3:30	Cornea and sclera
	Dr. Bedford Feb 15 4:30	Conjunctiva, Lachrymal system

	Dr. Bedford Feb 16 3:30	Uveal Tract
	Dr. Bedford Feb 16 4:30	Lens, vitreous
	Dr. Bedford Feb 17 3:30	Retina
	Dr. Bedford Feb 17 4:30	Glaucoma Neuro Ophthalmology
Mar 4 **1:30**	**Mar 4** **1:30**	**MIDTERM** **50 Points**
Dr. Lanza-Perea Mar 14 3:30	Spleen	
Dr. Paterson Mar 17 3:30	Pancreas	
Dr. Paterson TBA	**PSS Sx will be Team taught in SAMS 524 SAM II in FALL 2022**	
Dr. Lanza-Perea TBA	**Liver Sx will be Team taught in SAMS 524 SAM II in FALL 2022**	
Dr. Guttin – **Dr. Bruhl Day**	Urinary Tract - Lectures Team taught with SAM I	
Dr. Guttin/ Dr. Bruhl- Day TBA	AKI 2 & Surgery of the Kidney	
Dr. Guttin/ Dr. Bruhl- Day TBA	Surgery of the Ureters & Bladder	
Dr. Guttin/ Dr. Bruhl- Day TBA	Feline U.O., FISC	
Dr. Guttin/ Dr. Bruhl- Day TBA	Urinary Catheters and Urethral Surgery	
Dr. Guttin/ Dr. Bruhl- Day TBA	Micturition Disorders, medical and surgical treatment	
DENTISTRY		
Dr. Ivaldi Mar 14 1:30	Nomenclature, Anatomy, Periodontal Disease	
Dr. Ivaldi Mar 15 3:30	COHAT/ATP: Radiography, Radiographic interpretation	
Dr. Ivaldi Mar 16 2:30	COHAT/ATP: Scale, Polish, Closed and Open Root Planing	
Dr. Ivaldi Mar 17 4:30	Extraction Indications	
Dr. Ivaldi Mar 18 3:30	Extraction Methods, Nerve Blocks	
Dr. Ivaldi Mar 22	Prevention and Maintenance	

3:30	
Dr. Ivaldi Mar 23 3:.30	Oral and Dental Conditions I
Dr. Ivaldi Mar 24 4:30	Oral and Dental Conditions II
Apr 4 **1:30**	**Quiz #2 20 Points**
ORTHOPEDICS	
Dr. Guerrero Apr 19 3:30	Fracture's biomechanics and classification
Dr. Guerrero Apr 19 4:30	Bone healing
Dr. Guerrero Apr 20 3:30	Fractures - Conservative treatment. Fractures- Pins and wires
Dr. Guerrero Apr 20 4:30	Fractures - External Skeletal Fixators (ESFD's) Fractures - Plates & Screws
Dr. Guerrero Apr 21 2:30	Fractures - Decision making Complications
Dr. Guerrero Apr 21 3:30	Bone Disease - Growth abnormalities. OCD
Dr. Guerrero Apr 22 4:30	Fractures in growing animals
Dr. Guerrero Apr 25 3:30	Articular surgery
Dr. Guerrero Apr 25 4:30	Conditions of the Elbow
Dr. Guerrero Apr 26 2:30	Conditions of the Pelvis
Dr. Guerrero Apr 26 3:30	Conditions of the Hip I
Dr. Guerrero Apr 27 3:30	Conditions of the Hip II
Dr. Guerrero Apr 27 4:30	Conditions of the Stifle I
Dr. Guerrero Apr 28 2:30	Conditions of the Stifle II
Dr. Guerrero Apr 28 3:30	Soft Tissue Orthopedic Disease

Dr. Guerrero Apr 29 3:30	Mandibular and maxillary fractures	
Dr. Guerrero Apr 29 4:30	Spinal surgery. Osteomyelitis	
May 6 **1:30**	**FINAL Examination**	**50 Points**

Grading and Assessment Policy

- There will be **2 quizzes** worth **20 points each, 1 midterm** worth **50 points** and **1 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.

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

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.

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 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.

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).

Attendance/Participation Policy
Students are expected to be available during the standard 8am-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.

Lecture or Zoom session attendance is mandatory. Lectures will be recorded in Panopto for a later review by the students.

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 an examination MUST inform the Course Director(s) (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.

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.
    1. A ExamSoft/ExamID quick guide for students
    2. The ExamSoft student perspective video 30mins
    3. The ExamSoft/ExamID FAQ
    4. ExamSoft information page
    5. The general Reminders/Guidelines

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Special Topics in Equine Practice

Course
LAMS 537
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section

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.

Course Location
LARF, unless otherwise notified.

Online course location: Sakai (Panopto, Lessons, Resources, Assignments, Forums)

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, 505, 516, and 519)

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.

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

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.

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 fourth year clinical rotations.

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, dermatological and BSE 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

Lesson Learning Outcomes

Lecture/ Lab	Description of Outcomes
1	Equine Behaviour & Welfare and Low stress training techniques • Demonstrate a positive reinforcement training technique • Demonstrate a negative reinforcement training technique
2	Acupuncture lecture and hands-on demonstration/practice • 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 • Each student demonstrated correct use of a hand-float • Each pair of students completed a dental form for the patient
4	Neurological examination in horses and hands-on practice • 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
5	Equine PE and annual vaccinations • Each group of 2-3 performs a complete PE • Each student gives one IM vaccine • Each student group hands in a completed PE and immunization form
6	Lameness videos, common forelimb and hind limb causes of lameness, with hands-on full body palpation and flexion tests • Dynamic lameness's interpreted • Each pair of students demonstrated complete full body examination • Each pair demonstrated one flexion test to the class
7	Initial fracture stabilization in the field with hands-on splinting/bandaging exercise in the SIM lab • Each team of students correctly stabilized the fracture they were given • Each student demonstrated the correct placement of a jugular catheter in the SIM model
8	Equine dermatology lecture and hands-on techniques (tape test, skin scrapes) • 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
9	Mare and Stallion BSE • Each student to be understand the correct sequence of steps for a mare BSE • Each student to be able to complete a basic stallion BSE
10	Ophthalmology lecture and hands-on laboratory (nasolacrimal flushing, ocular blocks, etc.) • 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
11	Radiology of the feet • Each student to take a view of an equine foot • Each student to describe the views necessary to completely evaluate an equine foot • Each student to identify common diagnoses such as laminitis, and navicular syndrome.
12	Distal limb imaging/ultrasound lab • 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
13	Colic cases with hands-on palpation/NGT/abdominocentesis SIM lab • 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
14	Equine Rescue Session & Disaster Preparedness • Participate in a simulated evacuation of equines and large animals from natural disaster

	• Formulate a hurricane plan for the LARF herd

Alignment of Course Learning Outcomes with 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, includingnotifiable 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.

Course Schedule

Lecture/Lab #1 Jan 10th -1:30 pm	Equine Behaviour & Welfare and Low stress training techniques
Lecture/Lab #2 Jan 14th -1:30 pm	Acupuncture lecture and hands-on demonstration/practice
Lecture/Lab #3 Jan 17th -1:30 pm	Dentistry lecture and hand floating
Lecture/Lab #4 Jan 21st -1:30 am	Neurological examination in horses and hands-on practice
Lecture/Lab #5 Jan 24th -1:30 pm	Equine PE and annual vaccinations
Lecture/Lab #6 Jan 31st -1:30 pm	Lameness videos, common forelimb and hindlimb causes of lameness, with hands-on full body palpation, flexion tests, nerve blocks, body scan
Lecture/Lab #7 Feb 14th -1:30 pm	Initial fracture stabilization in the field with hands-on splinting/bandaging exercise in the **SIM lab**
Lecture/Lab #8 Feb 21st -1:30 am	Equine dermatology lecture and hands-on techniques (skin scraping, brushing, biopsy techniques)
Lecture/Lab #9 Mar 14th -1:30 pm	Mare and Stallion (Jack) BSE Pregnancy diagnosis and gestational aging Sakai quiz due March 21st, 5 pm.
Lecture/Lab #10 Mar 21st -1:30 am	Ophthalmology lecture and hands-on laboratory (nasolacrimal flushing, ocular blocks, etc.)
Lecture/Lab #11 Mar 28th -1:30 am	Radiology of the feet for assessment of laminitis, navicular syndrome and other commonly diagnosed foot conditions
Lecture/Lab #12 Apr 4th -1:30 am	Distal limb imaging/ultrasound lab Journal article review April 4th at 5 pm.
Lecture/Lab #13 Apr 11th -1:30 am	Colic case in the **SIM lab**

	Colic Sakai quiz due April 18th at 5 pm.
Lecture/Lab #14 Apr 19th -1:30 am	Equine Rescue in the Field & Disaster Preparedness
Lecture/Lab # 15 Apr 21st 12 pm AST	**Final Exam** 3 completed examination forms (15 % of the grade). Due on or before April 21st, 2022, at 5 pm. Hurricane Plan due April 21st at 5 pm.

Grading and Assessment Policy
Examinations: There will be 1 exam for this course, a comprehensive final exam, worth 45% 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:

1. Final Comprehensive Exam (45% of grade) –Thursday April 21st, 2022, at 12 pm.
    1. 45 MCQs on Exam Soft using Exam Monitor.
2. Class participation – (10 % of grade)
3. Journal article review – (10% of the grade)-details in Addendum 1
4. Equine medical forms (15 % of the grade) Due on or before April 21st, 2022, at 12 pm. Please submit 3 specific equine forms each worth 5 % of the grade from the relevant classes (could be anAcupuncture exam form, Dental exam form, Neurological exam form, Dermatological exam form) rubric in Addendum 2.
5. Pregnancy diagnosis and gestational aging Sakai test- (5 **%** of the grade)
6. Hurricane Plan - (10 % of the grade) details and rubric in the Assignment posting
7. 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 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.

Recommended Study Strategies
Review available resources provided after each class. Assigned readings will be given.

Instructor's Expectations of the Student

The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and examination policies

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.

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). 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. 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.

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.

ExamSoft Policy
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.

Copyright Policy
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Special Topics in Small Animal Orthopedic Surgery
Course

SAMS 534
Semester
Fall
Year
2021
Catalog
School of Veterinary Medicine
Syllabus Section
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.

Course Location
Online location—Sakai resources being used (ie. Panopto, Lessons, Assignments, etc.) and any other.

Required Resources
Your small animal surgery notes and handouts from 5th term.

Any small animal surgery text, e.g. Fossum or Tobias & Johnston

Recommended Resources
texts, journal articles, course notes, laptop specs, etc.

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

Other Requirements
None

Course Rationale
This course provides an in deepht 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.

Course Learning 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.

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

Course Schedule

Lecture N°/ Date/ Time	Topic	Goals	Learning objectives	**Course online Format**
1 Date 10-14 Jan.	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/ 17-21 Jan	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 24- 31 Jan	Case discussions	Computer-based discussion of clinical fracture-patients using the AAAA system	Be able to discuss patient-fracture score, choose the best treatment option, and evaluate healing in radiographs	**ALL Lectures via Panopto Cases to discuss wil be provided as PDF. Students are expected to work the cases out during the week and submit them for assessment.** Feedback will be provided via email/ Zoom
6 &7 Date 7-11 Feb	Evolution of internal fixation in small animals. Locking plate systems.	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.	**ALL Lectures via Panopto** **ALL Lecture PowerPoint pdfs** to go with lectures supplied on MyCourses/ Resources
8 & 9 Date 14-18 Feb	Cranial cruciate ligament disease in the dog Stifle biomechanics. Biomechanics of TTA and TPLO techniques	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.	**ALL Lectures via Panopto** **ALL Lecture PowerPoint pdfs** to go with lectures supplied on MyCourses/ Resources
10 7-14 March	TTA/ TPLO planning	Demonstrate how the techniques are planned in radiographs.	Be able to do the preoperative meassurements for a TTA and for a TPLO	**ALL Lectures via Panopto Zoom Lab Time TBD** **ALL Lecture PowerPoint pdfs** to go with lectures supplied on MyCourses/ Resources
11-12 21-24 March	Total Hip Replacement in small animals	Introduce to different systems, principles, surgical technique and outcome.	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.	**ALL Lectures via Panopto** **ALL Lecture PowerPoint pdfs** to go with lectures supplied on MyCourses/ Resources
13 Date 28 Mar	Limb alignment	Introduce to principles of corrective osteotomies and limb alignment procedures.	Be able to diagnose a misaligned limb, to know the specific terminology, and to plan the needed required osteotomies.	**ALL Lectures via Panopto** **ALL Lecture PowerPoint pdfs** to go with lectures supplied on MyCourses/ Resource.
14	Joint luxations	Introduce to elbow and shoulder luxations.	Be able to diagnose these problems and to offer a rationale option of treatment.	**ALL Lectures via Panopto**

Date 4 April				**ALL Lecture PowerPoint pdfs** to go with lectures supplied on MyCourses/ Resources
15 22.April 2022 12.00 noon	Final exam with Examsoft and ExamMonitor			

Grading and Assessment Policy
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.

Recommended Study Strategies
Active preparation for classes and participation in classes is expected.

Instructor's Expectations of the Student

The student is expected to read the handouts and related uploaded materials.

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 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.

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 1473-439-2000 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.

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 computerbased 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.

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

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Master Syllabus
School of Veterinary Medicine Master Syllabus

Theriogenology

Course
LAMS 519
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course Director:

Dr. Firdous Khan, BVSc, MVSc, DVSc, Diplomate ACT
Associate Professor, Departm ent of Large Anim al 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 Anim al Medicine and Surgery Email: jhaynes2@sgu.edu

Dr. Afroza Khanam , BSc, MSc, PhD
Instructor, Department of Large Anim al Medicine and Surgery Email: akhanam@sgu.edu

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 Anim al Medicine and Surgery Email : NWinches@sgu.edu

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

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.

Recommended Resources
Recommended Textbooks

- Pathways to Pregnancy and Parturition - P.L. Senger (ISBM - 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 Hei mendahl (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)

Accommodation

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

Other Requirements
Scrubs, gum boots, closed toe shoes, white lab coat

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.

Course Learning 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 .

Lesson Learning 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 clin ical 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 com mon 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 optim al 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. pyom etra, 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
	11. Explain the pathogenesis of important gestational abnormalities (mumm ification, maceration, hydrops, vaginal prolapse)
12. Differentiate between the im portant gestational abnormalities based on information about history and clinical findings	Gestational abnormalities
13. List the treatm ent(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 puerpera l 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 o f pregnancy in the cow
	20. Explain how to investigate and treat infertility or pregnancy failures in a herd
Assisted reproductive techniques	21. List the comm on assisted reproductive techniques used in the cow
	22. Illustrate how the com mon 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 comm on m ale reproductive abnormalities and state the most appropriate treatment, preventive m easures, 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 eve nts and regulation of equine pregnancy
	30. State how to diagnose pregnancy in a mare with special em phasis 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 m are
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 diagnos is 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 comm on assisted reproductive techniques used in equine reproduction
	40. Illust rate how the com mon assisted reproductive techniques are em ployed 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 comm on m ale 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 norm al 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
	48. Identify the stages of parturition and determine if and when assistance is required for delivery of the fetus
	49. Explain how to determine the expected date of whelping and the appropriate time for an elective cesarean section
Obstetrics and dystocia	50. List the comm on causes of dystocia in the bitch
	51. Select the most appropriate obstetrical method based on the provided history and clinical findings
	52. Identify the comm on postpartum problems in a bitch and state the m ost appropriate treatment
Female infertility	53. List the comm on causes of infertility in the bitch

	54. Analyze the provided history and clinical findings to identify the cause of infertility
	55. State the methods for treating infertility including the use of assisted reproductive techniques
Contraception/Control of reproduction	56. List and explain the m ethods (surgical and non - surgical) to prevent, postpone or suppress reproduction in the bitch
	57. State the methods used to prevent or terminate unwanted pregnancy in the bitch
Male reproduction	58. State how to perform a breeding soundness evaluation in the dog
	59. Identify the comm on m ale reproductive abnormalities and state the most appropriate
	treatment , preventive measures, and prognosis for future fertility
Small ruminant reproduction	60. List the comparative anatomical and physiological features of small rum inants (using bovine for comparison) and explain how the differences impact their reproductive management
	61. Discuss the methods used in reproductive management of small ruminants
	62. State how to diagnose and manage the common reproductive abnormalities in small ruminants
Porcine reproduction	63. List the comparative anatomical and physiological features of pigs and explain how the differences impact their reproductive management
	64. Discus s the methods used in reproductive management of pigs
	65. State how to diagnose and manage the common reproductive abnormalities in pigs
Feline reproduction	66. List the comparative anatomical and physiological features of cats (using canine for comparison) and explain how the differences impact their reproductive management
	67. Discuss breeding management and control of reproduction in cats
	68. State how to diagnose and manage the com mon reproductive abnormalities in the cat
Labs	
Reproductive anatomy	69. Identify different parts of the reproductive tract
	70. State the clinical relevance of different organs of the reproductive tract
Bovine transrect al palpation and ultrasonography	71. List the preparatory steps and precautions that need to be taken before and during transrectal exam ination 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 com ponents 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 comm on obstetric equipment and state their use
	78. Assess the presentation, position and posture of the fetus
	79. Describe how to determ ine 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

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 dom estic animal species	1. **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. 2. **Core Professional Attributes** Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences.
CLO2: Apply the knowledge of reproductive physiology and endocrinology to control or manage domestic animal reproduction	1. **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, including relevant legislation and guidelines on the use of medicines. Apply multidisciplinary scientific knowledge to clinical situations, and understand evidence -based veterinary medicine. 2. **Core Professional At tributes** Demonstrate, evaluate, and m odel effective communication with clients, the general public, professional colleagues and responsible authorities. Demonstrate, evaluate, and m odel ethical and responsible behavior in relation to anim al care and client relations, such as, honesty, respect, integrity and empathy. Demonstrate appropriate sensitivity to client diversity, such as cultural, economic, and emotional differences. 3. **Core Clinical Competencies (Skills)** Analyze, design and execute appropriate plans formedical case m anagem ent. 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.
CLO3: Identify reproductive abnormalities and form ulate therapeutic or preventative management strategies	1. **Core Medical Knowledge** Recall, unde rstand, 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 anim al welfare and articulate relevant legislation, including notifiable diseases. 2. **Core Professional Attributes** Demonstrate, evaluate, and m odel effective communication with clients, the general public, professional colleagues and responsible authorities. Demonstrate, evaluate, and m odel ethical and responsible behavior in relation to an im al care and client relations, such as, honesty, respect, integrity and empathy. Demonstrate and model self -awareness including understanding personal lim itations and willingness to seek advice. 3. **Core Clinical Competencies (Skills)**

	Execute a com prehensi ve patient diagnostic plan and dem onstrate problem solving skills to arrive at a diagnosis. Create com prehensive treatm ent plans.
CLO4: Discuss various reproductive techniques employed in managem ent of reproduction or control of infertility	1. **Core Medica l 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. 2. **Core Professional Attributes** Demonstrate, evalua te, and m odel effective communication with clients, the general public, professional colleagues and responsible authorities. Demonstrate, evaluate, and m odel ethical and responsible behavior in relation to anim al care and client relations, such as, honesty , respect, integrity and empathy. Demonstrate and model self -awareness including understanding personal lim itations and willingness to seek advice. 3. **Core Clinical Competencies (Skills)** Analyze, design and execute appropriate plans for medical case m anage m ent. Design and execute plans for health promotion, disease prevention, and food safety.

Course Schedule
Lecturer: Dr. Firdous Khan

LAMS 519 Lecture Schedule Spring 2022					
Lecture No.	**Date**	**Day**	**Time**	**Section**	**Lecture title(s)**
1	17th January	Monday	3:30-4:20 pm		Reproductive anatomy and physiology review
2	18th January	Tuesday	1:30-2:20 pm		Follicular dynamics and endocrinology review
3	21st January	Friday	2:30-3:20 pm		Estrus synchronization and artificial insemination
4	24 th January	Monday	3:30-4:20 pm		Pregnancy
5	25th January	Tuesday	1:30-2:20 pm		Diagnosis of pregnancy
6	26th January	Wednesday	4:30 -5:20 pm		Accidents of gestation
7	28 th January	Friday	3:30-4:20 pm		Parturition
8	31st January	Monday	3:30-4:20 pm		Dystocia
9	1st February	Tuesday	3:30-4:20 pm		Postpartum problems
10	2nd February	Wednesday	1:30-2:20 pm		Abortion I
11	3rd February	Thursday	4:30 -5:20 pm		Abortion II
12	4 th February	Friday	3:30-4:20 pm		Infertility
13	8th February	Tuesday	2:30-3:20 pm		Assisted reproductive techniques

14	9th February	Wednesday	1:30-2:20 pm	Bovine	Clinical reproductive physiology and breeding soundness evaluation of the bull
15	11th February	Friday	2:30-3:20 pm		Bull infertility
16	16th February	Wednesday	1:30-2:20 pm		Clinical cases
LAMS 519 Lecture Schedule Spring 2022					
Lecture No.	**Date**	**Day**	**Time**	**Section**	**Lecture title(s)**
17	17th February	Thursday	1:30-2:20 pm	Small ruminants	Small rum inant reproduction I
18	21st February	Monday	3:30-4:20 pm		Small rum inant reproduction II
19	23rd February	Wednesday	3:30-4:20 pm		Small rum inant reproduction III
20	24 th February	Thursday	3:30-4:20 pm	Porcine	Porcine reproduction I
21	25th February	Friday	2:30-3:20 pm		Porcine reproduction II
22	28 th February	Monday	4:30 -5:20 pm	Equine	Clinical reproductive anatomy and physiology of the mare
23	1st March	Tuesday	3:30-4:20 pm		Manipulation of the estrous cycle
24	2nd March	Wednesday	2:30-3:20 pm		Breeding soundness evaluation
25	3rd March	Thursday	2:30-3:20 pm		Breeding managem ent
	11th March	**Friday**	**12:00-1:00 pm**		**Midterm exam**
26	14th March	Monday	4:30 -5:20 pm		Pregnancy
27	15th March	Tuesday	1:30-2:20 pm		Clinical cases
28	16th March	Wednesday	3:30-4:20 pm		Diagnosis of pregnancy
29	17th March	Thursday	1:30-2:20 pm		Infectious pregnancy losses
30	18th March	Friday	2:30-3:20 pm		Non -infectious pregnancy losses
31	21st March	Monday	2:30-3:20 pm		Parturition and dystocia
32	22nd March	Tuesday	1:30-2:20 pm		Postpartum problems
33	23rd March	Wednesday	2:30-3:20 pm		Infertility
34	24 th March	Thursday	2:30-3:20 pm		Assisted reproductive techniques
LAMS 519 Lecture Schedule Spring 2022					
Lecture No.	**Date**	**Day**	**Time**	**Section**	**Lecture title(s)**

35	28 th March	Monday	1:30-2:20 pm		Clinical reproductive physiology and breeding soundness evaluation of the stallion
36	29th March	Tuesday	1:30-2:20 pm		Stallion infertility
37	30 th March	Wednesday	3:30-4:20 pm		Clinical cases
38	31st March	Thursday	1:30-2:20 pm		Clinical reproduc tive anatomy and physiology of the bitch
39	1st April	Friday	2:30-3:20 pm		Breeding managem ent I
40	1st April	Friday	3:30-4:20 pm		Breeding managem ent II
41	4 th April	Monday	3:30-4:20 pm		Pregnancy and parturition
42	5th April	Tuesday	1:30-2:20 pm		Obstetrics I
43	6th April	Wednesday	2:30-3:20 pm		Obstetrics II
44	7th April	Thursday	3:30-4:20 pm		Gestational and postpartum problems
45	8th April	Friday	3:30-4:20 pm		Control of reproduction
46	12th April	Tuesday	3:30-4:20 pm		Female infertility I
47	13th April	Wednesday	3:30-4:20 pm		Female infertility II
48	14th April	Thursday	3:30-4:20 pm	Canine	Male breeding soundness exam ination and infertility
49	20 th April	Wednesday	1:30-2:20 pm		Clinical cases
50	21st April	Thursday	1:30-2:20 pm		Feline reproduction I
51	22nd April	Friday	2:30-3:20 pm	Feline	Feline reproduction II
52	29th April	Friday	2:30-3:20 pm	Exotics	Exotic animal reproduction (Optional)
LAMS 519 Lecture Schedule Spring 2022					
Lecture No.	**Date**	**Day**	**Time**	**Section**	**Lecture title(s)**
53	3rd May	Tuesday	3:30-4:20 pm		Review and Form ative Assessment
	10th May	**Tuesday**	**12:00-1:30 pm**		**Final exam**

LAMS 519 (Theriogenology) Laboratory Schedule Spring 2022

Week	**Day**	**Date**	**Time**	**Lab**	**Groups**	**Location**
1	**Tue**	18-Jan	8:30 -10:20 am	Reproductive Anatomy	**Group A**	Necropsy lab
	Wed	19-Jan	8:30 -10:20 am	Reproductive Anatomy	**Group B**	Necropsy lab
	Thur	20 -Jan	8:30 -10:20 am	Reproductive Anatomy	**Group C+R1-R3**	Necropsy lab

			8:30 -9:20 am	Bovine transrectal palpation I	**Groups C1-C3**	LARF
	Tue	25-Jan	9:30 -10:20 am	Bovine transrectal palpation I	**Groups C4 -C6**	LARF
			8:30 -9:20 am	Bull BSE	**Groups B1-B3**	LARF
	Wed	26-Jan	9:30 -10:20 am	Bull BSE	**Groups B4 -B6**	LARF
2			8:30 -9:20 am	Bull BSE	**Groups A1-A3**	LARF
	Fri	28-Jan	9:30 -10:20 am	Bull BSE	**Groups A4 -A6**	LARF
			8:30 -9:20 am	Bovine transrectal palpation I	**Groups B7 -B9**	LARF
	Tue	1-Feb	9:30 -10:20 am	Bovine transrectal palpation I	**Groups C7 -C9+R1-R3**	LARF
	Wed	2-Feb	8:30 -10:20 am	Obstetrics & calving equipm ent	**Groups A1-A5**	Simulation lab
3	**Fri**	4 -Feb	8:30 -10:20 am	Obstetrics & calving equipm ent	**Groups A6 -A9**	Simulation lab
			8:30 -9:20 am	Bovine transrectal palpation I	**Groups A1-A3**	LARF
	Tue	8-Feb	9:30 -10:20 am	Bovine transrectal palpation I	**Groups A4 -A6**	LARF
			8:30 -9:20 am	Bull BSE	**Groups A7 -A9**	LARF
	Wed	9-Feb	9:30 -10:20 am	Bull BSE	**Groups B7 -B9**	LARF
4			8:30 -9:20 am	Bull BSE	**Groups C1-C3**	LARF
	Fri	11-Feb	9:30 -10:20 am	Bull BSE	**Groups C4 -C6**	LARF
			8:30 -9:20 am	Bovine transrectal palpation I	**Groups B1-B3**	LARF
	Tue	15-Feb	9:30 -10:20 am	Bovine transrectal palpation I	**Groups B4 -B6**	LARF
5	**Wed**	16-Feb	8:30 -9:20 am	Bull BSE	**Groups C7 -C9+R1-R3**	LARF
Week	**Day**	**Date**	**Time**	**Lab**	**Groups**	**Location**
	Tue	22-Feb	8:30 -9:20 am	Bovine transrectal palpation I	**Groups A7 -A9**	LARF
6	**Wed**	23-Feb	8:30 -10:20 am	Obstetrics & calving equipm ent	**Groups B1-B5**	Simulation lab
	Fri	25-Feb	8:30 -10:20 am	Obstetrics & calving equipm ent	**Groups B6 -B9**	Simulation lab
	Tue	1-Mar	8:30 -10:20 am	Obstetrics & calving equipm ent	**Groups C1-C5**	Simulation lab
7	**Wed**	2-Mar	8:30 -10:20 am	Obstetrics & calving equipm ent	**Groups C6 -C9+R1-R3**	Simulation lab
Week	**Day**	**Date**	**Time**	**Lab**	**Groups**	**Location**
			8:30 -9:20 am	Bovine transrectal palpation II	**Groups C1-C3**	LARF
	Tue	15-Mar	9:30 -10:20 am	Bovine transrectal palpation II	**Groups C4 -C6**	LARF
9	**Wed**	16-Mar	8:30 -10:20 am	Mare BSE	**Groups A1-A5**	LARF
			8:30 -9:20 am	Bovine transrectal palpation II	**Groups B1-B3**	LARF
	Tue	22-Mar	9:30 -10:20 am	Bovine transrectal palpation II	**Groups B4 -B6**	LARF
10	**Wed**	23-Mar	8:30 -10:20 am	Mare BSE	**Groups A6 -A9**	LARF
			8:30 -9:20 am	Bovine transrectal palpation II	**Groups A7 -A9**	LARF
11	**Tue**	29-Mar	9:30 -10:20 am	Bovine transrectal palpation II	**Groups C7 -C9+R1-R3**	LARF

	Wed	30 -Mar	8:30 -10:20 am	Mare BSE	**Groups B1-B5**	LARF
	Tue	5-Apr	8:30 -9:20 am	Bovine transrectal palpation II	**Groups B7 -B9**	LARF
12	**Wed**	6-Apr	8:30 -10:20 am	Mare BSE	**Groups B6 -B9**	LARF
			8:30 -9:20 am	Bovine transrectal palpation II	**Groups A1-A3**	LARF
	Tue	12-Apr	9:30 -10:20 am	Bovine transrectal palpation II	**Groups A4 -A6**	LARF
	Wed	13-Apr	8:30 -10:20 am	Mare BSE	**Groups C1-C5**	LARF
13	**Thur**	14-Apr	8:30 -10:20 am	Mare BSE	**Groups C6 -C9+R1-R3**	LARF
14	**Tue**	19-Apr	8:30 -10:20 am	Small Animal Reproduction	**Group A**	Charter Hall Lab
	Tue	26-Apr	8:30 -10:20 am	Small Animal Reproduction	**Group B**	Charter Hall Lab
15	**Fri**	29-Apr	8:30 -10:20 am	Small Animal Reproduction	**Group C+R1-R3**	Charter Hall Lab

Grading and Assessment Policy
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 sum mative assessments will be conducted during the course:

Assessment	Percent of the total grade
5 lab quizzes	10%
Midterm	30%
Final cum ulative exam	60%

The exam questions will be based on the learning material posted on MyCourses.

For the m idterm and final exams, questions will be in the multiple -choice format with one correct answer. Breakdown of questions will be provided pri or 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 m onitor.
3. Avoid having distractions (animals, people) in or walking through the room or making noise during te exam.
4. Check that your webcam is recording your full face at all times with adequate lighting.

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

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.

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 com munity.

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 a re well adjusted to the norms of social graces and good social behavior."

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. Student's 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.

Policy Regarding Missing Examinations and/or Failure of Submission of Assignments
Students who fail to attend an examination (Sakai quiz/test or Exam Soft) or submit an assignm ent by the deadline without a vali d 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 exam ination 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 exam ination. Failure to do so im mediately will result in the student receiving the h ighest score recorded at the time, but NOT being eligible to take a completion examination.

Scheduling of examinations (regular, re -sit, com pletion, com prehensive, or exemption) is at the discretion of the University.

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 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 fam iliarize 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 Exam Soft Support to exam inees, 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.
    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

The general Reminders/Guidelines

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.

Veterinary Anesthesiology

Course
SAMS 520
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information

- Course Director: Dr. Flavia Restitutti, DVM PhD, Associate Professor
    - Email: frestitu@sgu.edu
    - Office location: Cassia Building (SGU Campus map #17), ground floor
    - 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.
- Other Faculty members:

- Dr. Mercedes Miccio DVM, Assistant Professor, mmiccio@sgu.edu
- Naudia Dundas BSc, Instructor, ndundas@sgu.edu

Class office hours: To be determined with class reps.

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).

Required Resources
Slides handouts, didactic laboratory handouts and any additional reading that might be provided on SAKAI (for example review of literature articles).

Recommended Resources
Supplemental articles (for example literature reviews) will be uploaded on SAKAI

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. Georgina Beaumont, Carl Bradbrook, Alexandra H. A. Dugdale, Matthew Gurney. Wiley-Blackwell, 2020
- Veterinary Anesthesia and Analgesia, The fifth edition of Lumb & Jones. Grimm, Lamont, Tranquilli, Greene, Robertson. Blackwelll 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 accessed 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

Accommodation

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

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 in didactic labs

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

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.

Lesson Learning Outcomes
L: Lab

DL: Didactic lab

L/DL	Topic	Lesson Learning outcomes
L1	Introduction to the Course	1. Define some important terms used in anesthesiology 2. Identify the different phases of anesthesia
L2	Anesthetic Planning	1. Explain how to prepare an animal patient for anesthesia 2. Assign an ASA status to a patient 3. Identify different factors that impact morbidity and mortality in different species
L3	Preanesthetic Medication I	1. Reason the importance of premedication 2. Explain the mechanism of action of the effects of the most commonly used sedatives: phenothiazines, butyrophenones, alpha2- adrenoceptor agonists, benzodiazepines 3. List the clinical effects and side effects of the most commonly used sedatives: phenothiazines, butyrophenones, alpha2- adrenoceptor agonists, benzodiazepines 4. List the most commonly used opioids in veterinary anesthesia 5. Understand the importance of using opioids for premedication 6. Compare the different opioids regarding time of onset, duration of effect, efficacy and side effects 7. Understand the importance of handling controlled substances in veterinary practice 8. Compare atropine and glycopyrrolate regarding duration of action, effects and side effects
L4	Preanesthetic Medication II	

L5	Injectable anesthetic agents I	1. 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 2. Define the term total intravenous anesthesia (TIVA) 3. Understand the advantages of TIVA
L6	Injectable anesthetic agents II	
L7	Inhalation Anesthesia Equipment I	1. List the different options of gas supply 2. Calculate the gas volume of an oxygen cylinder 3. Explain the basic parts of the anesthesia machine and their function 4. Describe the different safety features of the machine and the gas supply 5. Differentiate between rebreathing and non-rebreathing systems 6. Calculate fresh gas flow rates for each system 7. Describe the different waste anesthetic gas disposal systems 8. List the different modalities to provide inhalational anesthetics to a patient 9. Explain the advantages, disadvantages and indications of face masks, supraglottic devices and endotracheal tubes
L8	Inhalation Anesthesia Equipment II	
L9	Inhalation Anesthesia Equipment III	
L10	Inhalational Anesthetic agents I	1. Explain the physicochemical properties of the inhalant anesthetics and their impact on practical use 2. Explain the minimal alveolar concentration 3. Compare the effects and side effects of the inhalant anesthetics in use (Isoflurane, Sevoflurane, Halothane, Desflurane) 4. Understand the potential risks of chronic exposure to inhalant anesthetics
L11	Inhalational Anesthetic agents II	
		1. Observe intravenous catheter placement in a dog manikin 2. Calculate drug dosages, drug solutions and fluid rate rate for different dripping sets 3. Observe changes in cardiorespiratory parameters on a monitor after injecting the most commonly used sedatives and injectable anesthetics to a dog

DL 01	Didactic Lab 01 Simulations. IV catheter placement Drug Calculations		
L12	Pharmaacology of Local Anesthetic Drugs	1. Classify the different local anesthetics (LA) in use 2. Compare the different LA regarding physicochemical properties, effects and side effects 3. Describe the different additives to LA's and their effects 4. Reason the use of local anesthesia	
L13	Local Anesthetic Techniques in Small Animals	1. 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 2. List the indications and possible side effects of the LA techniques mentioned above	
L14	Local Anesthesia in Large animals	1. b. Describe commonly used local anesthetic techniques in large animals 2. c. Understand the side effects of these LA techniques	1. Explain the significance of local anesthesia in large animals
DL02	Didactic Lab 02: Anesthesia Equipment	1. Observe the assembling an anesthesia machine and name its components 2. Explain the gas flow through the anesthesia machine 3. Observe a leak test of the anesthesia machine and describe the steps to perform it 4. Understand the differences of the gas flow among the breathing systems and its implication on the anesthetic procedure 5. Observe the intubation of a dog manikin and describe the correct steps for the procedure	
L15	Pain Physiology	1. Explain the nociceptive pathway 2. Differentiate between physiologic and clinical pain 3. Explain the possible consequences of pain 4. Justify pain treatment in animals	
L16	Pain Assessment	1. Explain the commonly used pain scoring systems in animals: numerical rating scales, visual analogues scales, composite pain scales 2. Understand the limitations of pain assessment in animals 3. Explain the PLATTER approach to pain	
L17	Pain Treatment: Pharmacologic Approach	1. Explain the terms preemptive and multimodal analgesia 2. List the different analgesic drugs systemically used and name their indications, effects, and side effects: opioids, ketamine, alpha2-agonists, NSAIDs, tramadol, gabapentin, lidocaine	
		1. Understand the significance of monitoring in the perioperative period; 2. Assess the anesthetic plane in small and large animals 3. Understand the importance of record keeping	

L18	Anesthetic Monitoring I	
L19	Anesthetic Monitoring II	Assess the cardiovascular function based on heart rate and blood pressure 1. Interpret a basic ECG 2. List the different methods of blood pressure measurement 3. Appreciate the limitations of blood pressure measurement
L20	Anesthetic Monitoring III	1. Assess the respiratory function in the anesthetized patient 2. Define the different monitors available to assess respiratory function and understand their limitations 3. Interpret the capnography curve 4. Differentiate between oxygenation and ventilation
L21	Mechanical Ventilation	1. Name the indications and potential side effects for mechanical ventilation (IPPV) 2. Name the modalities of IPPV and their indication of use
L22	Anesthesia emergencies and complications	1. Differentiate between common complications and emergencies in anesthesia 2. Recognize the most common complications occurring during anesthesia and list treatment options
L23	Thermoregulation	1. Explain the significance and causes of perioperative hypothermia 2. List different methods to prevent or treat perioperative hypothermia 3. List possible causes for hyperthermia
DL03	Didactic Lab 03: Monitoring	1. Observe blood pressure measurement with oscillometric and Doppler techniques and interpret the values 2. Observe end tidal and inspiratory carbon dioxide monitoring and interpret the capnography curve 3. Observe SpO2 measurement with a pulse oximeter and interpret the result 4. Observe the use of an ECG in the clinical instructor and interpret the ECG
L24	Small Animal Anesthesia I	1. Design an appropriate anesthetic and analgesic protocol for healthy small animal patients 2. Understand the peculiarities in feline anesthesia 3. Explain the special considerations in neonate and pediatric patients regarding anesthesia and analgesia 4. Design an anesthetic and analgesic protocol for neonate and pediatric small animal patients

L25	Small Animal Anesthesia II	5. Understand the challenges in geriatric patients undergoing anesthesia and develop an anesthetic and analgesic protocol for geriatric patients 6. Understand the anesthetic challenges of patients undergoing dental procedures 7. Comprehend the implications of obesity when developing an anesthetic plan for obese small animal patients 8. Design an anesthetic and analgesic protocol for small animal patients with hepatic diseases 9. Design an anesthetic and analgesic protocol for small animal patients with renal disease 10. Design an anesthetic protocol for obstructed small animal patients 11. Design an anesthetic and analgesic protocol for small animal patients with diabetes mellitus 12. Design an anesthetic and analgesic protocol for a cat with hyperthyroidism 13. Anesthesia in ophthalmic patients 14. Design an anesthetic protocol in neurological patients 15. Understand the physiological changes of pregnancy and the implications for anesthesia 16. Design an anesthetic protocol for a patient undergoing C-section 17. Design an anesthetic and analgesic protocol for small animal patients with different heart conditions 18. Design an anesthetic and analgesic protocol for dogs with gastric-dilatational volvulus (GDV)
L26	Small Animal Anesthesia III	
L27	Small Animal Anesthesia IV	
L28	Small Animal Anesthesia V	
DL4	Case discussion	
L29	Anesthesia in Guinea Pigs, Rabbits, and small rodents	a. Discuss the anesthetic management of a real case 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
L30	Avian and Reptile Anesthesia	1. Explain the anatomical and physiological particularities of avian and reptile species affecting the anesthesia procedure 2. Elaborate an appropriate anesthetic protocol for birds and reptiles
L31	Equine Anesthesia I	1. Explain the relatively high risk for horses undergoing anesthesia, and how this risk can be addressed 2. List possible sedation protocols for standing procedures in horses 3. Design an anesthetic and analgesic protocol for horses
L32	Equine anesthesia II	
L33	Equine anesthesia III	
		1. Explain the special considerations in ruminant anesthesia 2. Choose an appropriate drug protocol for cattle and small ruminant 3. Explain the challenges in camelid anesthesia 4. Choose an appropriate anesthetic protocol for camelids

L34	Anesthesia in Ruminants and Camelids	
L35	Swine Anesthesia	1. Explain the challenges of anesthesia in pigs 2. Design an anesthetic and analgesic drug protocol for pigs 1. Define the term malignant hyperthermia
L36	Euthanasia	1. List the different techniques and drugs available for euthanasia in small and large animals 2. Explain how to properly euthanize small animals and horses 3. Describe how to confirm death in animals after euthanasia 4. Appreciate the AVMA guidelines for euthanasia of Animals

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	**SGU SVM program level outcome**
CLO 1 Formulate a sedation and/or anesthetic plan in domestic and exotic animals according to their physical status.	PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare
CLO 2 Design an analgesic plan in domestic animals	PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare
CLO 3 Clinically interpret the information provided by the monitoring equipment	PLO 04 Explain the relationship between disease process and clinical signs PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare
CLO 4 Assess the anesthetic depth of a patient of the different species	PLO 01 Recall. Understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare
CLO 5 Formulate an euthanasia protocol for domestic animals	PLO 22 Analyze, design and execute appropriate plans for anesthesia and pain management considering patient welfare PLO 27 Demonstrate and model effective client communicate and ethical conduct
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

Course Schedule
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 17-Jan 10:30	FR	Introduction to the course
	L02	Wed 19-Jan 11:30	FR	Anesthesia Planning
	L03	Fri 21-Jan 11:30	MM	Preanesthetic medication I
2	L4	Mon 24-Jan 11:30	MM	Preanesthetic medication II
	L5	Wed 26-Jan 11:30	FR	Injectable Anesthetic agents I
	L6	Fri 28-Jan 11:30	FR	Injectable Anesthetic agents II
	DL1 Group A	Fri 28-Jan 13:30	FR/MM/ND	IV catheter placement, drug calculations and computer simulations (SimLab)
3	L7	Mon 31-Jan 10:30	FR	Inhalational Anesthesia Equipment I
	DL1 Group B	Mon 31-Jan 13:30	FR/MM/ND	IV catheter placement, drug calculations and computer simulations (SimLab)
	L8	Wed 02-Feb 11:30	FR	Inhalational Anesthesia Equipment II
	L9	Fri 04-Fev 10:30	FR	Inhalational Anesthesia Equipment III
4	L10	Wed 09-Feb 11:30	FR	Inhalational anesthetics agents I
	L11	Wed 08-Sep 11:30	FR	Inhalational anesthetics agents II
5	L12	Wed 16-Feb 10:30	FR	Pharmacology of Local Anesthetic Drugs
	L13	Fri 18-Feb 10:30	FR	Local Anesthetic Techniques in Small Animals
	DL1 Group C	Fri 18-Feb 13:30	FR/MM/ND	IV catheter placement, drug calculations and computer simulations (SimLab)
6	QUIZ	Mon 21-Feb 11:30	L01-L06 + DL1	
	DL2 Group A	Mon 21-Feb 13:30	FR/MM/ND	Anesthetic equipment (VSL)

	L14	Wed 23-Feb 11:30	FR	Local Anesthesia Techniques in Large Animals
	L15	Fri 25-Feb 11:30	FR	Pain physiology
	DL2 Group B	Fri 25-Feb 13:30	FR/MM/ND	Anesthetic equipment (VSL)
7	L16	Mon 28-Feb 10:30	FR	Pain Assessment
	L17	Mon 28-Feb 11:30	MM	Pain treatment: Pharmacological approach
	L18	Fri 04-Mar 11:30	FR	Anesthesia Monitoring I
	L19	Fri 04-Mar 11:30	FR	Anesthesia Monitoring II
	DL2 Group C	Fri 04-Mar 13:30	FR/MM/ND	Anesthetic equipment (VSL)
8	No activity (Midterms week)			
9	MIDTERM	Mon 14-Mar 12:00	L01-L17; DL1-DL2 (Cumulative)	
	L20	Wed 16-Mar 9:30	FR	Anesthetic Monitoring III
	L21	Fri 18-Mar 11:30	FR	Mechanical Ventilation
10	L22	Mon 21-Mar 10:30	FR	Anesthetic Emergencies and Complications
	DL3 Group A	Mon 21-Mar 10:30	FR/MM/ND	Monitoring equipment (VSL)
	L23	Wed 23-Mar 10:30	FR	Thermoregulation
	L24	Fri 25-Mar 11:30	FR	Small Animal Anesthesia I
	DL3 Group B	Fri 25-Mar 13:30	FR/MM/ND	Monitoring equipment (VSL)
11	L25	Mon 28-Mar 11:30	FR	Small Animal Anesthesia II
	L26	Wed 30-Mar 11:30	FR	Small Animal Anesthesia III
	L27	Mon 01-Apr 11:30	FR	Small Animal Anesthesia IV
	L28	Mon 04-Apr 10:30	FR	Small Animal Anesthesia V
	DL3	Mon 04-Apr	FR/MM/ND	Lab: Monitoring equipment (VSL)

12	Group C	FR/MM/ND		
	L29	Wed 06-Apr 11:30	FR	Anesthesia in Rabbits, Guinea Pigs and Small Rodents
	L30	Fri 08-Apr 11:30	FR	Avian and Reptile Anesthesia
13	L31	Mon 11-Apr 09:30	FR	Equine Anesthesia I
	DL4 EVERYONE	Mon 11-Apr 13:30	FR/MM/ND	Case Discussion
	L32	Wed 13-Apr 10:30	FR	Equine Anesthesia II
14	L33	Wed 20-Apr 11:30	FR	Equine Anesthesia III
15	L34	Mon 25-Apr 10:30	FR	Anesthesia in Ruminants and Camelids
	L35	Tue 26-Apr 10:30	FR	Swine Anesthesia
	ASSESS	Tue 26-Apr 1:30pm	Practical skills assessment (Formative assessment)	
	L36	Wed 27-Apr 10:30	FR	Euthanasia
	ASSESS	Wed 27-Apr 1:30	Practical skills assessment (Formative assessment)	
16	No activity			
17	Final	Mon 09-May 12:00	L1-L35: DL1-DL4	

Grading and Assessment Policy

1. 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

Assessment policy

This course is 140 points, divided in one quiz (10 points), midterm exam (50 points), one final exam (70 exams) and a mandatory OSCE (Practical Skills Assessment - 10 points) for those attending the course on campus. **For those attending the course remotely the practical skills assessment will be substituted by an online proctored exam via Examsoft.**

Students who attend the labs on island and decides to go home before the OSCE will receive a 0 grade for that part and will not be allowed to have the online exam.

Exams and quizzes will consist mainly of MCQ questions, however short answer questions may be included at the discretion of the course director. The examination will be based on all the material covered in lecture notes, power point presentation and didactic labs, **as well as didactic material distributed through the SAKAI network and verbal information presented by the lectures**.

Slide handouts might not contain all the contents of the lectures and will be complemented with verbal information during the lectures.

The aspects of pharmacology and physiology relevant to anesthesia that were taught during the previous terms are considered part of the exam material. Students are responsible for reviewing the

pharmacology and physiology notes. Students are responsible for reviewing the pharmacology and physiology notes. Students are expected to make use of the recommended books, scientific literature and journal articles uploaded on the

SAKAI network. Exams and quizzes are sequestered. The only time when questions can be viewed is during the exam period. The Course Director has no obligation to disclose the breakdown of questions per exam.

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).

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 parameters listed in the Assessment Policy for Students

Recommended Study Strategies
Individual office hours can be requested to best tailor best studying strategies.

Class office hours attendance and participation are strongly recommended and encouraged.

Instructor's Expectations of the Student
Students are encouraged to participate in any discussion, prepare the handouts for the didactic lab sessions.

Students are expected to watch all lectures and participate in all didactic laboratory sessions.

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.

Please exhibit professional behavior in class. Students are expected to **arrive on time** for lectures.

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 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.

Attendance/Participation Policy
Students are expected to attend all classes and didactic labs of the course. Although attendance may not be recorded at every academic activity, **attendance may be and will be taken randomly**. Students' absence may adversely affect their academic status as specified in the grading policy.

Didactic labs attendance is mandatory. Failing to attend (and for those online, failing to watch entirely the videos on Panopto) will have 1 point deducted from the final grade per class and/or video.

Students are expected to be available during the standard 8:30am- 5:20pm 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

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) (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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
    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

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Veterinary Clinical Orientation

Course
LAMS 502
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Dr. Nyoni Winchester, DVM, MVS
Email: nwinches@sgu.edu
Office: Large Animal Resource Facility (LARF) offices

Dr. Lucian Thomas, DVM, MSc
Email: lthomas8@sgu.edu
Office: Small Animal Clinic (SAC)

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 ikarasek@sgu.edu

Bowen Louison, DVM blouison@sgu.edu

Jaelene Haynes, DVM jhaynes2@sgu.edu

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.

Required Resources

1. Computer with functional camera and microphone

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.

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

Other Requirements

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**). **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. 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. **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. 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. You can bring a bottle of water but ensure to be biosafe and do not forget it when you leave. 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.***

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.

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

- Demonstrate/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.

Lesson Learning Outcomes

LECTURE/MODULE	LEARNING OUTCOMES
BIOSECURITY LECTURE	• Explain and discuss adequate biosecurity protocols for disease prevention and biosafe attire at the LARF.
SMALL ANIMAL BEHAVIOR LECTURE	• Explain and discuss animal behavior concepts and terminology.
SMALL ANIMAL PHYSICAL EXAM MODULE	• Demonstrate/Describe a basic, structured physical examination of small animals.
MEDICAL RECORDS AND CLINICAL REASONING	• 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	• Examine common equine breeds and medical terminology and discuss proper technique for performing a clinical exam.

	• Demonstrate/Describe safe and appropriate handling and restraint techniques and a safe and thorough routine clinical exam.
BOVINE Physical Exam Module	• Examine common cattle breeds and medical terminology and discuss proper technique and vital parameters as it applies to cattle. • Demonstrate/Describe the safe restraint/handling of a cow and a thorough and structured clinical exam.

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.	1. **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. 2. **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. 3. **Core Clinical Competencies (Skills)** PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
Integrate clinical skills with knowledge in other basic veterinary courses such as anatomy, physiology, and histology.	1. **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)** Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
Demonstrate confidence in the approach of and work with these animals and show a professional attitude.	**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.
Demonstrate familiarity with basic veterinary terms, breeds, and reference values in small animal and large animal medicine.	**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
Know the Principles of Veterinary Medical Ethics (AVMA).	**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.
Differentiate between types of medical records, discussing their contents.	**B. Core Professional Attributes** PLO 12 Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities.
Prepare a complete medical record based on information obtained through history and physical exam findings	**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.

Course Schedule

Monday 1/24/2022	8.30 – 10.20 am	**KBT Hall Blue**	**All Students**	Course Intro/SIM lab Preparation/Signalment	Dr. Thomas / Dr. Winchester
Tuesday 1/25/2022	8.30 – 10.20 am	**KBT Hall Blue**	**All Students**	Introduction to Small Animal Physical Exam	Dr. Thomas
Monday 1/31/2022	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 1/31/2022	4.30 – 5.20pm	**David Brown Hall**	**All Students**	Biosecurity	Dr. Winchester
Tuesday 2/1/2022	9:30 – 10.20 am	**KBT Hall Blue**	**All Students**	Animal Behavior during canine/equine physical exam	Dr. Melissa Bain
Friday 2/4/2022	1.30 – 3.20 pm	**SAC**	**Group A**	Small Animal Physical Exam	Small Animal Faculty

Tuesday 2/8/2022	9.30 – 11.20 am	**KBT Hall Blue**	**All Students**	Intro to Medical Records and Clinical Reasoning	Dr. Thomas
Friday 2/11/2022	1.30 – 3.20 pm	**SAC**	**Group B**	Small Animal Physical Exam	Small Animal Faculty
Monday 2/14/2022	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)
Tuesday 2/15/2022	8.30 – 10.20 am			Self-Directed Learning	
Friday 2/18/2022	1.30 – 3.20 pm	**SAC**	**Group C**	Small Animal Physical Exam	Small Animal Faculty
Friday 2/25/2022	1.30 – 3.20 pm	**SAC**	**Group D**	Small Animal Physical Exam	Small Animal Faculty
Monday 2/28/2022	8.30 – 10.20am	**KBT Hall Blue**	**All Students**	FA Breeds, Terminology, Physical Exam Review	Dr. Nigito
Tuesday 3/1/2022	8.30 – 10.20 am	**KBT Hall Blue**	**All Students**	Equine Breeds, Terminology, Physical Exam Review	Dr. Karasek
Midterm week					
Monday 3/28/2022	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 4/4/2022	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 4/11/2022	8:30 – 10:20am	**LARF**	**Group B**	Equine Physical Exam/Handling	LAMS FACULTY (3)
	10:30 – 12:20pm	**LARF**	**Group A**	Equine Physical Exam/Handling	LAMS FACULTY (3)
Monday 4/25/2022	8:30 – 10:20am	**LARF**	**Group D**	Equine Physical Exam/Handling	LAMS FACULTY (3)
	10:30 – 12:20pm	**LARF**	**Group C**	Equine Physical Exam/Handling	LAMS FACULTY (3)
Friday 4/29/2022 OR Tuesday 5/10/2022	9:00 – 11:00 am			**OSCE PRACTICE SESSION (Voluntary)**	
Thursday 5/12/2022	9:00 – 5:00pm	**SIM LAB**		**FINAL EXAM OSCE (in-**	

	12.00 pm	**EXAMSOFT**	**ALL STUDENTS**	**person students) WRITTEN EXAM OSCE (online students)**	

Grading and Assessment Policy
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 1st half of the term	2.5%
Professionalism Evaluation 2nd 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 (online quiz)

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). Preparatory material for each lab posted on Sakai. It is **HIGHLY recommended** that you read the relevant materials before each lab. Students are to please read the information made available to them prior to attempting the quizzes.

FINAL EXAM: The importance of clinical skills in the course LAMS 502 must be emphasized and recognized. There will be a comprehensive OSCE format final exam, worth 50% of the final grade, to be held **on May 12th,** 2022 starting at 8:30am at the SIM Lab. Exam questions

will require the student to demonstrate knowledge and skills related to the labs clinical reasoning/ medical records sessions taught during the term.

The Final OSCE assessment is MANDATORY. Students who complete the lab sessions in-person MUST also complete the final OSCE, in-person. If you are learning in person, you are obligated to take the OSCE in-person. Any student who completes the lab sessions in-person and does not complete the final OCSE in-person will receive a score of "0" for the Final OSCE Assessment. If you do not take the Final OSCE examination, you will receive 0 points for your final assessment grade.

Details regarding the format will be announced later in the term. Dates for practice sessions were scheduled tentatively in your course schedule.

Online Students

Students who are learning online will be required to take the Written Final Exam on ExamSoft on **May 12th, 2022, 12:00 noon.** Online students who complete the lab sessions via zoom are obligated to take this written OCSE exam. Kindly note that there will be accommodations to provide an online "OSCE" experience for your written assessment. The questions will be as practical as possible (including pictures) in the format of MCQ's, Hotspots and FITB. A grade reduction of 5% will be applied to that exam if students do not observe the parameters listed in the Assessment Policy for Students.

Each student will be responsible for using lab time to complete the required objectives. Students will be asked to demonstrate knowledge and clinical proficiency skills learned from each lab during the final exam OSCE. As in the case for online students, apply knowledge to answer questions.

Excuses

Students will only be accepted to be excused from the examination 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 questions using Exam Soft.

Remediation

Failure to remediate any OSCE (in person or written) before the end of the term will result in failure of the course (F Grade). Students who receive a grade of 70% or less on their final OSCE exam will be required to request remediation. The remediation will not change the student's grade, however, students will be required to demonstrate (in-person) or describe (online) clinical proficiency skills taught during the term prior to progressing 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.***

Professionalism rubric

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

Recommended Study Strategies
Review all course material, lecture content, recorded lectures, and attend any LIVE classroom/Zoom sessions.

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 classroom/ 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.***

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.

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 - Assessments	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 assignment/assessment	Module checklist, assignment, and or assessment was not submitted, and student communicated with course director **more than 24 hours** after assignment deadlines with any	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.	deadlines with any technical/ medical/personal issues	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.
Appearance and Preparation	Student is always dressed in an appropriate manner for their session and comes prepared with all	Students is dressed in an appropriate manner for their session and comes prepared with most of the necessary equipment.	Students is generally dressed appropriately for the session but may be missing 1-2 pieces of necessary equipment.	Student is neither dressed appropriately or prepared with the necessary equipment for their session.

	the necessary equipment.			

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 classroom/ 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.

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. Lucian Thomas lthomas8@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.

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

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.

Veterinary Clinical Pathology

Course
PTHB 532
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Course Faculty and Staff Information

Course instructors

- Melinda Wilkerson, DVM, MS, PhD, ACVP (Anatomic/Clinical pathology)
    - Professor and co-course director
    - Office location: St. George's Hall, Rm 219
    - Email: mwilkers@sgu.edu
    - Office telephone number: +1473 439 2000 xtn 3673
    - Office hours: email to schedule an appointment or online weekly office hours
- Richard M. Kabuusu, DVM, MPH, CPH, PhD
    - Professor and co-course director
    - Office location: St. George's Hall, Rm 215
    - Email: rkabuusu@sgu.edu
    - Office telephone number: +1473 439 2000 xtn 3672
    - Office hours: schedule an appointment via email
- Dawn Seddon, BVSc, MSc (VetPath), ACVP (Clin Path), MRCVS, NHD Micro Professor
    - Office location: St. George's Hall, Rm 211
    - Email: dseddon@sgu.edu
    - Office telephone number: +1473 439 2000 xtn 3676
    - Office hours: email to schedule an appointment possible weekly office hours if online

Laboratory Technicians:

- Ms. Ruth Alexander, BSc.

- Office location: Clinical Pathology Laboratory
- Email: ralexander@sgu.edu
- Office telephone number: +1473 439 2000 xtn 3489

- Ms. Lucinda Ogilvie
  - Office location: Clinical Pathology Laboratory
  - Email: logilvie@sgu.edu
  - Office telephone number: +1473 439 2000 xtn 3540

Secretary:

- Ms. Cindy Edwards
  - Office location: St. George's Hall, Rm 22
  - Email: cedwards@sgu.edu, Office telephone number: +1473 439 2000 xtn 3339

Course Location
Sis Hall (East)

- Online location—Sakai resources (i.e. Resources will contain ppt pdfs and supplemental materials, Panopto for recordings, Zoom links for online Labs and office hours, Lessons for lectures and labs – particularly the Chemistry section after Midterms, Tests & Quizzes for formative and Lab quizzes).
- Top Hat will be used for the first half of the course (Hematology, Hemostasis, and Cytology) - Lessons in Sakai will be used for all chemistry / endocrinology & urinalysis

Required Resources

- Resources: pdfs of the power-point lectures, panoptos will also be recorded.
- Laboratory activities and explanations will be provided in Lesson Pages in Sakai
- Supplemental resources will be available in Sakai resources and in some cases in Lesson Pages

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

Students with Accommodations

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

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 and interpreting laboratory analyte results from whole blood, serum or plasma, urine, and fluids, and 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.

Course Learning Outcomes
Upon successful completion of this course, the student will be able to**:**

CLOA. Identify and explain the most common pre-analytical and analytical errors and principles of select laboratory analytes

CLOB. Interpretation of Lab Data by identifying/recognizing abnormalities/patterns, applying concepts, and classifications.

CLOC. Describe/recognize the pathogenesis (the series of events that lead to the disease or pathologic state) of the laboratory data abnormalities and propose pathologic states, physiologic conditions, or specific diseases that might cause the abnormalities

CLOD. Identify/recognize cells, artifacts and urinary sediment findings (crystals, casts, etc) microscopically, digitally or abnormalities in cells that are of diagnostic/pathologic importance including microscopic features of cells in blood films, cavitary effusions, urine and aspirates from lesions in tissues (marrow, lymph nodes, & common inflammatory or neoplastic lesions.

Detail description of CLOs

CLOA. Explain p*re-analytical and analytical errors and principles* 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 when there are interferents or errors. A student show also be able to describe the basis of the analytical principle of the assay for each laboratory analyte that is described in the lecture content.

CLOB*. 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.

CLOC. Describe pathogeneses 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?).

CLOD. 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, cavitary effusions, and aspirates from lesions in tissues (marrow, lymph nodes, & common inflammatory or neoplastic lesions.

Lesson Learning Outcomes

1. Introductory concepts

1. Identify and/or differentiate between blood samples and blood tubes necessary for hematology, coagulation, or chemistry assays
2. Identify examples of qualitative, semi-quantitative, and quantitative types of assays
3. Define reference intervals and describe how they are obtained.
4. Identify which analytes have Gaussian and/or non-Gaussian reference interval distributions and what these look like graphically
5. Distinguish between preanalytical, analytical, and post analytical errors
6. Define analytical precision, accuracy, analytical sensitivity, analytical specificity and detection limit properties of assays
7. Introduction to CBC (Erythrogram, leukogram, thrombogram)

2. Erythrocytes (Review erythron pools, iron, and Classify Anemias)

1. Define the function of the bone marrow and the tissue pools and contrast species differences in the spleen
2. Describe the transport of iron to erythroblasts and identify tissue stores
3. Define and identify reticulocytes and polychromatophils on blood films with or without special stains and explain their significance
4. 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)

1. Recognize which analytes impedance analyzers measure (MCV, RBC, Hgb) and define the significance of the analytes
2. Recognize which analytes are calculated by analyzers (HCT, MCHC, MCH) and describe how they can be affected by lipemia, hemolysis, or agglutination
3. Be able to calculate absolute reticulocyte concentration from [RBC] and Retic.percentage

4. Erythrocytes morphology of RBCs and hemoparasites

1. Identify on blood films and define significance of discocytes, rubricytosis, hypochromia, anisocytosis (macrocytes, microcytes, spherocytes) and inclusions such as basophilic stippling & Howell jolly bodies
2. Identify on blood films and define significance of abnormal erythrocyte shapes (poikilocytes): schizocytes, spherocytes, ecchinocytes, elliptocytes, codocytes, acanthocytes, eccentrocytes, pyknocytes, keratocytes
3. Identify hemoparasites on blood films (*Anaplasma marginale*, *A. centralie*, *Cytauxzooan*, *Babesia*, *Mycoplasmas sp.*) and recognize which animal species they infect

5. Nonregenerative & regenerative anemias

1. Identify disorders that cause **nonregenerative anemias** (inflammation, renal failure, bone marrow disease such as erythroid hypoplasia or ineffective erythropoiesis)
2. Describe pathogenesis of nonregenerative anemias due to inflammation, renal failure, bone marrow disease
3. Identify the disorders that cause **regenerative anemias** (blood loss and hemolytic anemia)
4. Describe the pathogenesis of acute and chronic blood loss disorders (iron deficiency)
5. Describe the pathogenesis of extravascular and intravascular hemolytic anemias and the identify the clinical and blood film findings associated with each

6. Analytical Methods In-Office Hematology (Dr. George Daniel, Abaxis – if time permits, information will be online and prerecorded)

a. Describe the basic principles of hematology analysis of red blood cell mass [RBC], [Hct], [Hgb], WBC, and Platelets using:

- Impedance analyzes* (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

1. Identify the disorders that cause hemolytic anemia (immune mediated, infectious agents, erythrocyte metabolic defects due to oxidative injury, vasculitis or causes of fragmentation anemia)
2. Explain the difference between Rouleaux and agglutination, clinical significance and which laboratory tests can differentiate (saline replacement test)
3. Identify the tests to determine if immune mediated hemolytic anemia is present (Coombs tests or flow cytometry for dog erythrocyte IgG)
4. Describe pathogenesis and expected erythrocyte morphology with:
    1. Immune mediated o Infectious agents
    2. **erythrocyte metabolic defects** due to oxidative injury results in Heinz body anemia, hypophosphatemia, eccentrocytic anemia
    3. **erythrocyte fragmentation**

8. Erythrocytes (Fe tests/Erythrocytosis)

1. Interpret [Fe], TIBC, ferritin, and stainable Fe in the context of Fe deficiency, inflammation, and hemolysis.
2. Identify erythrocytosis in a CBC
3. Describe the pathogenesis of erythrocytosis

9. Intro to Leukocytes (pools, migration, analytic principles, and neutrophil shifts)

1. Describe the myeloid bone marrow pools and time spent in each neutrophil pool in health and during inflammation (monocyte pools are similar)
2. Describe and contrast 3 lymphocyte migration paths
3. Describe how [nRBC] > 10 interferes with [WBC]
4. Describe how you determine differential white cell counts and concentrations
5. Define left shifts of neutrophil concentrations (regenerative vs degenerative) and the clinical significance
6. Describe reasons for hypersegmented neutrophils

10. Leukocytosis (Neutrophilia, lymphocytosis, monocytosis, eosinophilia, and basophilia)

1. Describe features of toxic neutrophils and the clinical significance (i.e. accelerated neutropoiesis)
2. Recognize leukogram patterns (acute inflammatory, chronic inflammatory, steroid (stress) and physiologic) in a CBC
3. Describe the pathogenesis of acute inflammatory, chronic inflammatory, steroid (stress) or physiologic leukograms
4. List diseases and conditions that cause lymphocytosis.
5. Describe pathogenesis of chronic lymphocytosis, physiologic (shift) lymphocytosis, and lymphoproliferative lymphocytosis
6. Describe reactive lymphocytes and significance
7. List common causes of monocytosis, eosinophilia, and basophilia

11. Leukopenia (neutropenia and lymphopenia)

1. List diseases and conditions that cause neutropenia.
2. Describe pathogenesis of inflammatory (overwhelming) neutropenia
3. Describe pathogenesis of granulocytic hypoplasia
4. List diseases and conditions that cause lymphopenia.
5. Describe pathogenesis of inflammatory lymphopenia, stress lymphopenia, and depletion lymphopenia

12. Leukocytes, abnormal morphology, organisms, and leukemia

1. Describe and identify leukocyte organisms
2. Describe and contrast myeloid, lymphoid, erythroid, and megakaryocytic leukemia
3. Recognize CD molecules that distinguish acute from chronic leukemia
4. Identify CD molecules that distinguish myeloid from monocytic from lymphocytic (T and B cell) leukemias
5. Recognize the purpose of the PARR test

13. Thrombogram (analytical principles, thrombocytopenia and thrombocytosis)

1. Identify/describe the basic physiology and functions of platelets
2. Describe the analytical principles of determination of platelet concentration via impedance, optical, and manual methods (slide estimate)
3. Describe the preanalytical causes of platelet clumping and how it effects the accuracy of the platelet concentration
4. Identify/recognize canine breeds (e.g. CKC) that have macroplatelets and pseudothrombocytopenia
5. List the causes of thrombocytopenia
6. Describe the pathogenesis of immune medicated and consumptive thrombocytopenia.
7. Describe the pathogenesis of inflammatory, Fe deficiency, and exercise induced thrombocytosis

14. Proteins Introductory concepts

1. Describe production sites for proteins
2. Describe physiologic functions and clinical importance of albumin, globulins, fibrinogen
3. Define Inflammatory protein groups (Acute phase proteins and Delayed response)
4. 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
    - Recognize interferences in refractometry (other total solids-glucose, urea, and electrolytes) and BCG (globulins)
    - Be able to interpret serum protein electrophoresis (SPE) patterns
    - Differences between total solids concentration and total protein concentration

15. Proteins Hyper and hypoproteinemia

1. Define and explain processes that cause dysproteinemias (hyperproteinemia and pathologic states)
2. Interpret serum and plasma protein concentrations that indicate:
    1. Protein loss e.g. PLD, PLN, PLE, decreased synthesis or protein catabolism
3. Describe the pathogenesis of the serum/plasma protein concentrations in PLD, PLN, PLE, decreased synthesis or protein catabolism (hepatic insufficiency, malabsorption, cachexia)

16: Overview of hemostasis

1. Describe the process that leads to the formation of a platelet plug
2. Outline the main function of platelets in primary hemostasis
3. Outline the antithrombotic and prothrombotic properties of endothelial cells
4. Outline the main goal of secondary hemostasis
5. Outline the main regulatory proteins of the secondary hemostasis
6. Describe the main steps of the cell-based model of thrombin generation
7. Compare and contrast cell-based model and coagulation cascade
8. List the role (and factors) of the contact pathway
9. Outline the main goal of tertiary hemostasis (fibrinolysis)
10. Outline the main regulatory proteins of the tertiary hemostasis
11. List the anticoagulant properties of thrombin
12. List major differences between bleeding and thrombosis

17: Laboratory evaluation of hemostasis disorders

1. Interpret tests used to assess thrombi formation and/ or antithrombotic processes
2. Interpret CBC and coagulation test results in clinically healthy animals
3. List and interpret qualitative tests used to assess primary hemostatic disorders
4. List and interpret quantitative tests used to assess primary hemostatic disorders
5. List and interpret tests used to assess intrinsic and common pathway disorders
6. List and interpret tests used to assess extrinsic and common pathway disorders
7. List and interpret tests used to assess common pathway
8. List and interpret tests used to assess fibrinolysis

18: Disorders of hemostasis

1. List hemorrhagic patterns associated with primary hemostatic disorders
2. List hemorrhagic patterns associated with secondary hemostatic disorders
3. Describe the main clinical pathology abnormalities of primary hemostatic disorders
4. List key differential diagnoses for extrinsic pathway disorders
5. List major differentials diagnoses for intrinsic pathway disorders
6. List some differential diagnoses for primary hemostatic disorders
7. Outline the major causes of thrombosis
8. Describe the relationship between hemostasis and inflammation

19: Principles of cytological examination

1. Describe good aspiration, imprint and smearing techniques
2. List the indications, advantages for cytology, and limitations
3. Outline the “systematic approach” to the interpretation of cytologic specimens
4. Describe characteristics of good cytologic preparations
5. Describe characteristics of non-diagnostic preparations
6. Recognize artifacts in cytologic preparations
7. Describe common cytological stains and staining procedures

20: Characteristics of inflammatory processes

1. Apply “cytologic algorithm” criteria to cutaneous masses
2. Describe the components of inflammatory processes
3. Recognize common microorganisms in septic inflammatory lesions
4. Memorize specific stains used to identify organisms
5. Recognize degenerate neutrophils
6. Recognize non-degenerate neutrophils
7. Describe the biologic behavior of neoplastic lesions

21: Characteristics of neoplasms and lymph node-aspiration

1. Outline features (criteria) for malignancy
2. Identify features of epithelial, neuroendocrine and mesenchymal cell neoplasms
3. Recognize round cell neoplasms in images and cytology preparations
4. List examples of benign neoplasms
5. List the various round cell neoplasms
6. List the biologic behavior of round cell neoplasms
7. Describe distinct features of round cell neoplasms
8. List some special stains for round cell neoplasms
9. List specific antigen markers for common neoplasms
10. List the common indications for lymph node aspiration
11. Categorize lymphadenopathy based on cytology
12. List advanced diagnostic techniques for lymphomas

22: Cytology of selected internal organs and respiratory tract

1. List the common indications for aspiration of internal organs and the risks
2. Recognize the major features of neoplastic or inflammatory lesions
3. Stage estrus in a dog based on cytologic findings
4. Recognize the major cytologic findings in the prostatic diseases
5. List common cytologic findings in major hepatopathies
6. List the sampling techniques for the respiratory tract
7. Recognize oro-pharyngeal contamination of samples
8. Classify respiratory samples as neoplastic or inflammatory based on images
9. List or identify common gastrointestinal cytologic findings

23: Pathogenesis of body cavitary effusions

1. Outline the major mechanisms for analyzing fluids
2. Discuss the pathogenesis of fluid accumulation within these spaces
3. Differentiate between protein-poor and protein-rich transudates
4. Describe the relationship between renal failure and fluid accumulation
5. Differentiate between neoplastic and inflammatory effusions
6. Recognize mesothelial cells
7. List several causes and features of protein-poor transudates
8. List several causes and features of protein-rich transudates

24: Specific body cavitary effusions

1. List several causes and features of exudates
2. List major causes and features of septic exudates
3. Differentiate between neoplastic and inflammatory effusions
4. Differentiate iatrogenic from pathologic hemorrhage
5. Differentiate chyle from pseudochyle
6. Classify equine peritonitis based on cytological findings
7. Describe cytologic features of FIP
8. Describe cytologic features in uropreritoneum
9. Describe cytologic features in bile peritonitis

25: Synovial fluid cytology and cerebrospinal fluid

1. Describe the collection and handling of synovial fluid
2. Describe the major cells in normal joint fluid
3. Describe the major cells in acute and chronic arthritis
4. Differentiate thixotropism from mucin clot)
5. Describe techniques unique to joint fluid analysis
6. Describe the collection and handling of CSF samples
7. Explain the basis for urgent analysis of CSF
8. List the key elements and unique tests of CSF analysis
9. Describe the common findings in “normal” CSF
10. Explain the underlying causes for abnormal findings in CSF

26: Review of hemostasis and cytology

27. Lab evaluation of the Kidney: Concentrating ability of the Nephron (Specific Gravity & Osmolality)

1. Describe or explain the physiologic processes of nephron regarding: GFR, resorption/excretion of water and solutes, osmolality of nephron segments
2. Describe analytical principles of Urine Specific Gravity & Osmolality and their relationship
3. Describe mechanisms of polyuria in various disorders (i. e Chronic renal failure, diabetes mellitus, diabetes insipidus, hypercalcemia, hyperadrenocorticism)
4. **Lab Eval Kidney 2 Urinary**
    1. Define azotemia and uremia
    2. Define and recognize acute and chronic renal insufficiency/ failure based on lab data
    3. 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
5. **Interpret Urinalysis data regarding:**
    1. physical characteristics of urine, qualitative or semi-quantitative chemical characteristics of urine (pH, protein, glucose, ketone, bilirubin, urobilinogen, heme)
    2. USG_{ref} - < 1.007, 1.008 – 1.013, > 1.013 in dehydrated states,
    3. USG_{ref} > 1.013 when glucosuria or proteinuria is present
    4. Interpret significance in urine sediment findings (i.e. cells, casts, crystals, organisms)
    5. Interpret Protein/Creatinine Ratio in PLN and hematuria (voided sample)
    6. Differentiate between pre – renal and post renal proteinuria
    7. Urinalysis – Videos for urine chemistry / sediment https://www.youtube.com/watch?v=jhmzkUcAbIM (8mins, 44 secs)
    8. 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

1. Recognize, list, and explain causes of hyper / hypo / normo - natremia, and chloremia
2. Interpret Na and CL- data from a clinical scenario, recognize abnormalities and provide possible pathogenesis (mechanisms).
3. Calculate and interpret osmolality
4. 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
5. 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

1. Recognize, list, and explain causes of hyperkalemia and hypokalemia.
2. Be able to interpret K data from a clinical scenario, recognize abnormalities and provide possible pathogenesis (mechanisms).
3. 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.
4. Calculate the AG

33, 34. Blood gases / Acid Base

1. Define Acidemia, Alkalemia, Acidosis, Alkalosis, Hypercapnia, Hypocapnia, Hypoxemia, Hypoxia
2. 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 serum / plasma HCO_{3-} / Total CO_2 concentrations
3. Interpret blood gas data that indicate or suggest:
    - Metabolic acidosis, with or without compensatory respiratory alkalosis
    - Metabolic alkalosis with or without compensatory respiratory acidosis
    - Respiratory acidosis with or without compensatory metabolic alkalosis
    - Respiratory alkalosis with or without compensatory metabolic acidosis
    - Hypoxemia due to pulmonary disease
    - Hypoxemia due to impaired respiratory exchange of gases
4. Explain, list, or recognize the reasons for:
    - Decreased serum HCO_{3-} concentration due to poor sample handling
    - Decreased $PaCo_2$ due to sample being exposed to air or when collected with excess heparin
    - Increased PaO_2 due to sample being exposed to air or when collected with excess heparin

- Decreased PaO_2 and decreased pH when there is delayed analysis of a heparinized blood sample
- Increased $PaCo_2$ due to respiratory disease or disorders that restrict respiration or as a compensation to alkalemia
- Decreased $PaCo_2$ 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 PaO_2 due to pulmonary disease
- Increased PaO_2 during gas anesthesia
- PaO_2 within reference interval when anemia is causing hypoxia
- Tissue hypoxia when there is no hypoxemia

35, 36. Calcium, magnesium, Vit D, PTH, PTHrp,

a. 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

1. Interpret Ca, fCa Vit D3, and their regulatory hormone data including: o Hypercalcemia and hypocalcemia^{++}] in horses compared to other
2. Explain the difference in the regulation of [fCa species.
3. 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 Ca^{2+} concentrations due to acidemia or alkalemia
    - Increased iPTH concentrations due to parathyroid neoplasm, chronic renal disease, or a diet with a low Ca^{2+}: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 fCa^{2+} concentration when blood sample collected with excess heparin
    - Altered fCa^{2+} concentrations when blood or serum sample is not handled anaerobically

37. Phosphorus & Magnesium

1. Interpret phosphorus, magnesium, and their regulatory hormone data including:
    - Hyperphosphatemia and hypophosphatemia
    - Hypermagnesemia and hypomagnesemia
2. Hyperphosphatemia due to dehydration, renal failure, uroperitoneum, urinary tract obstruction, hypoparathyroidism, and myopathies
3. Hyperphosphatemia due to in vitro hemolysis or delayed blood sample handling
4. Hypophosphatemia due to anorexia, hyperparathyroidism, hyperinsulinism, and milk fever
5. Explain, list, or recognize the reasons for hypomagnesemia due to hypoproteinemia and/or hypoalbuminemia
6. Hypomagnesemia due to renal failure
7. Interpret serum magnesium for

- Decreased GFR
- Hemolysis
- Hypoproteinemia
- Osmotic diuresis
- Ketonuria
- Bovine grass tetany

38. Enzymology including Muscle, Liver, pancreas

1. Define and identify leakage enzymes vs. inducible enzymes
2. Identify different liver enzymes used for evaluating liver disease in small and large animals.
3. Different enzyme data when assays are performed at different temperatures or with different substrates
4. Interpret serum enzyme data including increased activities of ALP, ALT, AMS, AST, CK, GGT, GMD, ID, LD, and LPS

39. Muscle

1. 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
2. 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

b. 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

1. 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
    - Hypercholemia (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

2. Interpret CBC, serum chemistry, or urinalysis data that suggest or indicate
   - Hepatic dysfunction including evidence of:
     - Raised bile acids o Hepatic lipidosis in cats
   - Decreased number of functional hepatocytes o Portosystemic shunt
   - Decreased hepatocyte uptake of bilirubin
   - Decreased biliary excretion of bilirubin or bile acids o Extravascular hemolysis o 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

a. 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, lipid metabolism disorders in specific breeds, liver disease (cholestasis) and eating a meal
- Hypertriglyceridemia – post prandial, equine & camelid hyperlipemias, acute pancreatitis, lipid 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

1. Interpret laboratory test results related to exocrine pancreas and intestine that suggest or indicate:
   a. Exocrine pancreatic insufficiency / Pancreatic acinar cell damage
   b. Azotemic disorders (decr GFR)
      Diffuse or segmental disease of intestinal mucosa
   c. Protein-losing enteropathy
2. 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 α1-PI concentration in dogs and cats with intestinal diseases (PLE)
- 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 (cats)
- Hypoinsulinemia due to β-cell damage or hypoglycemic disorders

46. Endocrine pancreas – hypoglycemia

1. 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
2. Interpret serum (blood, plasma) glucose, ketoamine, and insulin concentrations including:
   - Hypoglycemia
   - decreased fructosamine concentration
   - Hyperinsulinemia
3. 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
4. Explain, list, or recognize the reasons for:
   - Pseudo hypoglycemia due to delayed removal of serum from clotted blood, marked leukocytosis, or marked erythrocytosis
   - Artifactual hypoglycemia due to collection of blood into NaF-oxalate tubes.

47. Adrenal hormones - Hyperadrenocorticism

1. 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 (UCCR) due to hyperadrenocorticism or nonadrenal disease

        - Increased ACTH concentration in hyperadrenocorticism
        - Decreased ACTH concentration in hyperadrenocorticism
2. Interpret serum or plasma cortisol and ACTH concentrations and urine cortisol:creatinine ratios (UCCR) 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
2. Interpret serum or plasma cortisol in the following
    - Inadequate cortisol suppression in LDDST in PDH, FAN, or nonadrenal disease
    - Escape from suppression in LDDST or HDDST
    - Adequate cortisol suppression in PDH or nonadrenal disease o 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
3. Differentiate between tests and be able to apply to disease syndromes associated with hyperadrenocorticism
4. Describe the sensitivity and specificity of tests used for diagnosis of hyperadrenocorticism

48. Adrenal hormones - Hypoadrenocorticism (Addison's disease)

1. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
2.
    - 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
3. Differentiate between tests and be able to apply to disease syndromes associated with hypoadrenocorticism
4. Describe the sensitivity and specificity of tests used for diagnosis of hypoadrenocorticism

49. Endocrine Hypothyroidism (dogs)

1. 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
2. Describe why freeT4 by equilibrium dialysis is the gold standard test for assessing the thyroid.
3. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
4. The most common organ involved – i. e. primary, secondary or tertiary organ
5. Important changes in hematology and chemistry associated with hypothyroidism
6. Understand euthyroid sick syndrome and list the factors that cause this
7. Hypothyroxemia or decreased free [T4] due to lymphocytic thyroiditis (or other causes of thyroid gland damage), nonthyroidal disease, and some drug treatments
8. Increased TSH concentrations due to lymphocytic thyroiditis (or other causes of thyroid gland damage)
9. Increased anti T4AA concentration due to lymphocytic thyroiditis

10. List the main breeds of dogs which have lower RIs for T4
11. Explain, list, or recognize the reasons for:
    - Positive interference by anti T4 thyroxine autoantibodies on measurement of thyroxine (T4) concentration
12. Interpret serum thyroxine, free thyroxine (by equilibrium dialysis), TSH, and TgAA concentrations including: o Hypothyroxemia
    - Hypothyroxemia with concurrent free thyroxine concentrations o Increased TSH concentration
    - Increased TgAA concentration

50. Endocrine Hyperthyroidism (cats)

1. 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
2. Describe why freeT4 by equilibrium dialysis is the gold standard test for assessing the thyroid.
3. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
4. The most common organ involved – i. e. primary, secondary or tertiary organ
5. Important changes in hematology and chemistry associated with hyperthyroidism
6. Hyperthyroxemia due to thyroid neoplasm or administration of TSH
7. Absence of hyperthyroxemia in feline hyperthyroidism due to thyroid adenoma
8. Failure to suppress [T4] with T3 treatments in a cat
9. Interpret serum thyroxine, free thyroxine (by equilibrium dialysis), (TSH)concentrations including:
    - Hyperthyroxemia
    - Hyperthyroxemia with concurrent free thyroxine concentrations o Decreased TSH concentration

ALL LABORATORIES ARE MANDITORY 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). Glass slides in Microbiology lab and prior PowerPoint lectures Digital slides will be showcased during the lab for all students (online and in person)

- 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) Digital slides will be showcased during the lab for all students (online and in person)

- 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. Charter Hall lab. Cases will be posted to Sakai in Lab Resources

Lab 5 Leica online slide hosting site (Cytology Glass Slides and online images 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) 3- 4 pm

- Case discussions including interpretation abnormal laboratory findings and describe · pathogenesis of the laboratory abnormalities (Chemistry and Endocrine analytes)

Lab 10 (Zoom online) Case Discussions 3-4 pm

Course Schedule

Week Date	**Lecture topic and Lab topics, Quizzes, Exams**	**Instructor**	**Assessment points**
W1. Jan 17 Jan 18 Jan 19 Jan 21	1. Introductory concepts 2. Erythrogram & Classify anemias 3. Wintrobe indices & RBC morphology 4. RBC Morphology & hemoparasites	Wilkerson Wilkerson Wilkerson Wilkerson	
W2. Jan. 24 Jan. 25 Jan. 26	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	**0.5**

Jan. 27 Jan. 28		Wilkerson	
W3. Jan. 31 Feb. 1 Feb. 2 Feb. 3 Feb. 4	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	**0.5**
W4. Feb. 8 Feb. 9 Feb. 10 Feb. 11	13. Thrombogram (Thrombocytopenia, Thrombocytosis) **Lab 3: Interpretation of Anemic Blood films Micro lab** 14. Introductory Concepts of Proteins 15. Hyperproteinemia, Hypoproteinemia	Wilkerson Wilkerson Wilkerson Wilkerson	**0.5**
W5. Feb. 14 Feb. 15 Feb. 16 Feb. 17 Feb. 18	16. Overview of hemostasis 17. Disorders of hemostasis **Lab 4: Case Discussions Hematology/hemostasis (Charter Hall Lab)** 18. Laboratory evaluation of hemostasis 19. Principles of cytology	Kabuusu Kabuusu Wilkerson/ Kabuusu Kabuusu Kabuusu Kabuusu	**0.5**
W6. Feb. 21 Feb. 22 Feb. 23 Feb. 24 Feb. 25	**CLIN PATH QUIZ 1** 20. Inflammatory and neoplastic processes 21. Benign neoplasms/ round cell neoplasms & LNs 22. Internal organs and respiratory cytology 23. Pathogenesis of cavitary effusions	Wilkerson Kabuusu Kabuusu Kabuusu Kabuusu	**16**
W7. Feb. 28	24. Specific cavitary effusions 2 25. Synovial fluids and CSF cytology	Kabuusu Kabuusu	

Mar. 1 Mar. 2 Mar. 3 Mar. 3 Mar. 4	**Lab 5. Cytology Digital Microscopy (Micro Lab)** **Lab 6: Cytology Case discussions (Charter Hall Lab)** 26. Q&A hemostasis and cytology 27. Lab Eval Kidney	Kabuusu Kabuusu Kabuusu Kabuusu Seddon	**0.5** **0.5**
W8.	**MID TERM WEEK**		
W9. Mar.14 Mar.15 Mar.16 Mar.17 Mar.18	**Clin Path Mid TERM** 28. Lab Eval Kidney 2 **Lab 7: Renal/UA (Micro lab/Zoom)** 29. Urinalysis chem 30. Urinalysis sediment	Kabuusu Seddon All Instructors Seddon Seddon	**40 points** **0.5**
W10. Mar 21 Mar. 22 Mar. 24 Mar 25	31. Electrolytes Na, Cl, HCO_3, H_2O, osmolality 32. Electrolytes K, Anion Gap 33. Blood gases & acid base 34. Blood gases & acid base	Seddon Seddon Seddon Seddon	
W11. Mar. 28 Mar 29 Mar 30 Mar 31 Apr. 1	35. Ca, Vit D, PTH, PTHrp 36**.** Ca, Vit D, PTH, PTHrp **Lab 8. Electrolytes Cases Ca, Phos, Mg (Zoom online** 37. Magnesium & Phos **CLIN PATH Quiz 2**	Seddon Seddon Seddon Seddon	**0.5** **16**
W12. Apr. 4 Apr. 5 Apr. 6 Apr. 7	38. Enzymology 39. Muscle 40. Liver 41. Liver function 42. Lipids	Seddon Seddon Seddon Seddon Seddon	

Apr. 8			
W13. Apr. 11 Apr. 13 Apr. 14	43. Exocrine pancreas - pancreatitis **Lab 9. Liver, muscle, lipids/exocrine pancreas cases** **Zoom online** 44. Exocrine pancreas GI disorders Good Friday Holiday	Seddon Seddon Seddon Seddon	**0.5**
W14. Apr 18 Apr.19 Apr. 20 Apr. 21 Apr. 22	Easter Monday 45. Endocrine pancreas Glucose - hyperglycemia 46. Endocrine pancreas Glucose - hypoglycemia 47. Adrenal hormones- Hyperadrenocorticism 48. Adrenal hormones- Hypoadrenocorticism	Seddon Seddon Seddon Seddon Seddon	
W15. Apr. 25 Apr. 26 Apr. 27	49. Thyroid hormones - Hypothyroidism 50. Thyroid hormones - Hyperthyroidism **Lab 10: chemistry case discussions (Zoom online)**	Seddon	**0.5**
W17. May 9	**Clin Path Final Exam**		**Final Exam 40 points**
	Total Points		**117 points**

Assessment Points:

Quizzes	**32**		**Examsoft**
Exams	**80**		**Examsoft**
Labs	**5**		**Open book Sakai MCQ**

Total 117

Alignment of Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

Course level outcome	**SGUSVM program level outcome**
CLOA. Identify and explain the most common pre-analytical and analytical errors and principles of select laboratory analytes **CLOB.** Interpretation of Lab Data by identifying/recognizing abnormalities/patterns, applying concepts, and classifications. and **CLOC.** Describe/recognize the pathogenesis (the series of events that lead to the disease or pathologic state) of the laboratory data abnormalities and propose pathologic states, physiologic conditions, or specific diseases that might cause the abnormalities **CLOD.** Identify/recognize cells and crystals and casts microscopically, digitally or abnormalities in cells that are of diagnostic/pathologic importance including microscopic features of cells in blood films, cavitary effusions, urine and aspirates from lesions in tissues (marrow, lymph nodes, & common inflammatory or neoplastic lesions. Being professional in forum/participation/assignments Introduction to how to make blood films, perform microhematocrit readings, describe how to use a refractometer to read USG and total proteins, and perform urinalysis, fine needle aspiration and biopsy.	1. **Core Medical Knowledge**

	2. **Core Professional Attributes** 3. **Core Clinical Competencies (Skills)**

Grading and Assessment Policy, and Grading Rubrics
Final grading will be based on cumulative performance in all examinations. Grades posted in Gradebook in sakai are not final until confirmed by CAPPS.

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 parameters listed in the Assessment Policy for Students: *This syllabus is subject to change

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.

Instructor's Expectations of the Student
The student is expected to review the online lectures prior to the zoom sessions.

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.

Attendance/Participation Policy (refer student to the student manual page if applicable)
Students are expected to be available during the standard 8:30- 5:20 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.

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 and agreed upon makeup assignment will receive 0.5 points deduction.

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 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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term

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.
    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
    6. The general Reminders/Guidelines

Master Syllabus
School of Veterinary Medicine Master Syllabus

Veterinary Clinical Pathology

Course
PTHB 532
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course instructors

- Melinda Wilkerson, DVM, MS, PhD, ACVP (Anatomic/Clinical pathology)
    - Professor and co-course director
    - Office location: St. George's Hall, Rm 219 Email: mwilkers@sgu.edu
    - Office telephone number: +1473 439 2000 xtn 3673
    - Office hours: email to schedule an appointment or online weekly office hours
- Richard M. Kabuusu, DVM, MPH, CPH, PhD Professor and co-course director
    - Office location: St. George's Hall, Rm 215 Email: rkabuusu@sgu.edu
    - Office telephone number: +1473 439 2000 xtn 3672
    - Office hours: schedule an appointment via email
- Dawn Seddon, BVSc, MSc (VetPath), ACVP (Clin Path), MRCVS, NHD Micro Professor
    - Office location: St. George's Hall, Rm 211 Email: dseddon@sgu.edu
    - Office telephone number: +1473 439 2000 xtn 3676
    - Office hours: email to schedule an appointment possible weekly office hours if online

Laboratory Technicians:

- Ms. Ruth Alexander, BSc. Office location: Clinical Pathology Laboratory Email: ralexander@sgu.edu
    - Office telephone number: +1473 439 2000 xtn 3489
- Ms. Lucinda Ogilvie
    - Office location: Clinical Pathology Laboratory Email: logilvie@sgu.edu
    - Office telephone number: +1473 439 2000 xtn 3540

- Secretary: Ms. Cindy Edwards
  - Office location: St. George's Hall, Rm 223
  - Email: cedwards@sgu.edu, Office telephone number: +1473 439 2000 xtn 3339

Course Location

- **Sis Hall (East)**
- Online location—Sakai resources (i.e. Resources will contain ppt pdfs and supplemental materials, Panopto for recordings, Zoom links for online Labs and office hours, Lessons for lectures and labs – particularly the Chemistry section after Midterms, Tests & Quizzes for formative and Lab quizzes).
- **Top Hat will be used for the first half of the course** (Hematology, Hemostasis, and Cytology)
- Lessons in Sakai will be used for all chemistry / endocrinology & urinalysis

Required Resources

- Resources: pdfs of the power-point lectures, panoptos will also be recorded.
- Laboratory activities and explanations will be provided in Lesson Pages in Sakai
- Supplemental resources will be available in Sakai resources and in some cases in Lesson Pages

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

Accommodation

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

Other Requirements
Reliable internet

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 and interpreting laboratory analyte results from whole blood, serum or plasma, urine, and fluids, and 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.

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

CLOA. Identify and explain the most common pre-analytical and analytical errors and principles of select laboratory analytes

CLOB. Interpretation of Lab Data by identifying/recognizing abnormalities/patterns, applying concepts, and classifications.

CLOC. Describe/recognize the pathogenesis (the series of events that lead to the disease or pathologic state) of the laboratory data abnormalities and propose pathologic states, physiologic conditions, or specific diseases that might cause the abnormalities

CLOD. Identify/recognize cells, artifacts and urinary sediment findings (crystals, casts, etc) microscopically, digitally or abnormalities in cells that are of diagnostic/pathologic importance including microscopic features of cells in blood films, cavitary effusions, urine and aspirates from lesions in tissues (marrow, lymph nodes, & common inflammatory or neoplastic lesions.

Lesson Learning Outcomes

1. **Introductory concepts**
    a. Identify and/or differentiate between blood samples and blood tubes necessary for hematology, coagulation, or chemistry assays
    b. Identify examples of qualitative, semi-quantitative, and quantitative types of assays
    c. Define reference intervals and describe how they are obtained.
    d. Identify which analytes have Gaussian and/or non-Gaussian reference interval distributions and what these look like graphically
    e. Distinguish between preanalytical, analytical, and post analytical errors
    f. Define analytical precision, accuracy, analytical sensitivity, analytical specificity and detection limit properties of assays

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 species differences in the spleen
    b. Describe the transport of iron to erythroblasts and identify tissue stores
    c. Define and identify reticulocytes and polychromatophils on blood films with or without special stains and explain their significance
    d. 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) and define the significance of the analytes
    b. Recognize which analytes are calculated by analyzers (HCT, MCHC, MCH) and describe how they can be affected by lipemia, hemolysis, or agglutination
    c. Be able to calculate absolute reticulocyte concentration from [RBC] and Retic. percentage
4. Erythrocytes morphology of RBCs and hemoparasites
    a. Identify on blood films and define significance of discocytes, rubricytosis, hypochromia, anisocytosis (macrocytes, microcytes, spherocytes) and inclusions such as basophilic stippling & Howell jolly bodies
    b. Identify on blood films and define significance of abnormal erythrocyte shapes (poikilocytes): schizocytes, spherocytes, ecchinocytes, elliptocytes, codocytes, acanthocytes, eccentrocytes, pyknocytes, keratocytes
    c. Identify hemoparasites on blood films (*Anaplasma marginale*, *A. centralie*, *Cytauxzooan*, *Babesia*, *Mycoplasmas sp.*) and recognize which animal species they infect
5. Nonregenerative & regenerative anemias
    a. Identify disorders that cause **nonregenerative anemias** (inflammation, renal failure, bone marrow disease such as erythroid hypoplasia or ineffective erythropoiesis)
    b. Describe pathogenesis of nonregenerative anemias due to inflammation, renal failure, bone marrow disease
    c. Identify the disorders that cause **regenerative anemias** (blood loss and hemolytic anemia)

d. Describe the pathogenesis of acute and chronic blood loss disorders (iron deficiency)
e. Describe the pathogenesis of extravascular and intravascular hemolytic anemias and the identify the clinical and blood film findings associated with each

6. Analytical Methods In-Office Hematology (Dr. George Daniel, Abaxis – if time permits, information will be online and prerecorded)
    a. Describe the basic principles of hematology analysis of red blood cell mass [RBC], [Hct], [Hgb], WBC, and Platelets using:
        - Impedance analyzes* (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 that cause hemolytic anemia (immune mediated, infectious agents, erythrocyte metabolic defects due to oxidative injury, vasculitis or causes of fragmentation anemia)
    b. Explain the difference between Rouleaux and agglutination, clinical significance and which laboratory tests can differentiate (saline replacement test)
    c. Identify the tests to determine if immune mediated hemolytic anemia is present (Coombs tests or flow cytometry for dog erythrocyte IgG)
    d. Describe pathogenesis and expected erythrocyte morphology with:
        a. o Immune mediated
        b. **Infectious agents**
        c. **erythrocyte metabolic defects** due to oxidative injury results in
            - Heinz body anemia, hypophosphatemia, eccentrocytic anemia
        d. 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. Identify erythrocytosis in a CBC
    c. Describe the 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) and the clinical significance
    f. Describe reasons for hypersegmented neutrophils
10. Leukocytosis (Neutrophilia, lymphocytosis, monocytosis, eosinophilia, and basophilia)
11. a. Describe features of toxic neutrophils and the clinical significance (i.e. accelerated neutropoiesis)
    b. Recognize leukogram patterns (acute inflammatory, chronic inflammatory, steroid (stress) and physiologic) in a CBC
    c. Describe the pathogenesis of acute inflammatory, chronic inflammatory, steroid (stress) or physiologic leukograms
    d. List diseases and conditions that cause lymphocytosis.
    e. Describe pathogenesis of chronic lymphocytosis, physiologic (shift) lymphocytosis, and lymphoproliferative lymphocytosis
    f. Describe reactive lymphocytes and significance
    g. List common causes of monocytosis, eosinophilia, and basophilia
12. 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 that cause lymphopenia.
e. Describe pathogenesis of inflammatory lymphopenia, stress lymphopenia, and depletion lymphopenia

13. Leukocytes, abnormal morphology, organisms, and leukemia
    a. Describe and identify leukocyte organisms
    b. Describe and contrast myeloid, lymphoid, erythroid, and megakaryocytic leukemia
    c. Recognize CD molecules that distinguish acute from chronic leukemia
    d. Identify CD molecules that distinguish myeloid from monocytic from lymphocytic (T and B cell) leukemias
    e. Recognize the purpose of the PARR test
14. Thrombogram (analytical principles, thrombocytopenia and thrombocytosis)
    a. Identify/describe the basic 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 preanalytical causes of platelet clumping and how it effects the accuracy of the platelet concentration
    d. Identify/recognize canine breeds (e.g. CKC) that have macroplatelets and pseudothrombocytopenia
    e. List the causes of thrombocytopenia
    f. Describe the pathogenesis of immune medicated and consumptive thrombocytopenia.
    g. Describe the pathogenesis of inflammatory, Fe deficiency, and exercise induced thrombocytosis
15. Proteins Introductory concepts
    a. Describe production sites for proteins
    b. Describe physiologic functions and clinical importance 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
    e. Observe video and describe how to perform a plasma total protein by refractometer
    f. Recognize interferences in refractometry (other total solids-glucose, urea, and electrolytes) and BCG (globulins)
    g. Be able to interpret serum protein electrophoresis (SPE) patterns
    h. Differences between total solids concentration and total protein concentration
16. 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:
    c. Protein loss e.g. PLD, PLN, PLE, decreased synthesis or protein catabolism
    d. Describe the pathogenesis of the serum/plasma protein concentrations in
    e. PLD, PLN, PLE, decreased synthesis or protein catabolism (hepatic insufficiency, malabsorption, cachexia)
17. Overview of hemostasis
    a. Describe the process that leads to the formation of a platelet plug
    b. Outline the main function of platelets in primary hemostasis
    c. Outline the antithrombotic and prothrombotic properties of endothelial cells
    d. Outline the main goal of secondary hemostasis
    e. Outline the main regulatory proteins of the secondary hemostasis
    f. Describe the main steps of the cell-based model of thrombin generation
    g. Compare and contrast cell-based model and coagulation cascade
    h. List the role (and factors) of the contact pathway
    i. Outline the main goal of tertiary hemostasis (fibrinolysis)
    j. Outline the main regulatory proteins of the tertiary hemostasis

k. List the anticoagulant properties of thrombin
l. List major differences between bleeding and thrombosis

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. List and interpret qualitative tests used to assess primary hemostatic disorders
    d. List and interpret quantitative tests used to assess primary hemostatic disorders
    e. List and interpret tests used to assess intrinsic and common pathway disorders
    f. List and interpret tests used to assess extrinsic and common pathway disorders
    g. List and interpret tests used to assess common pathway
    h. List and interpret tests used to assess fibrinolysis
19. 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 differentials 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
20. 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
    g. Describe common cytological stains and staining procedures
21. Characteristics of inflammatory 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
22. Characteristics of neoplasms and lymph node-aspiration
    a. Outline features (criteria) for malignancy
    b. Identify features of epithelial, neuroendocrine and mesenchymal cell neoplasms
    c. Recognize round cell neoplasms in images and cytology preparations
    d. List examples of benign neoplasms
    e. List the various round cell neoplasms
    f. List the biologic behavior of round cell neoplasms
    g. Describe distinct features of round cell neoplasms
    h. List some special stains for round cell neoplasms
    i. List specific antigen markers for common neoplasms
    j. List the common indications for lymph node aspiration
    k. Categorize lymphadenopathy based on cytology
    l. List advanced diagnostic techniques for lymphomas
23. Cytology of selected internal organs and respiratory tract
    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
i. List or identify common gastrointestinal cytologic findings

24. Pathogenesis of body cavitary 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
25. Specific body cavitary 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 pseudochyle
    f. Classify equine peritonitis based on cytological findings
    g. Describe cytologic features of FIP
    h. Describe cytologic features in uropreritoneum
    i. Describe cytologic features in bile peritonitis
26. 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
27. Review of hemostasis and cytology
28. **Lab evaluation of the Kidney: Concentrating ability of the Nephron (Specific Gravity & Osmolality)**
    1. Describe or explain the physiologic processes of nephron regarding: GFR, resorption/excretion of water and solutes, osmolality of nephron segments
    2. Describe analytical principles of Urine Specific Gravity & Osmolality and their relationship
    3. Describe mechanisms of polyuria in various disorders (i. e Chronic renal failure, diabetes mellitus, diabetes insipidus, hypercalcemia, hyperadrenocorticism)
29. Lab Eval Kidney 2 Urinary
    a. Define azotemia and uremia
    b. Define and recognize acute and chronic renal insufficiency/ failure based on lab data
    c. Interpret UN & CREAT concentrations in serum with/without USGref and urinalysis;
        - Describe mechanisms of pre-renal, renal, and post renal azotemia
        - List tests that evaluate renal disease
30. 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. USGref - < 1.007, 1.008 – 1.013, > 1.013 in dehydrated states,
c. USGref > 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)
h. Idexx – the urine sediment examination https://www.youtube.com/watch?v=dswfnZXb3n (10mins, 43 secs)

31. Interpret Urinalysis data regarding:
    1. Sediments including cells, crystals, bacteria, casts

32. Electrolytes, total body sodium, Chloride and bicarbonate (HCO_3^- or TCO_2) body water, osmolality
    a. Recognize, list, and explain causes of hyper / hypo / normo - natremia, and chloremia
    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

Recognize, list, and explain causes of increased or decreased bicarbonate. Be able to interpret HCO^- or TCO^- 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
    e. Blood gases / Acid Base
    f. Define Acidemia, Alkalemia, Acidosis, Alkalosis, Hypercapnia, Hypocapnia, Hypoxemia, Hypoxia

33. Interpret blood gas data including:
    - Increases and decreases in plasma pH values
    - Increases and decreases in plasma Paco2
    - Increases and decreases in plasma Pao2
    - Increases and decreases in serum / plasma HCO3- / Total CO2 concentrations

34. Interpret blood gas data that indicate or suggest:
    a. Metabolic acidosis, with or without compensatory respiratory alkalosis
    b. Metabolic alkalosis with or without compensatory respiratory acidosis

c. Respiratory acidosis with or without compensatory metabolic alkalosis
d. Respiratory alkalosis with or without compensatory metabolic acidosis
e. Hypoxemia due to pulmonary disease
f. Hypoxemia due to impaired respiratory exchange of gases

35. Explain, list, or recognize the reasons for:
    a. Decreased serum HCO3- concentration due to poor sample handling
    b. Decreased PaCo2 due to sample being exposed to air or when collected with excess heparin
    c. Increased PaO2 due to sample being exposed to air or when collected with excess heparin
    d. Decreased PaO2 and decreased pH when there is delayed analysis of a heparinized blood sample
    e. Increased PaCo2 due to respiratory disease or disorders that restrict respiration or as a compensation to alkalemia
    f. Decreased PaCo2 as a response to hypoxemia or acidemia
    g. Acidemia due to disorders that cause lactic acidosis, ketoacidosis, renal failure, or extensive pulmonary disease
    h. Alkalemia due to disorders that cause gastric or abomasal loss of HCl, bovine renal failure, or hypoxemia
    i. Decreased PaO2 due to pulmonary disease
    j. Increased PaO2 during gas anesthesia
    k. PaO2 within reference interval when anemia is causing hypoxia
    l. Tissue hypoxia when there is no hypoxemia

35, 36. Calcium, magnesium, Vit D, PTH, PTHrp,

1. 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:
    1. 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 Ca^{2+} concentrations due to acidemia or alkalemia
- Increased iPTH concentrations due to parathyroid neoplasm, chronic renal disease, or a diet with a low Ca^{2+}: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 fCa^{2+} concentration when blood sample collected with excess heparin
- Altered fCa^{2+} 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
    d. Interpret serum enzyme data including increased activities of ALP, ALT, AMS, AST, CK, GGT, GMD, ID, LD, and LPS
39. Muscle
    1. 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

    2. Interpret serum enzyme data that indicate or suggest:
        - Muscle damage

40. Liver Enzymology
    1. 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
    2. 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
    1. 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

- Hypercholemia (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
    1. 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, lipid metabolism disorders in specific breeds, liver disease (cholestasis) and eating a meal
        - Hypertriglyceridemia – post prandial, equine & camelid hyperlipemias, acute pancreatitis, lipid 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
    1. 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
    2. 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
    1. 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
    - 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 α1-PI concentration in dogs and cats with intestinal diseases (PLE)
- 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
    1. 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 (cats)
        - Hypoinsulinemia due to β-cell damage or hypoglycemic disorders
46. Endocrine pancreas – hypoglycemia
    1. 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
    2. Interpret serum (blood, plasma) glucose, ketoamine, and insulin concentrations including:
        - Hypoglycemia
        - decreased fructosamine concentration
        - Hyperinsulinemia
    3. 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
- Explain, list, or recognize the reasons for:
    - Pseudo hypoglycemia due to delayed removal of serum from clotted blood, marked leukocytosis, or marked erythrocytosis
    - Artifactual hypoglycemia due to collection of blood into NaF-oxalate tubes

47. Adrenal hormones - Hyperadrenocorticism
    1. 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 (UCCR) due to hyperadrenocorticism or nonadrenal disease

        - Increased ACTH concentration in hyperadrenocorticism
        - Decreased ACTH concentration in hyperadrenocorticism
    2. Interpret serum or plasma cortisol and ACTH concentrations and urine cortisol:creatinine ratios (UCCR) 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

48. Interpret serum or plasma cortisol in the following
    - Inadequate cortisol suppression in LDDST 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
        - Differentiate between tests and be able to apply to disease syndromes associated with hyperadrenocorticism
    - Describe the sensitivity and specificity of tests used for diagnosis of hyperadrenocorticism

1. Adrenal hormones - Hypoadrenocorticism (Addison's disease)
    1. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
        1. 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
                - Differentiate between tests and be able to apply to disease syndromes associated with hypoadrenocorticism
                - Describe the sensitivity and specificity of tests used for diagnosis of hypoadrenocorticism

2. Endocrine Hypothyroidism (dogs)

- 1. 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
  2. Describe why freeT4 by equilibrium dialysis is the gold standard test for assessing the thyroid.
  3. Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
  4. The most common organ involved – i. e. primary, secondary or tertiary organ
  5. Important changes in hematology and chemistry associated with hypothyroidism
  6. Understand euthyroid sick syndrome and list the factors that cause this
  7. Hypothyroxemia or decreased free [T4] due to lymphocytic thyroiditis (or other causes of thyroid gland damage), nonthyroidal disease, and some drug treatments
  8. Increased TSH concentrations due to lymphocytic thyroiditis (or other causes of thyroid gland damage)
  9. Increased anti T4AA concentration due to lymphocytic thyroiditis

10. List the main breeds of dogs which have lower RIs for T4
11. Explain, list, or recognize the reasons for:

- Positive interference by anti T4 thyroxine autoantibodies on measurement of thyroxine (T4) concentration

12. 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)
    - 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

- Describe why freeT4 by equilibrium dialysis is the gold standard test for assessing the thyroid.
- Explain, list, or recognize the physiologic, pathologic, or pharmacologic processes or mechanisms that cause the following:
- The most common organ involved – i. e. primary, secondary or tertiary organ
- Important changes in hematology and chemistry associated with hyperthyroidism
- Hyperthyroxemia due to thyroid neoplasm or administration of TSH
- Absence of hyperthyroxemia in feline hyperthyroidism due to thyroid adenoma
- Failure to suppress [T4] with T3 treatments in a cat
- Interpret serum thyroxine, free thyroxine (by equilibrium dialysis), (TSH)concentrations including:
    - Hyperthyroxemia
    - Hyperthyroxemia with concurrent free thyroxine concentrations
    - Decreased TSH concentration

ALL LABORATORIES ARE MANDITORY 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). Glass slides in Microbiology lab and prior PowerPoint lectures

Digital slides will be showcased during the lab for all students (online and in person)

- 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)

Digital slides will be showcased during the lab for all students (online and in person)

- 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 thrombogra

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. Charter Hall lab. Cases will be posted to Sakai in Lab Resources

Lab 5 Leica online slide hosting site (Cytology Glass Slides and online images 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) 3- 4 pm

- Case discussions including interpretation abnormal laboratory findings and describe
- pathogenesis of the laboratory abnormalities (Chemistry and Endocrine analytes)

Lab 10 (Zoom online) Case Discussions 3-4 pm

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SGUSVM program level outcome
CLOA. Identify and explain the most common pre-analytical and analytical errors and principles of select laboratory analytes **CLOB.** Interpretation of Lab Data by identifying/recognizing abnormalities/patterns, applying concepts, and classifications. and **CLOC.** Describe/recognize the pathogenesis (the series of events that lead to the disease or pathologic state) of the laboratory data abnormalities and propose pathologic states, physiologic conditions, or specific diseases that might cause the abnormalities **CLOD.** Identify/recognize cells and crystals and casts microscopically, digitally or abnormalities in cells that are of diagnostic/pathologic importance including microscopic features of cells in blood films, cavitary effusions, urine and aspirates from lesions in tissues (marrow, lymph nodes, & common inflammatory or neoplastic lesions. Being professional in forum/participation/assignments	1. **Core Medical Knowledge**

Introduction to how to make blood films, perform microhematocrit readings, describe how to use a refractometer to read USG and total proteins, and perform urinalysis, fine needle aspiration and biopsy.	2. **Core Professional Attributes** 3. **Core Clinical Competencies (Skills)**

Course Schedule

Week Date	**Lecture topic and Lab topics, Quizzes, Exams**	**Instructor**	**Assessment points**
W1. Jan 17 Jan 18 Jan 19 Jan 21	1. Introductory concepts 2. Erythrogram & Classify anemias 3. Wintrobe indices & RBC morphology 4. RBC Morphology & hemoparasites	Wilkerson Wilkerson Wilkerson Wilkerson	
W2. Jan. 24 Jan. 25 Jan. 26 Jan. 27 Jan. 28	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	**0.5**
W3. Jan. 31 Feb. 1 Feb. 2 Feb. 3 Feb. 4	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	**0.5**
W4. Feb. 8	13. Thrombogram (Thrombocytopenia, Thrombocytosis) **Lab 3: Interpretation of Anemic Blood films Micro lab** 14. Introductory Concepts of Proteins	Wilkerson Wilkerson Wilkerson	

Feb. 9 Feb. 10 Feb. 11	15. Hyperproteinemia, Hypoproteinemia	Wilkerson	**0.5**
W5. Feb. 14 Feb. 15 Feb. 16 Feb. 17 Feb. 18	16. Overview of hemostasis 17. Disorders of hemostasis **Lab 4: Case Discussions Hematology/hemostasis** **(Charter Hall Lab)** 18. Laboratory evaluation of hemostasis 19. Principles of cytology	Kabuusu Kabuusu Wilkerson/ Kabuusu Kabuusu Kabuusu Kabuusu	**0.5**
W6. Feb. 21 Feb. 22 Feb. 23 Feb. 24 Feb. 25	**CLIN PATH QUIZ 1** 20. Inflammatory and neoplastic processes 21. Benign neoplasms/ round cell neoplasms & LNs 22. Internal organs and respiratory cytology 23. Pathogenesis of cavitary effusions	Wilkerson Kabuusu Kabuusu Kabuusu Kabuusu	**16**
W7. Feb. 28 Mar. 1 Mar. 2 Mar. 3 Mar. 3 Mar. 4	24. Specific cavitary effusions 2 25. Synovial fluids and CSF cytology **Lab 5. Cytology Digital Microscopy (Micro Lab) Lab 6: Cytology Case discussions (Charter Hall Lab)** 26. Q&A hemostasis and cytology 27. Lab Eval Kidney	Kabuusu Kabuusu Kabuusu Kabuusu Kabuusu Kabuusu Seddon	**0.5** **0.5**
W8.	**MID TERM WEEK**		
W9. Mar.14 Mar.15 Mar.16 Mar.17 Mar.18	**Clin Path Mid TERM** 28. Lab Eval Kidney 2 **Lab 7: Renal/UA (Micro lab/Zoom)** 29. Urinalysis chem 30. Urinalysis sediment	Kabuusu Seddon All Instructors Seddon Seddon	**40 points** **0.5**
W10. Mar 21 Mar. 22 Mar. 24 Mar 25	31. Electrolytes Na, Cl, HCO3, H2O, osmolality 32. Electrolytes K, Anion Gap 33. Blood gases & acid base 34. Blood gases & acid base	Seddon Seddon Seddon Seddon	
W11. Mar. 28 Mar 29 Mar 30 Mar 31 Apr. 1	35. Ca, Vit D, PTH, PTHrp 36. Ca, Vit D, PTH, PTHrp **Lab 8. Electrolytes Cases Ca, Phos, Mg (Zoom online** 37. Magnesium & Phos **CLIN PATH Quiz 2**	Seddon Seddon Seddon Seddon	**0.5** **16**

W12. Apr. 4 Apr. 5 Apr. 6 Apr. 7 Apr. 8	38. Enzymology 39. Muscle 40. Liver 41. Liver function 42. Lipids	Seddon Seddon Seddon Seddon Seddon	
W13. Apr. 11 Apr. 13 Apr. 14	43. Exocrine pancreas - pancreatitis **Lab 9. Liver, muscle, lipids/exocrine pancreas cases** **Zoom online** 44. Exocrine pancreas GI disorders Good Friday Holiday	Seddon Seddon Seddon Seddon	**0.5**
W14. Apr 18 Apr.19 Apr. 20 Apr. 21 Apr. 22	Easter Monday 45. Endocrine pancreas Glucose - hyperglycemia 46. Endocrine pancreas Glucose - hypoglycemia 47. Adrenal hormones- Hyperadrenocorticism 48. Adrenal hormones- Hypoadrenocorticism	Seddon Seddon Seddon Seddon Seddon	
W15. Apr. 25 Apr. 26 Apr. 27	49. Thyroid hormones - Hypothyroidism 50. Thyroid hormones - Hyperthyroidism **Lab 10: chemistry case discussions (Zoom online)**	Seddon	**0.5**
W17. May 9	**Clin Path Final Exam**		**Final Exam 40 points**
	Total Points		**117 points**

Assessment Points:

Quizzes	**32**	**Examsoft**
Exams	**80**	**Examsoft**
Labs	**5**	**Open book Sakai MCQ**

Total 117

Grading and Assessment Policy
Final grading will be based on cumulative performance in all examinations. Grades posted in Gradebook in sakai are not final until confirmed by CAPPS.

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 parameters listed in the Assessment Policy for Students:

*This syllabus is subject to change

Recommended 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.

Instructor's Expectations of the Student
The student is expected to review the online lectures prior to the zoom sessions.

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.

Attendance/Participation Policy
Students are expected to be available during the standard 8:30- 5:20 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.

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 and agreed upon makeup assignment will receive 0.5 points deduction.

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 1-631-665-850 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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term

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.
    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

The general Reminders/Guidelines

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Master Syllabus
School of Veterinary Medicine Master Syllabus

Veterinary Clinical Toxicology

Course
ANPH 520
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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), Associate Professor Dr. Talia Guttin VMD, MEd, DACVIM (tguttin@sgu.edu) and Prof. Dr. Arno H. Werners.

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 the lecture slides, short video's of more complicated aspects of veterinary toxicology, assignments, and additional reading.

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".

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").

Accommodation

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

Other Requirements
None.

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 centres 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.

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 cognizense of demographical, socio-economical and cultural considerations.

Lesson Learning Outcomes

Topic	**Lesson Learning Outcomes**	**Course learning outcomes**
General toxic principles (INT)	1. Compare and contrast toxins and toxicants 2. Compare and contrast the spectra of undesired effects 3. Compare and contrast the different Adverse Drug Reactions (ADRs) 4. Describe the importance of species differences 5. Differentiate between acute subacute and chronic toxicities	7, 8, 9
Toxicokinetics (TK)	1. Describe common toxicokinetic principles 2. Interpret toxicokinetic data and draw conclusions regarding the potential clinical effects 3. Compare and contrast the different effects of routes of exposure and its clinical repercussions 4. Interpret dose-response relationships and put them into a clinical perspective	2, 3
Terminology and Toxicological testing (TEST)	1. Compare and contrast the use of different *in vitro* and *in vivo* 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	6, 8

	5. Describe the rationale and principles of additional toxicological tests 6. Evaluate the importance of transgenerational toxicity 7. Articulate the role biotransformation plays in the toxicity of chemicals	
Carcinogenicity and Mutagenicity (MUT)	1. Compare and contrast the different *in vitro* tests used to evaluate carcinogenicity, mutagenicity or gentoxicity 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
Hepatotoxicity and Intervention (HEP)	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)	1. Compare and contrast the different cardiotoxic chemicals, their mechanisms of action, clinical signs and therapeutics	1, 2, 3, 4, 5, 9
Nephrotoxicity (KID)	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
Mycotoxins (MYCO)	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)	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)	1. Compare and contrast mechanism of action, the clinical signs and the treatment modalities 2. Compare and contrast plant tox- ins and their effects on different organ systems.	1, 2, 3, 4, 5, 9
Clinical Toxicology of Food Producing Animals (CT FA)	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
Clinical Toxicology of Companion Animals (CT CA)	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 (CTE)	1. Compare and contrast treatment modalities for equine intoxications	7, 9

	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)	

Alignment of Course Learning Outcomes with 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
4	Integrate toxicokinetic and toxicodynamic information to formulate: 1. A differential diagnosis 2. The importance of sample selection and collection 3. Additional diagnostic tests 4. A prognosis	A6: Apply multi-disciplinary scientific knowledge to clinical situations and understand evidence-based veterinary medicine C1: Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis
5	Predict and recognise major intoxications in the different veterinary species, including toxic plants and mycotoxins.	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
6	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.). 1. Outline the desired response to pharmacological therapies as well as reflect on the most appropriate methods to monitor for treatment success	C2: Create comprehensive treatment plans
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 cognizense of demographical, socio-economical and cultural considerations.	C8: Demonstrate and model effective client communication and ethical conduct

Course Schedule

Week	Topics and Materials Covered	Scheduled Activities	Time Commitment
Week 0	1. Lecture: Introduction to the course 2. Lecture: General toxic principles	Monday January 10th 10.30am AST Lecture 1: introduction to the course Friday January 14th 09.30am AST Lecture 2: General toxic principles	Lecture 2 hours Clinical toxicology assignment 1 hour
Week 1	1. Lecture: Regulatory versus clinical toxicology 2. Working on clinical toxicoogy assignment	Wednesday January 19th 10.30am AST Lecture 3: Regulatory versus clinical toxicology	Lecture 1 hour Clinical toxicology assignment 1 hour

Week 2	1. Lecture: Toxicokinetics 2. 1st assessment	Thursday January 27th 09.30am AST Lecture 4: Toxicokinetics Saturday January 29th 17.00pm AST Examsoft Qs (2 Qs General toxic principles 2 Qs Regulatory versus clinical toxicology)	Lecture 1 hour SAQs 20 minutes
Week 3	1. Lecture: Intro to clinical toxicology 2. Lecture: Genotoxicity, carcinogenicity and mutagenicity 3. Working on clinical toxicology assignment	Wednesday February 2nd 09.30am AST Lecture 5: Intro to clinical toxicology Friday February 4th 09.30am AST Lecture 6: Genotoxicity, carcinogenicity and mutagenicity	Lecture 2 hours Clinical toxicology assignment 1 hour
Week 4	1. Lecture: Introduction to cardiovascular toxicology 2. Lecture: Introduction to plant toxicology 3. 2nd assessment	Thursday February 10th 10.30am AST Lecture 7: Introduction to cardiovascular toxicology Friday February 11th 10.30am AST Lecture 8: Introduction to plant toxicology Saturday January 12th 17.00pm AST Examsoft Qs (2 Qs Toxicokinetics and 2Qs Intro to clinical toxicology)	Lecture 2 hours SAQs 20 minutes
Week 5	1. Lecture: Introduction to gastrointestinal toxicology 2. Working on clinical toxicology assignment	Thursday February 17th 10.30am AST Lecture 9: Introduction to gastrointestinal toxicology	Lecture 1 hour Clinical toxicology assignment 2 hours
Week 6	1. Working on clinical toxicology assignment 2. 3rd assessment	Saturday February 26th 17.00pm AST Examsoft Qs (2 Qs Introduction to plant toxicology, 2 Qs Genotoxicity, carcinogenicity and mu- tagenicity)	SAQs 20 minutes Clinical toxicology assignment 2 hours
Week 7	Submission of Clinical toxicology assignment	Saturday March 5th 17.00pm AST deadline for submission of clinical toxicology assignment	
Week 8	1. Lecture: Introduction to renal toxicity 2. 4th assessment	Tuesday March 8th 10.30am AST Lecture 11: Introduction to renal toxicity Saturday March 12th Examsoft Qs (2 Qs Intro to CVS toxicology and 2 Qs Intro to GI toxicology)	Lecture 1 hour SAQs 20 minutes
Week 9	1. Lecture: Introduction to neurotoxicity 2. Working on plant toxicology assignment	Tuesday March 15th 11.30am AST Lecture 12: Introduction to neurotoxicity	Lecture 1 hour Plant toxicology assignment 1 hour
Week 10	1. Lecture: Introduction to liver toxicity 2. 5th assessment	Friday March 25th 10.30am AST Lecture 13: Introduction to liver toxicity Saturday March 26th 17.00pm AST Examsoft Qs (2 Qs Intro to renal toxicology and 2 Qs Intro to CNS toxico- logy)	Lecture 1 hour SAQs 20 minutes
Week 11	1. Lecture: Introduction to mycotoxins 2. Working on plant toxicolgy assignment	Wednesday March 30th 09.30am AST Lecture 14: Introduction to mycotoxins	Lecture 1 hour Plant toxicology assignment 1 hour
Week 12	1. Lecture: Top 10 plant toxins 2. 6th assessment	Thursday April 7th 10.30am AST Lecture 15: Top 10 plant toxins	Lecture 1 hour SAQs 20 minutes

		Saturday April 9th 17.00pm AST Examsoft Qs (2 Qs Intro to liver toxicology and 2 Qs Intro to mycotoxins	
Week 13	1. Lecture: Top 10 plant toxins	Monday April 11th 11.30am AST Lecture 16: Top 10 plants toxins Saturday April 16th 17.00pm AST Submission of plant toxicology assignment	Lecture 1 hour
Week 14	**Final examination**	**Monday April 25th 12pm AST Final examination**	

Grading and Assessment Policy

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. Docu- ment 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 listed in the assessment policy for students 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.

Group	Clinical toxicology assignment	Plant toxicology assignment	Students
1	Anticoagulant rodenticides	A lactating cow with fever and bleeding from different orifices	Johnston, Mackenzie Fedele, Kaila Gridley, Katherine George, Tony
2	Ionophores in cattle	A horse with depression, anorexia and discoloured urine	Hubick, Shelby Rudolf, Erica Mordukhaev, Michelle
3	Bromethalin in dogs	A dairy cow with respiratory problems	Healey, Brianna Jafferally, Sahara Laird, Rachael
4	Crotalid envenomation in a horse	A cow at pasture with colic, hemorrhagic diarrhoea and anorexia	James, Emily Liu, Jenny Phillips, Ashley
5	Blister beetles in horses	A cow at pasture with respiratory and cardiovascular abnormalities	Comeau, Karine Simmons, Jasmine Maldonado-Ross, Johana
6	Oak intoxication in heifer calves	A boxer dog presented with general weakness, anorexia and clinical signs of CV collapse	Lochner, Celine McCarthy, Jonathan Pinney, Kyle
7	Phenylbutazone intoxication in horses	A lactating cow presents with arrhythmias and peripheral oedema	Abrahamson, Meghan Allender, Aaron McCartin, Jenna
8	Carprofen intoxication in dogs	Piglets presenting with muscular weakness, respiratory disstress and cardiac failure	Redmond, Erica Silberman, Claire Rogers, Alexandra
9	Raisin intoxication in a dog	A horse presents with laminitis	Whitney, Madison Guzman Sanchez, Marielis Murray, Brittany
10	Ethylene glycol intoxication in a llama	Cattle presenting with watery to mucoid diarrhoea and decreased rumen motility	Brandt, Lindsey Manning, Margaret Cruz, Peter
11	Arsenic intoxication in a cow	A pig presenting with anorexia, diarrhoea, colic and depression	Barry, Alexis Donegan, Patrick Riddick, Brittany
12	Isoxazoline intoxication in a dog	A horse preseting with severe colic signs	Hothi, Parveen Wilson, Mariah Heidel, Ilana

13	*Allium* spp. intoxication in a dog	A Labrador pup presents with swelling of lips, tongue and muzzle	Morales, Shelby Jno Baptiste, Jolyn Bryan, Rachel
14	Organophosphate intoxication in cattle	A bull presents with frothy salivation and an inflammed muzzle	Uvaydov, Rachel Shen-Kinny, Lance Allegretti, Delaina
15	Marijuna intoxication in a dog	A stabled horse presents with frothy salivation and depressed	Garcia Rodriguez, Miguel Angel Peak, Mallory Chang, Alex
16	Avermectins in MDR1 deficient dogs	On a sheep farm animals present depressed with excessive salivation and other GI-tract clinical signs	Scheppke, Brianna Patrick, Randa Aziz, Tania
17	Lilly intoxication in a cat	Free ranging sheep with colic	Momi, Azadveer Moise, Jacob Rhoden, Raheed
18	Box elder tree intoxication in a draft horse	Dog with periodic episodes of persistent vomiting	Vaught, Sydney Saravia, Diana Madara, Devon
19	Metronidazole intoxication in a cat	Sheep presenting with anorexia, lethargy and depression	Alexander, Taylor Yates-Lavery, Ida Julia Landron, Camila Gallagher, Dane
20	Duloxetine (Cymbalta®) intoxication in a cat	Phytotoxicity	Brewster, Ashlyn Nunnelley, Jacqueline Gussman, Emily Epes, Elizabeth
21	Amlodipine intoxication in a cat	A horse presenting with a saw-horse stance, staggering and trembling	Christen, Madeleine Via, Amanda Barrick, Aubree-Anna Desai, Sonali
22	Permethrin intoxication in a cat	An ataxic horse with difficulty chewing	White, Yvonne Krolczyk, Victoria Cunningham, Lauren Barsoum, Ireny
23	Xylitol intoxication in a dog	Cattle with neurological signs such as head pressing	Leinberger, Priscilla Knapp, Kayli Maglaris, Zoe
24	Ethanol toxicity in a dog	Phytotoxin causing clinical signs of the nervous system	Pierce,Lauren Maur, Glenna Macchiarelli, Sisina
25	Amphetamine intoxication in a dog	Gradual but progressive onset of muscle weakness in a cow	Abraham, Celin Duncan, Kayla Mabine, Joanna Collins, Karli
26	Copper intoxication in Boer goats	A horse with a fixed facial expression	Nicholes, Sheriden Ramsey, Thomas Bray, Brooke Ferguson, Alanna
27	Lead intoxication in sheep	Seizures and other neurological signs in a cow	Alexander, Peterlyn MacDonald, Jennifer Freibergs, Margaret Mezei, Reece
28	Pyridostigmine bromide intoxication in cats	Crooked calf disease	Wood, Jaymi Eaton, Chloe Gray, Rachel Manly, Courtney
29	Buffo toad intoxication in a dog	Gradual weight loss, weakness and anorexia in a cow	Brown, Natasha Daroch, Ivan Villafranca, Kassandra Collette, Zachary
30	Chocolate intoxication in a dog	Acute pneumonia in a group of cattle	Bowling, Jessica Mikos, Amy Cerrato, Vanessa
31	*Amanita phalloides* intoxication in a dog	Abrupt onset of weakness and flaccid paralysis in a cow	Kvernmo, Melissa Gemmell, George Mari, Francesca Smith, Zachary
32	Pyridostigmine intoxication in a cat	Erythema, blisters, pruritus and swelling in a group of cows	Jones, Ana-Simone Sullivan, Aubrey Jacobs, Brianna Kennedy, Courtney

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. Provide a general answer (kidney failure; cardiac arrhythmias), include all systems involved ordered in relevance and refrain from providing a lengthy discussion on the pathophysiology of this particular toxin.
2. Present **the common** clinical signs in order of importance/clinical relevance (report frequently observed signs first).
3. Shortly describe **the typical lab findings** in order of importance/relevance (report frequently observed lab findings first).
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 exposure to this toxin? Differentiate between high doses and low doses when applicable/relevant.
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 a maximum of 3 references for the information you have presented. References can only include peer reviewed articles, 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-7 Style (https://apastyle.apa.org/stylegrammar-guidelines/references/examples)
10. Provide a word count at the end of the document.
11. The ***total*** word count should be between 400 and 750 words. The title, authors and references are included in the total word count.
12. Required format: A4 page, style Arial 12pt with 1.2 lin

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.

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.

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 de nes the interests, reputation, and stature of the University community. Learning experiences at St. George's University are not only meant to develop strong aca- demic 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 t 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 stu-dents abide by the terms of the University Code of Conduct.

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 re- corded 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.

Policy Regarding Missing Examinations and/or Failure of Submission of Assignments
Students who fail to attend an examination (Examsoft: SAQs and final examin- ation; 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 ex- emption) is at the discretion of the University. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
    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

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Veterinary Epidemiology

Course
PTHB 511
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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 and SD1 dormitory.

Office Hours: On Zoom (optional): To be arranged with the Class Coordinators.

Course Location
Online location + Sis Hall (***Some in-person classes. Dates to be announced***)- Sakai tools being used: Announcements, Resources, Syllabus, Lessons, Forums, Tests and Quizzes, Panopto, Zoom, email.

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.

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/enRecommended texts: Epidemiology, 6 th Edition. Leon Gordis.

Accommodation

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

Other Requirements

Good internet capabilities and speed, headphones, Zoom.

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.

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.

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(R0) 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.

Causal Relationships

At the completion of this lecture the student will be able to:

- Apply the key causal criteria applied to epidemiological studies to determine the strength of the study design
- Determine the causal criteria used to evaluate the existence of a causal relationship between independent variables (exposures) and dependent variables (disease or outcome)

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 Appraise different sampling methods for achieving desired study results
- 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 (R0) to disease spread
- Discuss the relevance of the R0 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).

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

Course Schedule

This course is a 1 credit course that lasts 4 weeks: Jan 17, 2022- Feb 14, 2022. The course will be conducted mainly online this term with 2 assigned “in-person” lectures @11:30 am & scheduled as shown below. 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 Jan 10			Introductory Forum: Icebreaker
Week 1 Jan 17-21	4	Jan 17: RR ‘in-person”	Epidemiological concepts & Employment opportunities
			Disease Reporting
			Bias & Confounding
			Descriptive Studies
Week 2 Jan 24-28	4		Analytical Studies I-Case -control & Cohort studies
			Analytical Studies II -Clinical trials Qualitative Studies & Action research
		Quiz: In Sakai	
Week 3 Jan 31-Feb 4	4	Feb 4: RR :in-person”	Screening Tests
			Epidemiology of Infectious Diseases

Week 4 Feb 7-11	2		Herd Immunity
			Outbreak Investigation
Week 5 Feb 14		Epidemiology Final: Examsoft	

Grading and Assessment Policy
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% will be applied to that exam if students do not observe parameters listed in the Assessment Policy for Students.

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 Feb 2-Mon Feb 7	15
Epidemiology Final	Monday Feb 14	20
Total		35

Recommended Study Strategies
Importantly, students should apply good time management skills, particularly crucial in the online environment, to ensure they meet the course requirements.

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.

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.

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 mainly online this term, apart from 2 "in-person" lectures, as decided upon by the Scheduling Committee. 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.

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; (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 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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
    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

Copyright Policy
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Master Syllabus
School of Veterinary Medicine Master Syllabus

Veterinary Histology & Embryology

Course
ANPH 501
Semester
Spring
Year
2022
Catalog

School of Veterinary Medicine
Syllabus Section
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

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

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

Recommended Resources

- 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

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

Other Requirements
Prerequisite and/or co-requisite courses: DVM term 1 courses

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.

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.

Course Learning Outcomes
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.

Alignment of Course Learning Outcomes with Program Learning Outcomes

	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.

Course Schedule

Week / dates	Topic and material covered
1.	1. Course introduction, Cytology: cell membrane and nucleus 2. Cell organelles 3. Cytoskeleton, cell inclusions, Intercellular junctions & specialization of cell surfaces **Lab.1 Study of microscope, staining and artifacts**
2.	4. Epithelium 5. Glands 6. Connective tissue cells, fiber, and matrix 7. Connective tissue types, Cartilage 8. Bone, development, and repair 9. Muscular tissue **Lab. 2 Epithelium**
3.	10. Nervous tissue: neuron and synapses 11. Neuroglia & Peripheral nerve 12. Ganglia, Nerve endings & CNS 13. Cardiovascular system: heart and blood vessels **Lab. 3 Glands and Connective tissue**
4.	14. Capillaries and lymph 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, Air conducting area 20. Gas exchange area, Avian respiratory system 21. Introduction of embryology and gametogenesis **Lab. 5 Nervous system and blood vessels**
6	22. **Quiz-1 (Lecture 1-15)** 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	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 (Lecture 1-30 & Lab 1-7)**
9	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 36. Liver 37. Pancreas, Avian digestive system **Lab. 8 Digestive system I**
10	38. Urinary system, kidney 39.Ureter, urinary bladder, and testis 40. Epididymis, ductus deferens, accessory sex glands, and urethra 41. Female reproductive, ovary **Lab 9 Digestive system II**
11	42. Uterine tube, uterus, vagina, and avian urogenital system 43. Endocrine, hypophysis, and pineal gland 44. Thyroid, parathyroid, adrenal, and pancreas 45. Skin, hair, and glands 46. Mammary gland, hoof, and avian integument **Lab 10 Digestive system III**
12	47. Eye 48. Ear 49. Development of digestive tube 50. Development of liver, pancreas and abnormalities **Lab.11 Urinary and Male genital system**
13	51. **QUIZ-2 (Lecture 32-44)** 52. Development of respiratory system 53. Development of Urinary system 54. Development of Genital system 55. Development of Neural tube and spinal cords **Lab.12 Male and female genital system**
14	56. Development of brain & endocrine 57. Development of eye 58. Development of pharynx, tongue, and teeth **Lab.13 Endocrine and Integument**
15	59. Development of Ear & face, teratology 60. Final exam review **Lab. 14 Sense organs**
16	**FINAL EXAMINATION (Lecture 32-60 & Lab 8-14)**

Grading and Assessment Policy

- First Quiz (Lecture. no. 1 – 15) 21st February 2022: 25 points
- Midterm Examination (Lect.1-30 & Lab.1-7) 7th March 2022 : 80 points
- Second Quiz (Lecture. no. 32 – 44) 11th April 2022: 25 points
- Final Examination (Lect.32-60 & Lab.8-14) 3rd May 2022 : 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%

All questions in quizzes / exams are multiple choice on the ExamSoft.

A grade reduction of 5-10% will be applied to that exam if students do not observe the parameters during exams listed in the Assessment Policy for Students

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

Instructor's Expectations of the Student
The student is expected to read the required material before lecture / zoom session.

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

Attendance/Participation Policy
Students are expected to be available during the standard 8:30am-5:20pm 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.

Policy Regarding Missing Examinations and/or Failure of Submission of Assignments
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Scheduling of examinations (regular, re-sit, completion, comprehensive, or exemption) is at the discretion of the University. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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Prior to Exam Day

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    b. The Examsoft student perspective video 30mins
    c. The Examsoft/ExamID FAQ
    d. Examsoft information page
    e. The general Reminders/Guidelines

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Veterinary Immunology

Course
PTHB 512
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course Director:

Diana Stone, Professor: MPH, DVM, PhD, Diplomate ACVPM. dstone@sgu.edu. Tel#1 (473) 444 -ext.3805
Office: St. George Hall, Room 209 Available for Zoom or Office appointments

Dept Administrative Assistant:

Ms. Cindy Edwards. cedwards@sgu.edu

Course Location
Online location-Sakai resources being used: Panopto, Lessons Lecture Hall Assigned - David Brown Hall

Required Resources
Lessons on Sakai

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.

Accommodation

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

Other Requirements
None

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.

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.

1. 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.
2. Recognize and compare the innate and acquired immune mechanisms involved in mucosal immunity and immune responses to intra-cellular and extracellular pathogens.
3. 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.
4. Recognize and compare the immune mechanisms and clinical signs that characterize the four types of hypersensitivity reactions.

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 and phagocytic 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, and 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 T.h1 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. 12cD: Describe DTH and its role In CMI.

12cD: Describe the Bovine TB skin test and interpret positive and negative the results of this test.

13aA: Identify/describe the activation/clonal expansion of B lymphocytes. 13bA: Recognize/differentiate the Fab and Fc regions of antibody, polyclonal vs monoclonal antibody.

13cA: Recognize normal/abnormal protein electrophoresis results and interpret the basic significance of low/high globulin fractions.

14aA: Recognize the different antibody classes and their different functions. 14bA: Recognize antibody class switching and affinity maturation and its importance to an antibody response to antigen.

14cA: Given a description or scenario, identify the class of antibody involved.

15aC: Recognize/interpret the terminology and use of antibodies against antibodies in diagnostic tests.

15bC: Define the concepts of antibody titers, seroconversion, acute vs convalescent antibody titers, T-dependent/T-independent antibody responses, protective and sterile immunity.

15cC: 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.

16aC: Recognize the different types of classical vaccines, how they differ and the pros and cons of each.

16bC: Identify the type of immune response the different classical vaccines will generate.

16cC: Describe the methods used to attenuate organisms for MLV and to kill

“inactivated” vaccines

16dC: Describe the rationale behind some serial vaccination schedules used for young domestic animals.

16eC: Recognize the concept of core and noncore vaccines.

17fC: Describe the functions of adjuvants and what types of vaccines need them 17aC: Recognize the different types of "new generation" vaccines, how they differ and the pros and cons of each.

17bC: Identify the type of immune response the different "new generation" vaccines will generate.

17cC: Describe the potential adverse reactions to vaccines and when certain kinds of vaccines can and cannot be use.

18aC: Differentiate between colostrum and milk immunoglobulin composition and species differences

18bC: Describe the importance and the mechanism for maternal immunoglobulin absorption into the neonatal circulation and how maternal immunoglobulin protects the gut of the neonate.

18cC: Describe criteria for determining failure of passive transfer in foals and in calves and approaches to treatment.

19aA: 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/animistic antibody responses.

19bC: 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.

19cC: Describe titration, how titers are used in diagnostics and be able to interpret antibody titers.

20aC: Describe the immunologic concepts, advantages/limitation and procedures (samples and reagents needed) for Direct and Indirect Immunofluorescent (IF) assays and recognize examples.

20bC: 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.

20cC: 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.

21aC: Describe the immunologic concepts, advantages/limitations and procedures (samples and reagents needed) for Western Blot assays and recognize examples. 21bC: Describe the immunologic concepts, advantages/limitations and procedures (samples and reagents needed) for Immunohistochemistry assays and recognize examples.

21cC: 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.

22aC: 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.

22b: 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)

22cC: 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.

23aC: 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).

23bC: Describe the immunologic concepts, advantages/limitations and procedures (samples and reagents needed) for Complement Fixation tests and recognize examples

23cC: 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.

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24aC: Describe the concepts of sensitivity and specificity of a diagnostic test

24bC: Given appropriate data, be able to identify/calculate the sensitivity, specificity of the test or the expected TP/TN/FP/FN.

24cC: Given the sensitivity/specificity of specific diagnostic tests, identify which test is most useful to use in a given scenario.

25aD: Describe the events that occur with sensitization (priming) and second exposure to an allergen

25bD: Describe the mechanisms of Type I hypersensitivity and timing of clinical signs.

25cD: Describe the antibody classes and cellular infiltrates involved in Type I hypersensitivity.

26dD: Recognize the clinical signs commonly associated with Type 1 hypersensitivities

26aD: Describe the mechanisms of Type II hypersensitivity and timing of clinical signs.

26bD: Describe the antibody classes and cellular infiltrates involved in Type II hypersensitivity.

27aD: Describe the mechanisms of Type III and IV hypersensitivities and timing of clinical signs.

27bD: Describe the antibody classes and cellular infiltrates involved in Type III and IV hypersensitivity.

27cD: Describe the diagnostic tests used to diagnose the type of hypersensitivity present.

Course Schedule

Lecture #	**Date/Time**	**Topic**	**Professor**
1	19 Jan 8:30-9:20	Introduction to Immunology	Stone
2	20 Jan 8:30-9:20	Innate Immunity	“
3	21 Jan 11:30-12:20	Innate Immunity	“
4	25 Jan 8:30-9:20	The Complement System	“
5	27 Jan 8:30-9:20	Adaptive Immune Response/Antigen	“
6	2 Feb 9:30-10:20	Adaptive Immune Response/Antigen	“
7	3 Feb 8:30-9:20	Adaptive Immune Response/APC and Antigen Processing	“
8	9 Feb 8:30-9:20	MHC	“
9	15 Feb 8:30-9:20	Lymphoid organs; B and T lymphocytes	“
10	16 Feb 11:30-12:20	T-Helper Cells	“
11	17 Feb 8:30-9:20	Cell-mediated Immunity	“
12	18 Feb 11:30-12:20	Cell-mediated Immunity	“
13	21 Feb 11:30-12:20	B-lymphocytes Humoral Immunity	“
14	24 Feb 8:30-9:20	Primary/Secondary Antibody responses	“
15	24 Feb	Humoral Immune Responses cont.	“

	9:30-10:20		
16	28 Feb 11:30-12:20	Vaccines	“
17	3 March 8:30-9:20	Vaccines	“
Review Practice MCQs	4 March 10:30-11:20	Lectures 1-17	“
Review Practice MCQs	4 March 10:30-11:20	Lectures 17	“
MIDTERM	**7 March** **Noon** (90 min)	45 question Lectures 1-17	**ExamSoft**
18	21 March 11:30-12:20	Neonatal Immunity	Stone
19	24 March 11:30-12:20	Immunodiagnostices	“
20	25 March 10:30-11:20	“	“
21	29 March 11:30-12:20	“	“
22	31 March 8:30-9:20	“	“
23	6 April 11:30-12:20	“	“
24	7 April 9:30-10:20	Sensitivity/Specificity of Diagnostic Tests	“
25	7 April 10:30-11:20	Hypersensitivities	“
26	8 April 11:30-12:20	“	“
27	12 April 9:30-10:20	“	“
Review Practice MCQs	12 April 10:30-11:20	Lectures 18-27	“
FINAL EXAM	**29 APRIL NOON** 90 min	45 Questions Cumulative • 35questions on lectures post-midterm • 10 questions on material before the midterm	**ExamSoft**

Grading and Assessment Policy

- **Exams:** There will be two exams for the course, which will consist of multiple choice questions (MCQs) totaling 90 points:
  - **Midterm Exam:** 45 questions (45 points)
  - **Final Exam:** 45 questions (45 points)
  - Both exams will take place on Examsoft, MCQ, and students will have 90 minutes to complete each exam

    - **Students will have access to the exams the day of the exam.**
- 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 desktop. 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)

All other exam policies are followed according to the SGU Examination Policy and the Student handbook.

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**

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. Percents are carried out to TWO decimal points. **There is no provision in this course to obtain additional points.**

Recommended Study Strategies
Combine provided notes and lectures. All assessment will be derived from information in the Lecture PPTs and Long Notes. Recommend reading Long Notes prior to the lecture on that topic.

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.

Professionalism Statement

1. Professional behavior is expected at all times regardless of online format.

Attendance/Participation Policy
Students are expected to be available during the standard 8:30am-5:20pm 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.

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 "O" points for the examination.

Students who have technical issues during the examination MUST inform the Course Director (s) (dstone@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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
    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

Copyright Policy
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Master Syllabus
School of Veterinary Medicine Master Syllabus

Veterinary Parasitology

Course
PTHB 505
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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**
- **WhatsApp: 706-340-2748**
- **Office Location: 207 St. Georges Hall**
- **Office Hours: Can be made by appointment**

Co-Course Director: 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 - VP)

- **Email: dmfitz5432@yahoo.com**
- **Office Location: Remote**
- **Office Hours: Can be made by appointment**

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”).

Required Resources
Lecture power points and pdfs, lab handouts/worksheets and other required resources such as documents, videos and links will be posted on Sakai in “Resources” folders.

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.ncvetp.org (National Center for Veterinary Parasitology; Oklahoma State Univ)**
- **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)**
- **https://www.youtube.com/user/elsevetchannel (Parasites plain and simple videos)**
- **http://www.veterinaryparasitology.com (Monster Hunter's Guide to Vet Para – image database)**

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

Other Requirements
Computer or other electronic devices to review lectures, etc. Reliable internet service.

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 the most important parasites.

Course-Level Outcomes (CLOs)
Upon successful completion of this course, the student will be able to:

CLO1: Explain the clinical manifestation and epidemiology of parasitic disease in terms of the biology and life cycle of the parasite.

CLO2: Know how to diagnose the various types of parasites.

CLO3: Describe the major clinical signs of the most important parasite species.

CLO4: Explain the various ways in which animals become infected with parasites, and especially with those parasites of the greatest clinical importance

CLO5: Know which parasites present the greatest zoonotic concern and be able to discuss the public health implications of the major zoonotic parasites.

CLO6: Identify parasites of veterinary importance by their appearance at postmortem examination and in fecal or other appropriate diagnostic samples.

CLO7: Know the spectrum of activity of the major groups of drugs used for parasite treatment. CLO8: Discuss treatment and control strategies for the most important parasites of veterinary and zoonotic importance.

Clinical case discussions will be incorporated in the lectures and labs. Core material is mostly presented as illustrated lectures and correlating laboratory sessions. The course notes are a detailed reference to help your understanding, but testable material will come from the power points.

Lesson-Level Outcomes (LLOs):

The lesson learning outcomes **LLOs** are located at the beginning of each lecture ppt/pdf and in each laboratory handout.

Alignment of Course Learning Outcomes (CLOs) with 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 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 scientific knowledge
- PLO 7 Evaluate and analyze normal versus abnormal animal behavior.
- PLO 9: Apply the principles of veterinary public health for the promotion of human and animal health.
- PLO 20 Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
- PLO 21 Create comprehensive treatment plans.
- PLO 24 Analyze, design and execute appropriate plans for medical case management.
- PLO 26 Design and execute plans for health promotion, disease prevention, food safety, biosafety and biosecurity.

Course Learning Outcome	SGUSVM Program Learning Outcome
CLO1	PLO 3
CLO2	PLO 20
CLO3	PLO 4
CLO4	PLO 3, PLO 6, PLO 26
CLO5	PLO 9, PLO 26
CLO6	PLO 20
CLO7	PLO 5 PLO 21
CLO8	PLO 21, PLO 24, PLO 26

Course Schedule

Date	**Time**	**Lecture**	**Topic/Parasites Covered**	**Instructor**
MO 17 Jan	4:30	1	Introduction to Veterinary Parasitology	Kaplan
TU 18 Jan	4:30	2	Introduction to Helminths	Kaplan
WE 19 Jan	4:30	3	Endoparasiticides	Kaplan
MO 24 Jan	3:30	4	Cestodes I	Kaplan
TU 25 Jan	4:30	5	Cestodes II	Kaplan
WE 26 Jan	2:30	6	Trematodes I	Kaplan
TH 27 Jan	4:30	7	Trematodes II	Kaplan
FRI 28 Jan	**8:30 & 10:30**		**Lab #1 (Cestodes and Trematodes)** Lec 4-7 **Formative Quiz 1 (due by 11 PM Mon 1/31)**	Kaplan
MO 31 Jan	3:30	8	Small Animal Ascarids	Kaplan
TU 01 Feb	4:30	9	Large Animal Ascarids	Kaplan
WE 02 Feb	3:30	10	Hookworms	Kaplan

TH 03 Feb	3:30	11	Drug resistance in hookworms and Ascarid/Hookworm Cases	Kaplan
FRI 4 Feb	**8:30 & 10:30**		**Lab #2 (Ascarids and Hookworms) Lec 8-11**	
TU 08 Feb	3:30	12	Spirurids and Rhabditids	Kaplan
TH 10 Feb	1:30	13	**Quiz 1 (through Lecture 11 and Lab 2)**	
FRI 11 Feb	**8:30 & 10:30**		**Lab #3 (Small Animal Fecal Lab)**	Kaplan
MO 14 Feb	4:30	14	Trichurids	Kaplan
TU 15 Feb	3:30	15	Metastrongyles	Kaplan
WE 16 Feb	3:30	16	Heartworm I: biology and epidemiology	Kaplan
TH 17 Feb	3:30	17	Heartworm II: diagnosis	Kaplan
FRI 18 Feb	**8:30 & 10:30**		**Lab #4** (Spirurids, Rhabditids, Trichurids, Metastrongyles) Lec 12-15 **Formative Quiz 2 (due by 11 PM Mon 2/21**	Kaplan
MO 21 Geb	4:30	18	Heartworm III: treatment and LA filarids	Kaplan
TU 22 Feb	3:30	19	Equine Strongyles	Kaplan
WE 23 Feb	3:30	20	Equine Parasite Control	Kaplan
TH 24 Feb	3:30	21	Ruminant Trichostrongyles – abomasum	Kaplan
FRI 25 Feb	**8:30 & 10:30**		**Lab # 5 (Heartworm and LA filarids)** Lec 16-18 **Formative Quiz 3 (due by 11 PM Mon 2/28)**	
MO 28 Feb	3:30	22	Ruminant Trichostrongyles - intestine	Kaplan
TU 01 Feb	3:30	23	Ruminant Parasite Control	Kaplan
TH 03 Feb	2:30	24	Case Discussion - Equine	Kaplan
FR 04 Mar	2:30	25	Case Discussion – Ruminants	Kaplan
FRI 04 Mar	**8:30 & 10:30**		**Lab # 6 (Equine Strongyles and Ruminant** **Trichostrongyles)** Lec 18-23	Kaplan
FRI 011 Mar	**12:00-1:30**		**PARASITOLOGY MID-TERM EXAMINATION – 50 questions (Material through lecture 25 and Lab 6)**	
TH 17 Feb	2:30	26	Introduction to Protozoa, Trichomonads	Springer
FR 18 Mar	2:30	27	Amoeba, Ciliates	Springer
FRI 18 Mar	**8:30 & 10:30**		**Lab # 7 (*Equine and Ruminant Fecal Egg Counts*)** **(SWITCH LAB TIMES!)**	
MO 21 Mar	1:30	28	Histomonas, Giardia	Springer
TU 22 Mar	2:30	29	Trypanosoma and Leishmania	Springer
WE 23 Mar	3:30	30	Eimeria and Cystoisospora	Springer
TH 24 Mar	2:30	31	Cryptosporidia, Babesia, Cytauxzoon	Springer

FRI 25 Mar	**8:30 & 10:30**		**Lab # 8 (Protozoa I)** Lec 26-29	Springer
MO 28 Mar	2:30	32	Sarcocystis, Neospora	Springer
TU 29 Mar	2:30	33	Toxoplasma	Springer
TH 31 Mar	1:30	34	Protozoa Q&A	Springer
FRI APR 01	**8:30 & 10:30**		**Lab # 9 (Protozoa II)** Lec 30-33 **Formative Quiz 4 (due by 11 PM Mon 4/4)**	Springer
MO 4 Apr	2:30	35	Non-biting Flies	Fitzpatrick
TU 5 Apr	1:30	36	Biting Flies	Fitzpatrick
TH 7 Apr	1:30	37	Myiasis	Fitzpatrick
FR 8 Apr	2:30	38	Fleas, Reduvids	Fitzpatrick
FRI 8 Apr	**8:30 & 10:30**		**Lab # 10 (Flies, mosquitoes)** Lec 35-37	Fitzpatrick
MO 11 Apr	1:30	39	**Quiz 2 (Lec 26-33 and labs 8-9)**	Fitzpatrick
TU 12 Apr	2:30	40	Lice	Fitzpatrick
TH 14 Apr	2:30	41	Ectoparasiticides	Kaplan
TU 19 Apr	1:30	42	Flea Control	Kaplan
WE 20 Apr	2:30	43	Mites I	Fitzpatrick
TH 21 Apr	2:30	44	Mites II	Fitzpatrick
FR 22 Apr	2:30	45	Ticks I	Fitzpatrick
FRI 22 Apr	**8:30 & 10:30**		**Lab # 11 (Myiasis, Fleas, Lice)** Lec 37-40 **Formative Quiz 5 (due by 11 PM Mon 4/26)**	Fitzpatrick
TU 26 Apr	1:30	46	Ticks II	Fitzpatrick
TH 28 Apr	2:30	47	Ectoparasite Cases	Fitzpatrick
FR 29 Apr	2:30	48	Ectoparasite Q&A	Fitzpatrick
FRI 29 Apr	**8:30 & 10:30**		**Lab #12 (Mites and Ticks)**	Fitzpatrick
FRI 13 May	**12:00-1:30**		**FINAL EXAM** **(50 Questions; lectures 26-47)**	

Grading and Assessment Policy

There will be two 90 minute exams, and two 30 minute quizzes. The midterm and final exams 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 (ExamSoft) in which some of the questions may require visualization of an image to answer. **Total quiz/exam points = 140**. In addition there will be three formative quizzes posted to Sakai and written case summaries, which will be submitted. These will yield another 20 points for **a total of 160 points for the course.**

The midterm and final exams will be cumulative, but only for each half of the course. In total there will be approximately 2.5 questions on average per Lecture/lab period (2-3 questions per session). Based on this, the breakdown of material on Quizzes and Exams are as follows:

- **Quiz 1:** All material through and including Lecture 11 and Lab 2

- **Midterm:** All material through and including Lecture 25 and Lab 6 (end of helminths). Approximately 25% of questions will come from the material covered on Quiz 1 section and approximately 75% from the material covered since Quiz 1.
- **Quiz 2:** Material from Lectures 26-33 and labs 8-9 (all of Protozoa section)
- **Final Exam:** All material since the midterm (all of protozoa and ectoparasites) with approximately 20% of questions coming from the Protozoa section (Lec 26-33 and Labs 8-9) and 80% from the Ectoparasite section (Lec 35-47 and labs 10-12).

In addition, students will hand in case reports that will be composed of notes from the case discussions during the labs. These will not be graded for accuracy, but rather will be checked to determine if thought was put into the exercise. If deemed acceptable **1 point will be earned up to a total of 10 points.** There will be more than 10 labs with case discussions. Case reports will be due within 3 days of the case lab session (by Monday at 12PM), will be submitted on Sakai and will consist of the following:

- names of the students in the group o it is preferred that the groups stay the same throughout the course, but changes can be made to accommodate as needed.
- notes of the group work in addressing the case before the broader class-level discussion
- after the class-level discussion additional notes should be added to address the following:
    - What were the two most significant things that you learned during the class-level discussion?

Five formative open book quizzes will be posted to Sakai for completion. Students will earn 2 points if a grade of 70% or higher is achieved. These can be retaken until a 70% is achieved. **This will yield an opportunity for 10 points.**

Students are expected to read the laboratory handout prior to the lab and answer the questions posed in the handout. All students will be required to observe the laboratory demonstrations and/ or participate in the wet lab exercises and case discussions. **All material covered in lab is testable**. A lab coat and closed toed shoes are to be worn in the laboratory.

Information regarding ExamSoft assessments:

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

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.
3. Making an effort to understand the material, rather than just memorizing a bunch of facts will greatly assist in performing well on the exams. Using laboratory time to reinforce your understanding of the material will pay great dividends on the exams.

Instructor's Expectations of the Student
The lab handouts, course notes, orientation schedule and power points will be posted in designated folders in "Resources" on Sakai. Reading the laboratory handouts 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.

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.**

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.**

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@sgu.edu; ccoomansingh@sgu.edu; dfitzpatrick@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 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.

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 computerbased 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

Master Syllabus
School of Veterinary Medicine Master Syllabus

Veterinary Pharmacology 1

Course
ANPH 504
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course Director and lecturer:

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

Staff:

Mrs. Cherry-Ann Lumpriss Executive Secretary,
Email ID.: clumpriss@sgu.edu

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.

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 students, laptop with funtional microphone and camera are required.

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. The eBook could be accessed using the following links:
   https://auth.elsevier.com/ShibAuth/institutionLogin?entityID=http://stsr4l.who.int/ adfs/services/ trust&appReturnURL=https://www.sciencedirect.com/book/9780702 028588/small-animal-clinical-pharmacology
   (for off campus access, login using- Username: GRA002 Password: 77083)
   https://tinyurl.com/46bv3xy7
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.

Accommodation

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

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

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.

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).

Lesson Learning Outcomes

Lecture topic	**Lecture Level Outcomes (Student Learning Outcomes)**
Introduction to Pharmacology	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	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	1. Explain active and passive transport processes across membranes 2. Integrate the pathophysiological factor's role in modulating drug absorption 3. Compare and contrast absolute and relative bioavailability 4. Determine the clinical relevance of absorption
Pharmacokinetics - Distribution	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	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	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	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	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	1. Explain the physiological roles of the sympathetic and parasympathetic nervous system 2. Correlate the physiology of ANS to the pharmacological intervention.
Adrenergic drugs	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.
	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	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	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	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	1. Explain the importance of muscle relaxants use in Veterinary medicine.
	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	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	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	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	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	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	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	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	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	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	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	1. Distinguish the different components of a prescription. 2. Create a prescription based on the details provided.

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Learning Outcome	**SGUSVM Program Learning Outcome**
CLO1 Analyze and explain in a general sense how and where drugs work (pharmacodynamics).	A1, A5, C2, C9
CLO2 Articulate and apply knowledge of pharmacokinetics and judge how altered physiologic and pathologic state affects drug concentrations within the body.	A1, A2, A3, A4, A5, A6, C2, C5, C9

CLO3 Design the most appropriate pharmacological protocol (therapies) for common and important diseases, including preventative measures and anesthesia.	A5, A6, A11, C2, C3, C4, C6
CLO4 Outline the desired response to pharmacological therapies and reflect on methods to monitor for undesired pharmacological responses (including lack of efficacy).	A5, A6, A7, C2, C7
CLO5 Predict and recognize major drug-drug interactions and compare common/predictable or catastrophic species- specific adverse drug reactions.	A1, A5, A6, C1, C2, C7
CLO6 Obtain, maintain inventory, prescribe, administer, and dispose veterinary medicinal products based on sound regulatory and ethical guidelines.	A5, B7
CLO7 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).	A5, A11, B7, C7, C9

1. **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.

2. **Core Professional Attributes**

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

3. **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.

Course Schedule

Week	Lecture	Time	Day	Date	Topic
1	1	11.30 a.m.	Thursday	20-Jan	Introduction to Pharmacology
	2	9.30 a.m.	Friday	21-Jan	Pharmacokinetics - Routes of administration
2	3	8.30 a.m.	Wednesday	26-Jan	PK - Absorption
	4	11.30 a.m.	Thursday	27-Jan	PK - Distribution
3	5	10.30 a.m.	Monday	31-Jan	PK - Metabolism
	6	10.30 a.m.	Tuesday	1-Feb	PK - Excretion/Elimination
	7	8.30 a.m.	Wednesday	2-Feb	Quantitative kinetics
	8	9.30 a.m.	Thursday	3-Feb	Pharmacodynamics
	9	9.30 a.m.	Friday	4-Feb	Pharmacodynamics
4	10	8.30 a.m.	Thursday	10-Feb	Pharmacodynamics
	11	9.30 a.m.	Friday	11-Feb	Autonomic nervous system
5	**12**	**11.30 a.m.**	**Monday**	**14-Feb**	**Quiz I**
	13	11.30 a.m.	Tuesday	15-Feb	Adrenergic nervous system
	14	9.30 a.m.	Wednesday	16-Feb	Adrenergic nervous system
	15	9.30 a.m.	Thursday	17-Feb	Adrenergic nervous system
	16	10.30 a.m.	Friday	18-Feb	Adrenergic nervous system
6	17	11.30 a.m.	Tuesday	22-Feb	Cholinergic nervous system
	18	8.30 a.m.	Wednesday	23-Feb	Cholinergic nervous system
	19	9.30 a.m.	Wednesday	23-Feb	Cholinergic nervous system
	20	10.30 a.m.	Thursday	24-Feb	Pharmacophysiology of CNS: intro anaesthesia and analgesia
	21	11.30 a.m.	Thursday	24-Feb	Muscle Relaxants
7	22	8.30 a.m.	Monday	28-Feb	Sedatives and Tranquilizers
	23	11.30 a.m.	Tuesday	1-Mar	Sedatives and Tranquilizers
	24	8.30 a.m.	Wednesday	2-Mar	Review
8		**12.00 p.m.**	**Friday**	**11-Mar**	**Mid-Term Exam**
9	25	9.30 a.m.	Thursday	17-Mar	Control of pain
	26	10.30 a.m.	Thursday	17-Mar	Control of pain
	27	9.30 a.m.	Friday	18-Mar	Injectable anaesthetics
10	28	10.30 a.m.	Monday	21-Mar	Injectable anaesthetics
	29	8.30 a.m.	Wednesday	23-Mar	Inhalant anaesthetics
	30	8.30 a.m.	Thursday	24-Mar	Local anaesthetics
	31	9.30 a.m.	Friday	25-Mar	Local anaesthetics
11	32	10.30 a.m.	Tuesday	29-Mar	Anticonvulsants
	33	9.30 a.m.	Thursday	31-Mar	Anticonvulsants
12	34	8.30 a.m.	Monday	4-Apr	Histamine, serotonin & their antagonists
	35	11.30 a.m.	Tuesday	5-Apr	Histamine, serotonin & their antagonists
	36	8.30 a.m.	Wednesday	6-Apr	Hemostatics/anticoagulants
	37	8.30 a.m.	Friday	8-Apr	Hemostatics/anticoagulants
			Exam soft assessment	**4^{th} – 6^{th} Apr.**	
13	38	8.30 a.m.	Monday	11-Apr	Anabolic steroids
	39	11.30 a.m.	Tuesday	12-Apr	NSAIDs
14	40	11.30 a.m.	Tuesday	19-Apr	NSAIDs
	41	11.30 a.m.	Thursday	21-Apr	Corticosteroids

	42	8.30 a.m.	Friday	22-Apr	Corticosteroids
	43	9.30 a.m.	Friday	22-Apr	Drugs modifying animal behaviour
15	44	9.30 a.m.	Monday	25-Apr	Prescription writing
	45	8.30 a.m.	Wednesday	27-Apr	REVIEW
16		**12.00 p.m.**	**Tuesday**	**3-May**	**Final Exam**

Grading and Assessment Policy

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	14th Feb., 11.30 a.m.	Basic Pharmacology lectures (1-10)	12
Midterm Exam	11th Mar., 12.00 p.m.	Midterm exam (1-24 lectures)	33
Examsoft assessment	4th Apr- 6th Apr.	Lectures (25-33)	8
FINAL	3rd May, 12.00 p.m.	Cumulative exam	42
Forum participation			5
		Total	**100%**

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

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% will be applied to that exam if students do not observe the parameters listed in the Assessment Policy for Students.

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%

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. Office hours can be fixed by appointment through email.

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 platform, zoom office hours could be provided for clarification of subject queries.

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

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.

Attendance/Participation Policy
Students are expected to be available during the standard 8.30 a.m. -5.20 p.m. 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.

Forum participation is accounted for 5% of the course grade.

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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
    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

Copyright Policy
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Veterinary Physical Diagnosis II

Course
LAMS 501
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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, BVSc
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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Firdous Khan BVSC, MVSC, DVSC, DACT fkhan8@sgu.edu

Inga Karasek, DVM ikarasek1@sgu.edu

Bowen Louison, DVM blouison@sgu.edu

Course Location
LARF, SIM Lab, lecture locations vary - see schedule for details. LAMS 501 course website on MyCourses SAKAI

Required Resources
Study material posted on MyCourses (Lessons, Panopto and Zoom recordings, assignments, test, quizzes, forums, journal articles, lecture slides and labresources)

For students online; Laptop with functional microphone and camera, and good internet access/

Recommended Resources
Supplemental reading will be posted on SAKAI and students are recommended to read these thoroughly, especially before attending lab sessions.

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.

Accommodation

1. Students who need accommodations should contact Student Accessibility and Accommodations Services (SAAS), located in the Welcome Center inside the Internation Students Office.
2. Information can be found at mycampus.sgu.edu/group/saas
3. Please contact the course director PRIOR attending the clinical labs if you have a disability which mayneed accommodation for during the labs held at either the LARF or SIMlab.

Other Requirements
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 and no polish whatsoever. We will be monitoring this before every lab session, failure to adhere to the dress code will result in you being unable to participatein 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 or student ID
- A functional watch (if using a SMART watch, please ensure that it is set on an analog setting and on for the duration of the lab)
- 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 or student ID
- A functional watch (if using a SMART watch, please ensure that it is set on an analog setting and on for the duration of the lab)
- Each student must have their own stethoscope
- It is also strongly recommended to bring a writing utensil.
- You can also bring a water bottle but ensure to be biosafe & do not forget it when you leave.

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.

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 up a simulated case.

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

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

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

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

Lesson Learning Outcomes

Title	Learning outcomes
LECTURES	
Introduction Lecture: **Syllabus and Lab-level outcomes review**	**1.** Describe in detail the various lab modules and the expectations of th students for the term.
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 improvefuture performance
Paper Case Introductory Lecture	**13.** Describe in detail how the clinical case work-up will be conducted
LABS	
1. Bovine and Equine Simulation Lab	**14.** Describe how to halter a horse & cow and illustrate basic knot tying skills (online) Perform haltering and basic knot tying using the bovine and equine SIM model (in-person)
	15. Describe/Demonstrate how to perform a California Mastitis Test
	16. Describe/Demonstrate how to perform venipuncture in cows
	17. Describe/Demonstrate how to measure weight in the bovine SIM model and measure height and weight in the equine SIM model
2. Bovine and Equine Physical Exam Lab	**18.** Describe/Perform an advanced and complete physical examination on equine and bovine patients
	19. Determine an animal's age by examining dentition of both cows and horses
	20. Identify and differentiate between normal and abnormal findings on physical exam
3. Equine Musculoskeletal Lab	**21.** Describe/Perform and interpret a musculoskeletal exam on a horse
	22. Describe/Demonstrate how to safely pick up a front and hind foot and identify relevant hoof structures
	23. Understand the basics of lameness exam including grades and the procedures involved
	24. Appropriately describe/demonstrate how to apply a standard lower limb bandage on a horse
	25. Understand the indications for and describe how to perform a hoof tester exam on a horse

4. Bovine Gastrointestinal Lab	**26.** Describe/Demonstrate how to perform a gastrointestinal specific physicalexam on a bovine patient
	27. Be able to accurately describe/demonstrate how to auscultate the bovineabdomen and make a disease diagnosis based upon abdominal contour and/or ping location
	28. Be able to describe/demonstrate how to perform orogastric intubation andrumen 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
5. Equine Gastrointestinal (Simulation) Lab	**31.** Describe/Demonstrate how to perform a gastrointestinal focused physical exam on an equine patient
	32. Understand the concept of "colic" and be able to describe/demonstrate the clinical signs, diagnostics andbasic treatment involved incases 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

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Level Outcome	**SVM Program Level Outcomes**
Lab 1. Discuss and demonstrate an advanced and complete physical exam on equine and bovine patients	**A. Core Medical Knowledge** 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. **B. Core Professional Attributes** 1. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities. **C. Core Clinical Competencies (Skills)** 1. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
Labs 3,4 & 5. Identify and differentiate between normal and abnormal findings on physical examinations, especially processes related to gastrointestinal and musculoskeletal exams	**A. Core Medical knowledge** 1. Analyze homeostasis and disturbances of basic structuresand functions of healthy animals. 2. Explain the relationship between disease processes and clinical signs. 3. Evaluate and analyze normal versus abnormal animal behavior. **B. Core Professional Attributes** 1. Demonstrate, evaluate, and model effective communication with clients, the general public, professional colleagues and responsible authorities **C. Core Clinical Competencies (Skills)** 1. Execute a comprehensive patient diagnostic plan and demonstrate problem solving skills to arrive at a diagnosis.
Lab 1. Determine an animal's age by examining dentition	**A. Core Medical Knowledge** 1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals.

All Labs. Safely demonstrate handling oflarge animals	**A. Core Medical Knowledge** 1. Recall, understand, and adequately utilize multidisciplinary knowledge of basic structures and functions of healthy animals. **B. Core Professional Attributes** 1. Demonstrate, evaluate, and model effective communication with clients, the general public, professionalcolleagues and responsible authorities.
Lecture & Lab 2. Accurately perform medical math calculations	**C. Core Clinical Competencies (Skills)** 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.

Course Schedule

	Date & Time	**Lecture / Lab Group**	**Location**	**Topic**	**Faculty**
WEEK 1	**January 20th Thursday 4:30-5:20**	ALL STUDENTS	Ray and Jan Sis Hall 2	**Course Introduction**	Dr Winchester and Dr Haynes
	January 21st **Friday 4:30-5:20**	ALL STUDENTS	Ray and Jan Sis Hall 2	**MEDICAL MATH**	Dr Karasek
WEEK 2	**January 24th Monday 10:30-11:20**	Group 1a	SIM LAB	**Bovine & Equine SIM**	LAMS Faculty
	Monday 11:30-12:20	Group 1b			
	January 25th Tuesday 10:30-11:20	Group 2a	SIM LAB	**Bovine & Equine SIM**	LAMS Faculty
	Tuesday 11:30-12:20	Group 2b			

WEEK 3	**February 1st Tuesday 10:30-11:20**			Group 3a	SIM LAB	**Bovine & Equine SIM**	LAMS Faculty
	Tuesday 11:30-12:20			Group 3b			
	February 3rd Thursday 10:30-12:20			ALL STUDENTS		**SELF-DIRECTED STUDY: Bovine & Equine Physical Examination**	
WEEK 4	**February 8th Tuesday 10:30-12:20**			Group 1	LARF	**Bovine and Equine Physical Examination**	LAMS Faculty
	Tuesday 10:30-12:20			Group 3	Zoom	**CLINICAL REASONING**	Dr. Werners
WEEK 5	**February 15th Tuesday 10:30-12:20**			Group 2	LARF	**Bovine and Equine Physical Examination**	LAMS Faculty
	Tuesday 10:30-12:20			Group 1	Zoom	**CLINICAL REASONING**	Dr. Werners
	February 17th Thursday 10:30-12:20			Group 3	LARF	**Bovine and Equine Physical Examination**	LAMS Faculty
	Thursday 10:30-12:20			Group 2	Zoom	**CLINICAL REASONING**	Dr. Werners
WEEK 6	**February 21st Monday 10:30-12:20**			ALL STUDENTS		**SELF-DIRECTED STUDY: Equine Musculoskeletal, Safety & Handling**	
		February 22nd			LARF	**Equine**	LAMS Faculty
	Tuesday 10:30-11:20	Group 1a		**Musculoskeletal, Safety & Handling**			
	Tuesday 11:30-12:20	Group 1b					
	February 24th Thursday 10:30-11:20	Group 2a	LARF	**Equine Musculoskeletal, Safety & Handling**	LAMS Faculty		
	Thursday 11:20-12:20	Group 2b					
	February 25th Friday 4:30-5:20	ALL STUDENTS	Zoom	**APPLIED MEDICAL MATH**	Dr Karasek / Winchester / Haynes		
WEEK 7	**February 28th Monday 10:30-11:20**	Group 3a	LARF	**Equine Musculoskeletal, Safety & Handling**	LAMS Faculty		

	Monday 11:30- **12:20**	Group 3b			
	March 1st **Tuesday 10:30-** **12:20**	ALL STUDENTS		**SELF-DIRECTED STUDY:** **Bovine & Equine GI**	
WEEK 8		**MIDTERMS WEEK**			
WEEK 9	**March 15th Tuesday 9:30-** **10:20**	ALL STUDENTS	KB Taylor Hall Blue (West)	**Paper Case Introduction**	Dr Winchester and Dr Haynes
	March 17th Thursday 10:30- **12:20**	ALL STUDENTS	Zoom	**PAPER CASE 1st MEETINGS** **(w/ faculty facilitator)**	LAMS Faculty
WEEK 10	**March 21st** **Monday 10:30-** **12:20**	Group 3	LARF	**Bovine GI**	LAMS Faculty
	March 22nd **Tuesday 10:30-** **12:20**	Group 2	LARF	**Bovine GI**	LAMS Faculty
	March 24th Thursday 4.30- **5.20**	ALL STUDENTS		**SELF-DIRECTED STUDY:** **Bovine & Equine GI**	
WEEK 11	**March 29th Tuesday 10.30-** **12.20**	Group 1	LARF	**Bovine GI**	LAMS Faculty
WEEK 12	**April 4th Monday 10:30-** **12:20**	Group 3	SIM LAB	**Equine GI SIM**	LAMS Faculty
	April 5th Tuesday 10:30- **12:20**	Group 2	SIM LAB	**Equine GI SIM**	LAMS Faculty
WEEK 13	**April 11th Monday 10:30-** **12:20**	ALL STUDENTS		**OSCE PREPARATION** **Clinical Skills Revision**	
	April 12th Tuesday 10:30- **12:20**	Group 1	SIM LAB	**Equine GI SIM**	LAMS Faculty
	April 13th Wednesday 10:30 **-12:20**	ALL STUDENTS	Zoom	**PAPER CASES 2nd** **MEETINGS (w/ faculty** **facilitator) – To be Submitted by April 23rd**	LAMS Faculty
WEEK 15	**April 28th Thursday 9:00 – 11:00am**		LARF	**OSCE PRACTICE SESSION** **(Voluntary)**	

	(tentative)				
WEEK 16	**May 4th Wednesday 8.30am** **Wednesday 12:00pm**	**ALL STUDENTS**	**LARF EXAMSOFT**	**FINAL EXAM OSCE (in-person students) WRITTEN EXAM OSCE (online students)**	

Grading and Assessment Policy

The grading for this course will be based on the submission of a medical math assignment, pre-lab quizzes, a paper case-based group assignment and the final exam, OSCE for students in person and written exam on ExamSoft for online students. Note that professionalism is included in each module. See breakdown of the grade allocation for each assessment.

>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

LAMS 501 ASSESSMENTS	**Grade**	**Professionalism**	**Percentages**
MEDICAL MATH			
Medical Math Assignment	5		**6**
Professionalism		1	
CLINICAL SKILLS LAB & QUIZ			
Bovine and Equine Simulation Module	7		**8**
Professionalism		1	
Equine Musculoskeletal Module	7		**8**
Professionalism		1	
Physical Examination Module (Bovine & Equine)	14		**15**
Professionalism		1	
Bovine GI Module	7		**8**
Professionalism		1	
Equine GI Module	7		**8**
Professionalism		1	
PAPER CASE MODULE			
Paper Case & Discharge	10		**12**
Professionalism		2	
FINAL OCSE	35		**35**
TOTAL	92	8	**100**

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. Make sure to submit on or before the due dates as stated on SAKAI or else you will receive a "0". If you are having any difficulties, please contact the course directors PRIOR to the due date.

Pre-Lab Quizzes: There will be five (5) Sakai quizzes throughout the semester. Students will have assignments will be accepted when prior communication is absent.

Students learning in-person must review the learning resources and complete the pre-lab quiz on Sakai prior to attending each lab.

Online students must review the learning resources and complete the pre-lab quiz on Sakai with their respective group prior to participating in the LIVE Zoom sessions.

The quizzes will be a direct reflection of the information/skills provided on Sakai that is expectedto be learned at the end of the module. The questions will consist of multiple choice and short answer questions.

These quizzes are to ensure students review the resources for each lab before their lab date. We encourage students to use the Self-directed student time in the class schedule to review the materials on Sakai before each Module. This allows the students to be engaged and prepared during that lab session. The student will also be assessed on professionalism, be guided by your professionalism rubric.

Preparatory materials for each lab are posted on Sakai. It is **HIGHLY recommended** that you read the relevant materials before each lab.

If you are having any difficulties, please contact the course directors PRIOR to the due dates of each pre-lab quiz. Missing quizzes without a valid excuse will not be accepted without prior communication.

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

Online Students

Must complete and submit the pre-lab quiz before their respective lab group which they have been assigned. There will be one zoom lab session per module. All zoom lab sessions will be held with the last group for each module. Therefore, pre-midterm, zoom sessions will be held with group 3 and post-midterm, will be held with group 1. During the scheduled zoom lab times, all online students must login to the live Zoom session for the duration of the lab. If you do not attend, or partially attend, you will be graded accordingly (refer to professionalism rubric below). 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.

If you are having any difficulties, please contact the course directors PRIOR to the due date, and if you are experiencing connection issues with the zoom, please email course directors as soon as the issue occurs.

"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 create 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 determine 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 in ASSIGNMENTS and graded by their facilitator. Please use the discharge template (posted on Sakai) as a guide for the information/format required to complete this assignment.

The Paper-case 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 **March 15th** . All these sessions **REQUIRE** mandatory attendance.

FINAL EXAM: The importance of clinical skills in the course LAMS 501 must be emphasized and recognized. There will be a comprehensive OSCE format final exam, worth 35% of the final grade, to be held **on May 4th,** 2022 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 taught during the term.

The Final OSCE assessment is MANDATORY. Students who complete the lab sessions in-person MUST also complete the final OSCE, in-person. If you are learning in person, you are obligated to take the OSCE in-person. Any student who completes the lab sessions in-person and does not complete the final OCSE in-person will receive a score of "0" for the Final OSCE Assessment. If you do not take the Final OSCE examination, you will receive 0 points for your final assessment grade.

Details regarding the format will be announced later in the term. Dates for practice sessions on the LARF were scheduled tentatively in your course schedule.

Online Students

Students who are learning online will be required to take the Written Final Exam on ExamSoft on **May 4th, 2022, 12:00 noon.** Online students who complete the lab sessions via zoom are obligated to take this written OCSE exam. Kindly note that there will be accommodations to provide an online "OSCE" experience for your written assessment. The questions will be as practical as possible (including pictures) in the format of MCQ's, Hotspots and FITB. A grade reduction of 5% will be applied to that exam if students do not observe the parameters listed in the Assessment Policy for Students.***Each student will be responsible for using lab time to complete the required objectives. Students will be asked to demonstrate knowledge and clinical proficiency skills learned from each lab during the final exam OSCE. As in the case for online students, apply knowledge to answer questions.***

Excuses

Students will only be accepted to be excused from the examination 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 questions using Exam Soft.

Remediation

Failure to remediate any OSCE (in person or written) before the end of the term will result in failure of the course (F Grade). Students who receive a grade of 70% or less on their final OSCE exam will be required to request remediation. The remediation will not change the student's grade, however, students will be required to demonstrate (in-person) or describe (online) clinical proficiency skills taught during the term prior to progressing 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.

PROFESSIONALISM GRADING RUBRIC

Professional behavior is defined as, but not limited to punctuality, appropriate dress, adhering to appropriate safety standards around large animals, respectful attitude, open minded, positive, caring approach when interacting with professors/staff/fellow students and being fully engaged during laboratory sessions. During Zoom sessions, join meeting on time and remain for the duration of the session. Keep cameras on. Participate during meetings and maintain respectful communication either verbal or non-verbal.

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 a course director within 2 hours of the session if more than 10 minutes late	Student is less than 10 minutes late and communicates with a course director on the same day as the session	Student is more than 10 minutes late and communicates with a 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 a course director
Attendance	Student attends or views all mandatory sessions for the entire duration of the session and/or communicates with a 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 a course director on the same day as the session.	Student misses/does not view 1 or more	Student misses/does not view 1 or more
Engagement – labs/quizzes/ Assignments	Student completes assignments on time and/or communicates with a course director **PRIOR** to deadline with any technical/medical/ personal issues. Student demonstrates adequate knowledge base for this stage of their career	Student submitted assignment after the deadline and/or not submitted and student communicated with a course director the **same day** of assignment deadline with any technical/medical/ personal issues. Student demonstrates adequate knowledge base for this stage of their career	Assignment was not submitted and student communicated with a course director **more than 24 hours** after assignment deadline with any technical/medical/p ersonal issues. Student demonstrates limited knowledge base.	Student does not turn in assignments on time and did not communicate with a course director at any time. Student does not demonstrate sufficient knowledge base for this stage of their career
Engagement – Participation	Student actively participates in sessions by asking and/or answering questions, confidently completing assigned tasks and	Student participates in sessions by asking and/or answering questions, completing assigned tasks and demonstrates an adequate level of pre-session preparation.	Student minimally participates in sessions asking/answering few/if any questions, completing assigned tasks, and demonstrates an adequate level of pre-session preparation.	Student does not participate in sessions; does not ask and/or answer questions, complete assigned tasks and/or demonstrate any level of pre-session preparation.

	demonstrates a high level of pre- session preparation. Student demonstrates	Student demonstrates adequate	Student demonstrates	Student does not demonstrate sufficient knowledge base for
	adequate knowledge base for this stage of their career	knowledge base for this stage of their career	limited knowledge base.	this stage of their career
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.
Appearance and Preparation	Student is always dressed in an appropriate manner for their session and comes prepared with all the necessary equipment.	Student is dressed in an appropriate manner for their session and comes prepared with most of the necessary equipment.	Student is generally dressed appropriately for the session but may be missing 1-2 pieces of necessary equipment.	Student is neither dressed appropriately or prepared with the necessary equipment for their session.
Total (24 points)				

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 clinical skills list, which will be posted, for review and practice of the skills
- Active participation in the Paper cases forums is highly recommended.

Instructor's Expectations of the Student
The student is expected to adhere to the guidelines provided throughout this syllabusincluding attendance, engagement, assessment submission and examination policies. The syllabus and all other course materialsare available online on the Sakai/MyCourseswebsite 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.

Professionalism Statement
Turn cell phones off or silence them during lectures and labs. See "In Lab Assessment" section for specifics n 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."

Attendance/Participation Policy

(Please refer to the student manual page ifapplicable**)**

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 inindividual classes, examinations, and onlineactivities, or from the University itself is anticipated, or occurs spontaneously due to illness or other extenuating circumstances, proper notification procedures must be followed.

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.

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

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.

Veterinary Physiology 1

Course
ANPH 512
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course Director/Instructor

Dr. Hector Zerpa Gonzalez
Professor of Veterinary 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
Professor of Veterinary 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

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).

Required Resources
Visit the following link regarding the required computer specifications.

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

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. Despopoulus, 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

Accommodation

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

Other Requirements

None

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.

Course Learning 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

The course-level learning outcomes (CLOs) are related to every module's basic concepts and clinical applications topics. Therefore, 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. Respiratory-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.

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

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.

Course Schedule

ANPH512 / Vet. Physiology I / Schedule - Spring 2022			
Week/# lecture hours	Lecture/ recording#	Module 1: Nerve & Muscle (HZ)	
1	**1**	**lnbllductimand b'aoqot**	
17-21	**2**	**Ml'l1b.11ie11amport**	
:i.-len•u9-1Y--			
	3	**Kesling11e1bc111111ie polftllial**	
	4	**Elearicall sigmk** iR-	
2	**5**	**Cel!DeelsiCminc** iR-	
24-28	**6**	**-system**	
.lenU91Y	***1***	**-system**	
71ectwehotn		**Samtic andaulDnOric R!llea,s**	
	9		

	10	
3 **nJenuar,-04Fe1Nu91Y** ***Slectwe*** *lan*	**11**	**llllll"gll31ioo:** --
	12	*Grouo Assianment #1 {Mondotorv lecture attendance/Zoom meetina: Tuesdov Februorv 01 ot 4:30 om AST/.*
	Lecture/ recording#	Module 2: cardiovascular (HZ)
	u	**lnbllductim andmsicaratomy*d* 1111"'-t**
	14	**Eluilali0ndlhl"heart**
	15	**c:a-.d..*d*..c.anbc 3Cliwity/Etec:boca11iog,,¥1f** . ..
4		,.,, . lJ··1f ,...,.·· ,11,1,1,u,
07-11 **Felllu91Y** ***6lectwe*** *lan*	**17**	**Flecbocaa**
	18	**C.-bt:cyde**
	19	**C.-bt:c.,,d,,,: - and Hmltso,nk/nunus**
	20	**Basic - - - - *dhe.-t* -**
	21	**llllll"gll31ioo:heartt.iilR**
5 **14-18** **Felllu91Y** ***Slectwe*** *lan*	**22**	**llllll"gll31ioo:heartt.iilR**
	23	**Blood llooo,and pn5Sdl!**
	24	**Blood llooo,and pn5Sdl!**
	25	**and**
	26	**llegljaliDn dlllood tlao.-and lff'SSWf'/ll aliDl1:eJll'ltise**
6 **21-25**	**27**	**ll1ll"gllalioo: *d* llfpel181Sioo and htl·II..... _..,**
	28	**ll1ll"gllaliood: llfpel181Sio11aodhtl▪II..... _..,**
Felllu91Y	*29*	*Grouo Assignment #2 (Mandatorv lecture attendance/Zoom meeting: Tuesdav Februarv 22 at 4:30 om AST}.*
7 *lectwe* *lan*	Lecture/ recording#	Module 3: Hematology (HHF)
	30	**Elymln**
	n	**Elymln**
	32	**Elymln**
	33	**Elymln**
1	**34**	**Blood**
28Fellluary- **04M9rdl** ***6 lectwe*** *lan*	**35**	**Blood**
	36	**Herm&ta.us**
	37	**Herm&ta.us**
	38	**Herm&ta.us**
	39	*Group Assignment #3 (Mandatory lecture attendance/ loom meeting: Friday Morch 04 at 2:30 pm AST}.*
9 *14-18 Morch*	*Midterm*	*ANPH512. Midterm: Monday, March14 at 12:00 pm (noon} AST: 70 Points. Lectures/ recordings1-39.*

9 **14-18**	**Lecture/ recording #**	***Module 4: Gastrointestinal (HZ)***
	40	General Principles
	41	General Principles
	42	Cephalic Phase

March ***5 lecture hours***	**43**	Gastric Phase
	44	Gastric Phase/Pancreas & Liver and Bile
10	**45**	Pancreas & Liver and Bile.
21-25	**46**	Small Intestinal Phase
March	**47**	Small Intestinal Phase
5 lecture hours	**48**	Large Intestinal Phase
	49	Ruminants
11	**50**	Ruminants
	51	Ruminants
28 March	**52**	Hindgut Fermenters
01 April	***53***	***Group Assignment #4 (Mandatory lecture attendance/ Zoom meeting: Wednesday March 30 at 3:30 pm AST).***
6 lecture hours	**Lecture/ recording #**	***Module 5: Respiration (HZ)***
	54	Ventilation of the lungs
	55	Ventilation of the lungs
12	**56**	Pulmonary blood flow
04-08	**57**	Gas exchange in the lung
April	**58**	Gas transport in blood
4 lecture hours	**59**	Gas transport in blood
13	**60**	Regulation of the respiratory function
	61	Regulation of the respiratory function
11-15	***62***	***Group Assignment #5 (Mandatory lecture attendance/Zoom meeting: Wednesday April 13 at 4:30 pm AST).***
April	**Lecture/ recording #**	***Module 6: Renal (HZ)***
4 lecture hours	**63**	Introduction to renal physiology
14	***64***	***ExamSoft Quiz 2: 25 points / Lectures 40-62 (ExamSoft. Tueday, April 19 at 1:30 pm AST) Duration: ~35 min***
18-22	**65**	Introduction to renal physiology
April	**66**	Function of the glomerulus and tubular system
5 lecture hours	**67**	Function of the glomerulus and tubular system
	68	Tubular handling of important substances
15	**69**	Tubular handling of important substances
	70	Regulation of fluid volume and osmolality
25-29	**71**	Kidney functions and laboratory parameters: Kidney lab.
April	**72**	Kidney functions and laboratory parameters: Acid/Base Balance
6 lecture hours	**73**	Renal Pathophysiology
	74	***Group Assignment #6 (Mandatory lecture attendance/Zoom meeting: Wendsday April 27 at 3:30 pm AST).***
16 ***02-06*** ***May***	***Final exams week***	
17 ***09-13***	***ANPH512. Final exam. Monday, May 09 at 12:00 pm (noon) AST: 80 Points / Lecture-recordings 1-74***	

May	

Grading and Assessment Policy
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 reinforce the acquired knowledge and 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 EXAMSOFT, are detailed in the SGU Student manual.

A grade reduction of 5% will be applied to that exam if students do not observe the parameters listed in the Assessment Policy for Students:

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 course director will divide the class into groups prior to the first session.

Each group, either in the classroom or in *Zoom Breakout Room*, will discuss the topics for 20 minutes using the content covered in the lectures and any other material provided by the instructor or found by the students. Each group must write down the answers to the assignments during the session. 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 20 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)	1-12	Feb 08: 1:30 pm AST	25
Midterm (ExamSoft)	1-39	March 14: 12:00 pm (noon) AST	75

Quiz 2 (Examsoft)	40-62	April 19: 1:30 pm AST.	25
Final (ExamSoft)	1-74	May 09: 12:00 pm (noon) AST	80
Group Assignments (In person, Zoom, and Sakai)		See the class schedule	20
TOTAL POINTS			**225**

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

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

1. pre-reading material before watching and interacting with the lecture recording.
2. I expect my class to attend or revise the weekly lecture recordings. 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 optimize learning in a hybrid teaching modality.
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 groups, including online sessions, and repeat this process. Vocalization is essential 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***

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.

Professionalism Statement
The policy relating to SGU's Student Policies, Procedures, and Non- Academic Standards is detailed in the SGU student manual 2021/2022.

Attendance/Participation Policy
The policy relating to class attendance is detailed in the SGU 2021/2022 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 attending these synchronous activities, please contact the course director during the first week of activities or as soon as the restriction appears.

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 (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 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. Completion exams will be scheduled within seven (7) days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
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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.
    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

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Veterinary Physiology II

Course
ANPH 513
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Course Director/Instructor

Dr. Hugo Hernández Fonseca, M.V., MSc., Ph.D. Professor of Veterinary 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.

Instructor

Dr. Hector Zerpa Gonzalez, M.V., MSc., Ph.D. Professor of Veterinary 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.

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).

Required Resources
Visit the following link regarding the required computer specifications. https://www.sgu.edu/office-of-information-technology/student-information/it-computer-recommendations/

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, 14th edition, Saunders Co, 2021.
- 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-mhmedicalcom.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

Accommodation

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

Other Requirements
None.

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 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 ANPH513 course covers the following systems: neurophysiology (i.p. the sensory nervous system), metabolism, endocrinology, and reproduction. 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.

Course Learning Outcomes
The goal of the Physiology II course is to introduce fundamental concepts of the following systems of common domestic animals: neurophysiology (i.p. the sensory nervous system), metabolism, endocrinology, and reproduction.

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

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

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

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

CLO 6. Endocrinology-Clinical: Apply the acquired knowledge of the endocrine system to basic clinical scenarios, correlating normal with abnormal functions and clinical signs.

CLO 7. Reproduction-Concepts: Describe the physiological functions of the reproductive systems of healthy animals and how these systems contribute to whole- body homeostasis

CLO 8. Reproduction-Clinical: Apply the acquired knowledge of the reproductive systems 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

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

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course Learning Outcome	**SGUSVM Program Learning Outcome**
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.

Course Schedule

ANPH513 / VETERINARY PHYSIOLOGY II / SCHEDULE		
Weeks	**Lecture #**	**Module 1. Neurophysiology** (HZ)
1 17-21 January 4 lecture hours	1	Revision of Nervous System Anatomy
	2	Pain
	3	Pain
	4	Proprioception
2 24-28	5	Touch and Thermoreception
	6	Vision
	7	Vision, Smell and Taste

January 4 lecture hours	8	Hearing and Balance
3 4 February 2 lecture hours	9	Conscious Motor Control
	10	Principals of Neurological Lesion Localization
4 7-11 February 3 lecture hours	11	Principals of Neurological Lesion Localization
	12	**Group Assignment # 1: Neurophysiology**
	Lecture #	**Module 2. Metabolism** (HHF)
	13	Introduction to Course & Major Metabolic Pathways: Carbohydrates
5 14-18 February 4 lecture hours	14	Major Metabolic Pathways: Lipids
	15	Major Metabolic Pathways: Lipids & Proteins
	16	Ruminant Metabolism: Review
	17	Whole Body Metabolism: Absorptive & Post-Absorptive Phases
6 21-25 February 2 lecture hours	18	Fasting & Starvation
	19	**Quiz 1:** **Open date: Friday February 25th at 11:30 am (AST).** **Due date: Monday February 28th at 6:00 pm (AST). Lectures 1-12 (15 pts.) on Sakai.**
7 28 February 4 March 4 lecture hours	20	Liver Function & Bilirubin
	21	Thermoregulation
	22	**Group Assignment # 2: Metabolism**
	Lecture #	**Module 3. Endocrinology** (HHF)
	23	General Endocrine Mechanisms
8 7-11 March No lectures		**.....MIDTERMS.....**
9 14-18 March 4 lecture hours		**MIDTERM EXAM:** **Monday March 14th at 11:30 am (AST).** **Lectures 1-22 (50 pts.) on ExamSoft.**
	24	Hypothalamic-Pituitary Axis
	25	Pancreas
	26	Pancreas: Insulin and Glucagon Functions
	27	Thyroid Gland
10	28	Thyroid Gland: T3 and T4
21-25 March 3 lecture hours	29	Growth Hormone
	30	Adrenal Cortex: Glucocorticoids
11 28 March 1 April 3 lecture hours	31	Adrenal Cortex: Mineralocorticoids
	32	Calcium-Phosphate Homeostasis
	33	**Group Assignment #3: Endocrinology**
12 4-8	34	**Quiz 2:** **Monday April 4th at 11:30 am (AST). Lectures 13-33 (20 pts.) on ExamSoft.**

April 2 lecture hours	**Lecture #**	**Module 4. Reproduction** (HHF)
	35	Male Reproduction
13	36	General Concepts of Female Reproductive Cycle
11-15 April 2 lecture hours	37	General Concepts of Female Reproductive Cycle
14	38	General Concepts of Female Reproductive Cycle
18-22	39	General Concepts of Pregnancy and Parturition
April	40	Lactation
4 lecture hours	41	Reproduction in the Cow
15	42	Reproduction in the Bitch
25-29	43	Reproduction in the Queen
April	44	Reproduction in the Sow and Mare
4 lecture hours	45	**Group Assignment #4: Reproduction**
16 2-6 May No lectures		**.....Finals.....**
17 9-13 May No Lectures		**FINAL EXAM:** **Monday May 9th at 12 pm (noon). Lectures 1-45 (65 pts.) on Exam Soft.**

Grading and Assessment Policy

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 EXAMSOFT are detailed in the SGU Student manual.

A grade reduction of 5% will be applied to that exam if students do not observe the parameters listed in the Assessment Policy for Students.

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 the fifty (50) minutes 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 (Sakai)	Lectures 1-12	Open date: February 25th (Friday) Due date: February 28th (Monday)	**15**
Midterm (ExamSoft)	Lectures 1-22	March 14th at 11:30 am (Monday)	**50**
Quiz 2 (ExamSoft)	Lectures 13-33	April 4th at 11:30 am (Monday)	**20**
Final (ExamSoft)	Lectures 1-45	May 9th 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

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 for a healthy 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!**

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.

Professionalism Statement
The policy relating to SGU's Student Policies, Procedures and Non- Academic Standards is detailed in the SGU student manual 2021/2022.

Attendance/Participation Policy
The policy relating to class attendance is detailed in the SGU 2021/2022 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. Employment is not an excusable absence.

Although attendance, engagement, and participation may not be recorded at every academic activity, attendance, engagement, and participation may be graded randomly, and it 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: 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.

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 HFonsec1@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. Completion exams will be scheduled within 7 days of the original exam date. Re-sit examination will be scheduled in the first week of the following term.

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.
    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

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Veterinary Practice Ownership, Leadership and Management
Course

LAMS 546
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
Faculty and Staff Information
Heather Douglas DVM, MBA, CVA

Email: hdouglas@sgu.edu

Course Location
Zoom, Sakai Lessons/Assignments

Required Resources
Additional recommended resources will be provided electronically on Sakai or in class.

Recommended Resources

1. Text: The Art of Veterinary Practice Management, by Mark Opperman, CVPM, et al. **ISBN-13**: 978-0935078749 **ISBN-10**: 0935078746

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

Other Requirements
None

Course Rationale
The purpose of this course is to provide information and skill sets focused on starting or acquiring a veterinary practice.

Course Learning Outcomes
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.

Lesson Learning 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.

Alignment of Course Learning Outcomes with Program Learning Outcomes
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	**SGU SVM Program Outcomes**	**RCVS 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

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.

Week	Date/ Hour	Lecture Topic	Format/Assignments
1	January 17th	Eat or Be Eaten Draft Day	1:30-3:20PM AST Location TBD
2	January 24th	Hook, Line & Sinker The Powers that Be	1:30-3:20PM AST Location TBD Case Study Assignment due 2/13
3	January 31st	No Content	
4	February 7th	No Content	
5	February 14th	Maximizing Your Yield: ValueBased Veterinary Pricing	Live Zoom Webinar 2:30-3:20PM AST Business Plan Proposal due 2/20
6	February 21st	No Content	
7	February 28th	No Content	
8	March 7th	No Content	
9	March 14th	The Big Climb: Overcoming Barriers, Tracking Progress and Achieving Financial Comfort	Live Zoom Webinar 2:30-3:20PM AST Risk Tolerance Worksheet Due 3/20
10	March 21st	Understanding and Managing Risk - Guest Speaker Rebecca Stinson, DVM	Live Zoom Webinar 2:30-4:20PM AST https://pfp.missouri.edu/research/investment-risk- tolerance-assessment/
11	March 28th	Animal Wellness Plans & Financial Management	Live Zoom Webinar 2:30-3:20PM AST
12	April 4th	Marketing	Live Zoom Webinar 2:30-3:20PM AST Business Plan and PowerPoint due 4/10
13	April 11th	Wrap-up and Student On-Line Business Plan and Evaluation Presentations	Live Zoom Webinar 2:30-5:20PM AST Student Business Plan Presentations
14	April 18th	No Content	
15	April 25th	No Content	
16	May 2nd	No Content	

Grading and Assessment Policy
The course will consist of a mix of lectures and interactive zoom sessions.

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 the online sessions. Assignments turned in late will result in a one-point deduction for each day the assignment is late.

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 awarded 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. Refer to the learning objectives of this course and conduct your analysis in terms of two areas of the business processes listed on page 1-2 of the syllabus (see numbers 1-8). 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 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.
   1. Propose final project. Include and address the course objectives are guiding your project when developing the proposal. (10 points)
   2. Case analysis (20 points)
   3. PowerPoint presentation to class (20 points) due at the end of the course
   4. Final project -write-up, source and research (40 points) due at the end of the course

Recommended Study Strategies
Not Applicable

Instructor's Expectations of the Student
The student is expected to adhere to the guidelines provided throughout this syllabus including attendance and assignment policies

Professionalism Statement
Please exhibit professional behavior at all times. Respond to emails from faculty within 24 hours.

Attendance/Participation Policy
If you cannot attend class, notify Dr. Douglas immediately.

Policy Regarding Missing Examinations and/or Failure of Submission of Assignments
Failure to submit the assignments will result in course failure.

ExamSoft Policy
N/A

Copyright Policy
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Master Syllabus
School of Veterinary Medicine Master Syllabus

Veterinary Public Health

Course
PTHB 510
Semester
Spring
Year
2022
Catalog
School of Veterinary Medicine
Syllabus Section
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): To be determined with Class Coordinators.

Course Director: Dr. Josephine Azikuru Afema, BVM, MPVM, PhD, DACVPM Associate Professor,
Office Location: Online
Email address: jazikuru@sgu.edu
Office hours: On Zoom (optional):To be determined with Class Coordinators.

Course Location
Online location- Sakai tools being used: Announcement, Resources, Syllabus, Lessons, Discussion (previously Forums), Tests and Quizzes, Panopto, Zoom and email.

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).

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

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

Other Requirements
Good internet capabilities and speed, headphones, Zoom.

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) and Ebola Virus Disease. 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.

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, Ebola Virus Disease (EVD) and food-borne diseases of animal origin.
4. Identify the main U.S. Federal agencies involved in Public health administration.

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.

Tuberculosis:

At the completion of this lecture the student will be able to:

- Recognize the importance of bovine tuberculosis in animals and humans.
- Apply the principles of the US Federal – State eradication program.
- Evaluate the role of the veterinarian in prevention, detection, and reporting of

***Mycobacterium bovis*.**

- Assess risks of *M. tuberculosis* in captive elephants and keeping staff and implement preventive measures.

Brucellosis:

At the completion of this lecture the student will be able to:

- Explain how zoonotic *Brucella* species are maintained and transmitted.
- Apply the principles of the US Federal – State brucellosis eradication programs.
- Evaluate the role of the veterinarian in prevention, detection, and reporting of brucellosis.

Leptospirosis:

At the completion of this lecture the student will be able to:

- Explain how the different *Leptospira* species or serovars are maintained and transmitted.
- Apply knowledge of the maintenance and transmission of leptospirosis to control and prevent infections in animals.

- Assess risks of leptospirosis and communicate preventive measures to clients, veterinary staff and the public.

***Coxiella Burnetii* (agent of Q fever):**

At the completion of this lecture the student will be able to:

- Evaluate role of the veterinarian in detecting, reporting and preventing *C. burnetii*

infections in animals.

- Evaluate role of the veterinarian in educating clients, occupational risk groups, and the public about preventive measures.
- Design and evaluate control programs for animals and humans working in research facilities with small ruminants.

Spotted Fever Rickettsiosis e.g. Rocky Mountain Spotted Fever

At the completion of this lecture the student will be able to:

- Describe how zoonotic *Rickettsia* species are maintained in nature & transmitted.
- Recognize role of veterinarian in detecting, preventing & controlling disease in animals, and educating clients and the public about preventive measures.

Taeniasis-Cysticercosis

At the completion of this lecture the student will be able to:

- Describe how *Taenia* species are maintained & transmitted.
- Apply one health principles to prevent/control infections in animals, and to educate farmers and the public about preventive measures.

Visceral Larval Migrans

At the completion of this lecture the student will be able to:

- Describe how the agents that cause larva migrants (*Baylisascaris*, *Toxocara* and *Ancylostoma*) are maintained & transmitted.
- Recognize the role of the veterinarian in detecting & preventing agents in animals.
- Apply knowledge of the maintenance and transmission to educate pet owners and the public on prevention and control.

Immunocompromised People and Pets

At the completion of this lecture the student will be able to:

- Recognize zoonotic agents of concern to immunocompromised pet owners.
- Apply knowledge of maintenance and transmission to educate immunocompromised pet owners to prevent zoonotic diseases & own pets safely.
- Determine their role as veterinarians in advising owners on acquiring 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 emerging 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 role of veterinarian in preparedness, detection, reporting, & responding to important subtypes.
- Assess the veterinarian's role in public health education regarding influenza subtypes of public health importance.

Zoonotic Equine Arboviruses:

At the completion of this lecture the student will be able to:

- Describe how these agents are maintained and transmitted.
- Execute your responsibilities as a veterinarian in surveillance, reporting, and preventing 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.

Ebolavirus

- Explain why Ebolavirus disease is reemerging and the public health implications.
- Describe how Ebolavirus is maintained in nature and transmitted to humans.
- Develop Ebola prevention, preparedness, and response plan based on lessons learned from the 2014 – 2016 Ebola outbreak.

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

Course Schedule

Week (Dates)	Lecture hrs/ week	Assessments	Lecturer	Topic
5: (14 - 18 Feb)	**3**		**Roopnarine (RR) RR** **Dr. Bidaisee**	Introduction to VPH and 'One Health" US Meat & Poultry Inspection program HACCP & COVID-19
6: (21 - 25 Feb)	**4**		**RR**	Ante Mortem Inspection Humane Slaughter Post-Mortem Inspection
7: (28 Feb - 4 Mar)	**4**		**RR**	Restricted Products Pet Food Composition Poultry Slaughter The FDA and Residues in Food animals
8: (8 Mar)		**Midterm: Examsoft**	**RR**	**Midterm Assessment**
9: (14 - 18 Mar)	**3**		**RR** **Afema (JA) JA** **JA**	Zoonoses Classification & Reporting. Bovine, Cervid and Elephant Tuberculosis Neurocysticercosis Larva Migrans
10: (21 - 25 Mar)	**3**		**JA**	Spotted Fever Rickettsiosis Bovine, Elk, Swine Brucellosis *Coxiella burnetii* Leptospirosis
11: (28 Mar - 1 Apr)	**3**		**JA RR RR**	Immunocompromised People and Pets Lyme Disease Rabies Lectures

12: (4 - 8 Apr)	**4**		**RR**	Rabies Lectures Rabies Cases
13: (11 - 14 Apr)	**4**		**JA RR** **JA**	Factors of Emergence Zoonotic Coronaviruses including SARS CoV-2 (agent of) COVID-19 Zoonotic Influenza Viruses of Public Health Importance
14: (19 - 22 Apr)	**2**		**JA**	Ebolaviruses Zoonotic Equine Arboviruses
15: (25 - 29 Apr)		**No Lectures-Revision**		Time for you to revise
16: (2 - 6 May)		**VPH Final-EXAMSOFT:**	**JA/RR**	**Final exam on Friday 6 May at noon**

Grading and Assessment Policy
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 12 questions from Dr. Roopnarine's sections on Rabies and Zoonotic coronaviruses and 28 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. Top Hat may be employed by Dr. Roopnarine, if the pilot is approved for continuation. More on this once we are informed by the Administration.

Assessments	Date	Points

Midterm: Examsoft		20
VPH Final: Examsoft		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.

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.

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 hours, feel free to follow up.
- The faculty is willing to schedule an online meeting via ZOOM as required.

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 directors in a timely fashion. Please refer to XVII below.

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 hours 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.

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 jazikuru@sgu.edu and 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.

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.
    1. An 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

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.

Master Syllabus
School of Veterinary Medicine Master Syllabus

Veterinary Virology

Course
PTHB 515
Semester
Fall
Year
2021
Catalog
School of Veterinary Medicine
Syllabus Section
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

Course Location
Online location—Sakai resources being used: Panopto, Lessons, Assignments, SIS Hall for in person

Required Resources

Fenner's Veterinary Virology 5th edition **(pdf provided)**, online access to Sakai. The difference between a textbook and an scientific article is that the textbook presents the consensus opinion at a given time, (although it may change in the future as new findings become available). A book chapter summarizes the information available usually reviewing hundreds of scientific articles. A textbook is usually written by experts on the topic and sometimes edited by more experts thus what is presented had been vetted by the most knowledgeable people on that area of expertise. Scientific articles, on the other hand, usually have a more narrow scope (besides review articles) because they are written based on a limited set of information (except metanalysis papers). Although they are peer reviewed, they express and present the information from the point of view of the sole authors. Some articles present data that disagree with the general consensus.

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.

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

Other Requirements
NA

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 veterinary virology. General virology deals with the basic nature of viruses, classification, multiplication, host-virus interaction, viral pathogenesis, diagnosis and vaccines. Veterinary 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.

Course Learning 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.

Lesson Learning Outcomes
Provided in lessons as checklists

Alignment of Course Learning Outcomes with Program Learning Outcomes

Course level outcome	SGUSVM program level outcome
CLO1: 1,2,3,4	1. **Core Medical Knowledge** (PLOs 3,4,5,6, 8) 2. **Core Professional Attributes**

	3. **Core Clinical Competencies (Skills)**

Course Schedule
This course is 3 credits.

1. 1 credit hour= 15 lecture equivalent
2. 1 **lecture (L)** hr = 2=3 lab hrs = 2 **self-study (SS)** or **assignment (as)** hrs
3. 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.

Date			Topic		
Jan 19	1	Wed	Introduction to virology (in person)		
Jan 20	2	Thu	Viral replication (in person)		
Jan 24	3	Mon	Viral identification (self-study) 2SS		
Jan 26	4	Wed	Viral pathogenesis (self-study) 2SS		
Jan 28	5	Fri	Discussion content lessons Jan 26 and 28 (in person)		
Jan 31	6	Mon	Viral oncogenesis and Immuno (self-study) 2SS		
Feb 2	7	Wed	Viral evolution (self-study) 2SS		
Feb 4	8	Fri	Discussion content lessons Jan 31 and Feb 2 (in person)		
Feb 8	9	Tue	Viral vaccines (self-study) 2SS		
Feb 9	10	Wed	Viral epidemiology (self-study) 2SS		
Feb 11	11	Fri	Discussion lessons Feb 8 and 9 (in person) Sakai MCQ due Feb 20th		
Feb 15	12	Tue	Canine viruses (self-study) 4SS		
Feb 16	13	Wed	Canine discussion (in person)		
Feb 18	14	Fri	Canine cases (in person)		assignment Due Feb 25th
Feb 22	15	Tue	Feline viruses (self-study) 4SS		
Feb 23	16	Wed	Feline discussion (in person)		
Mar 1	17	Tue	Feline cases (in person)		assignment Due Mar 8th
Mar 3	18	Thu	Review (in person)		
Mar 9		Wed	Midterm		
Mar 15	19	Tue	Equine viruses (self-study) 4SS		
Mar 16	20	Wed	Equine discussion (in person)		
Mar 17	21	Thu	Equine cases (in person)		assignment Due Mar 25th
Mar 21	22	Mon	Cattle viruses (self-study) 4SS		
Mar 23	23	Wed	Food animal activity (in person)		
Mar 25	24	Fri	Cattle discussion	(in person)	
Mar 31	25	Thu	Prions (self-study) 2SS		
April 1	26	Fri	Cattle cases (in person)		assignment Due Apr 5th
April 4	27	Mon	Review (in person)		
April 5	28	Tue	Catch up (self-study) 2SS		
April 6	29	Wed	Quiz		
April 8	30	Fri	Small ruminant viruses (self-study)		
April12	31	Tue	Small ruminant discussion (in person)		
April 19	32	Tue	Small ruminant cases (in person)		assignment Due Apr 22nd
April 20	33	Wed	Swine viruses (self-study) 4SS		
April 21	34	Thu	Swine discussion	(in person)	
April 22	34	Fri	Swine cases (in person)		assignment Due Apr 29th

April 25	35	Mon	Covid reading (self-study) 2SS
April 26	36	Tue	Covid activity
April 27	37	Wed	Covid discussion (in person)
April 28	38	Thu	Review (in person)
May 11			Final

Grading and Assessment Policy
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 **textbook**, and emphasized in the discussion 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 materials. For the formative assessments: each lesson has a couple of MCQ embedded into the material as well as cases followed by MCQs on the second section of the course. The short activity at the end on section 1 will be on MCQ on sakai test and quizzes. **The activities for each lesson are due the Friday of the following week.** Late submissions of assignments may be granted upon an acceptable excuse but will only carry half the points and may cause the professionalism point to be lost.

Grading

Formative		Points
Section 1	MCQ in lessons Gen Viro (for completion)	6
	Formative Sakai MCQ (Gen Viro review) For point	1
Section 2	Canine FB (for completion)	2
	Feline FB (for completion)	2
	Equine FB (for completion)	2
	Cattle FB (for completion)	2
	Small Rum FB (for completion)	2
	Swine FB (for completion)	2
	Forum participation Bonus	1
Summative (Examsoft)	Midterm	30
	Quiz	25
	Final	25
	Professionalism	1
	Total	100

FB (fill-in-the-blank) assignments.

The professionalism point considers compliance with: in person or online attendance when required (green), completing checklists, meeting assignment deadlines and adequate behavior and language during communications. All students will attain this point unless their behavior does not warrant it.

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
Online content posted in lessons and recordings on Panopto will be available for students to access on their own but adhering to the suggested study slot will guarantee that students won't fall behind. 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 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, kinestetic (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.

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 and discussion participation** 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.

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	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	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

	from the readings, outside resources, relevant research, or specific real-life application. Points=0.		demonstrating real life cases or scenarios of applying what is being addressed by this course. Point=1	by demonstrating real life cases or scenarios of applying what is being addressed by this course. Points=1.5
Participation in the Learning	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 places 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

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 assisst 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.

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.

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 1 bonus point (please see grading and forum rubric). In person discussions and cases sessions are mandatory.

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.

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.
    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

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