



SYLLABUS:
Anesthesiology-VMED 5443
Advanced Clinical Anesthesiology-VMED 5463
Second phase – 4th year
Course Meeting Time(s): Monday-Friday 7:30am – end of
the day
Course Meeting Location(s): 1817N

CONTACT INFORMATION:

Course Coordinator: Dr. Anderson Favaro da Cunha
Office Number 2413
Office Hours: depends on clinical schedule
E-mail: adacun1@lsu.edu

Faculty Lecturers	Email
Dr. Jeannette Cremer	jcremer@lsu.edu
Dr. Patricia Queiroz-Williams	pqueiroz@lsu.edu
Dr. Angie Lagos	alagos@lsu.edu

COURSE MATERIALS:

Please view additional course materials via login to Moodle using your myLSU account information: <http://itsweb.lsu.edu/Moodle/>

Recommended Text(s):

VMED 5267 - Veterinary Anesthesia - Course notes. (Lecture and Lab notes). Distributed at time of lecture or prior to lab. Available at Moodle webpage

Grimm KA, et al. *Veterinary Anesthesia and Analgesia the Fifty Edition of Lumb & Jones'*. Ames, Iowa: Willey Blackwell Pub., 2015.

West G, Heard DJ, Caulkett N. *Zoo Animal And Wildlife Immobilization And Anesthesia*. Second ed. Ames, Iowa: John Wiley & Sons Inc., 2014.

Muir W, Hubbell JAE. *Equine Anesthesia: Monitoring and Emergency Therapy*. 2nd ed. St. Louis, Mo.: Saunders/Elsevier, 2009.

Shelby A, McKune C. *Small Animal Anesthesia Techniques*. Ames, Iowa: John Wiley & Sons, 2014.

COURSE DESCRIPTION:

Advanced Clinical Anesthesiology is designed to introduce students to practical concepts of veterinary anesthesia and pain management. Students on this rotation are assigned to the Veterinary Teaching Hospital - Anesthesia Service which operates 24/7. The Anesthesia Service provides a setting for learning the principles and practices of veterinary anesthesia and analgesia in veterinary patients presenting common systemic diseases. Emphasis is placed on patient safety and team work. Students are directly supervised by interns, residents, technicians and faculty.

Goal/Rationale of the Course:

This course will promote critical thinking on base knowledge of physiology, pharmacology and clinical aspects of tranquilization, sedation and general anesthesia in domestic (dog, cat, horse, pigs, large and small ruminants) and wildlife and exotic species. Specific topics will include but will not be constricted to tranquilization, sedation, induction of anesthesia, inhaled anesthetic delivery systems, clinical use of inhaled anesthetics, neuromuscular blockers, local anesthetic techniques, peri-anesthetic monitoring, pathophysiology of anesthesia, pain management and peri-anesthetic fluid therapy, peri-operative stabilization and preparation for anesthesia, anesthesia recovery and post-anesthesia complications.

The laboratory portion of this course will provide the student with an opportunity to develop the technical skills associated with the sedation and induction, maintenance and monitoring of general anesthesia focusing on safety, pharmacology, physiology, analgesia, and anesthetic equipment usage.

COURSE OBJECTIVES:

After this rotation, you should be able to....	Keywords
1. Prepare accurate anesthetic records for the routine anesthetic management.	Anesthetic records
2. Interpret patients' history.	History
3. Perform and interpret patients' physical examinations.	Physical examination
4. Interpret patients' ECG, echocardiogram, radiographies, blood work, urinalysis and blood gases abnormalities.	Diagnostic exam interpretation
5. Understand the pharmacology of commonly used anesthetic agents and their indications, contraindications, and potential side effects.	Pharmacology
6. Manage general anesthesia in patients suffering from disorders of various organ systems (this includes all aspects of anesthesia: sedation, anesthesia induction, maintenance and recovery).	Anesthetic management
7. Perform/improve technical skills in the areas of venipuncture, intravenous catheterization, endotracheal intubation, patient monitoring, anesthesia equipment setup, and local anesthetic techniques.	Techniques
8. Use anesthetic machines and delivery systems, prepare, understand and prescribe ventilatory support, understand and interpretation the clinical use of anesthesia monitoring and its technology its results.	Equipment
9. Application of the pain pathway knowledge to better prevent, recognize, and treat all types of pain.	Pain; Welfare
10. Discuss the care and management of intensive care cases.	Emergency
11. Develop critical thinking on the anesthesia related risks.	Morbidity; Mortality

TEACHING PHILOSOPHY:

This is a hands-on rotation, where students will practice the connection between pharmacology and physiology theories. A positive environment will be provided to allow students to focus on learning all aspects of anesthesia including: patient safety, sedation, anesthesia induction, maintenance and recovery.

COURSE POLICIES:

- Active participation in the anesthetic management of clinical patients presented to the Veterinary Teaching Hospital in large, small and exotic animal departments is required. Students showing lack of interest will repeat the rotation.
- Formulate anesthetic protocols for clinical cases, and be able to discuss the chosen protocol in daily morning rounds. Students should be able to formulate safe protocols by the end of the rotation.
- Assist with anesthetic management of OHE/castration laboratories for Companion Animal Surgery.

- Rotating emergency anesthesia duty (small and large animal).
- Missing ONE non-justifiable emergency case (after hours) will trigger a “failure grade” and student will have to repeat at least two weeks of the rotation.
- Students should have clean scrubs and lab coat, a stethoscope, a thermometer, a watch, scissors, a penlight, a leash and a pen.
- If the Veterinary Teaching Hospital cancels normal receiving due to weather related or other condition and where larger than normal small animal emergency case load will be anticipated, students will be at risk to help with receiving and managing these emergency cases.

COPY STATEMENT:

Some of the materials in this course are possibly copyrighted. They are intended for use only by students registered and enrolled in this course and only for instructional activities associated with and for the duration of the course. They may not be retained in another medium or disseminated further. They are provided in compliance with the provisions of the Teach Act (Section 110(1) of the Copyright Act) <http://www.copyright.gov/docs/regstat031301.html>.

GRADING/EVALUATION:

Grades will be based on anesthesia knowledge, participation in rounds, technical skills, record keeping, overall patient management and ability to work well and communicate with peers, staff and faculty.

Students will receive an Excellent, Good, Average or Needs Improvement score according to the description below. Scores will be given based on direct observation of student's performance during the clinical rotation.

	Excellent	Good	Average	Needs improvement
<u>ANESTHESIA KNOWLEDGE</u> (Anesthesia machine function; oxygen flow rates/vaporizer settings; indications/contraindications for commonly used premedication, induction, & maintenance agents; epidural technique)				
<u>ROUNDS</u> (Efficient presentation of cases according to format included in orientation handout; participation in case discussions)				
<u>ANESTHESIA SKILLS</u> (Effective organization of materials needed to anesthetize cases; ability to perform IV catheterization, ET intubation atraumatically; ability to integrate necessary steps involved in case management for ventilatory support, appropriate fluid administration rate, effective animal restraint)				
<u>ANESTHETIC RECORDS</u> (Legible, complete and accurate: including drugs administered, fluids administered, pre-and post TPR, intraoperative drugs. Also, completed recovery form and anesthetic worksheet)				
<u>PATIENT MANAGEMENT</u> (Problem solving skills: ability to evaluate an individual animal and formulate an appropriate protocol based on signalment, procedure, attention to details critical to successful anesthetic management,				

monitoring anesthetic depth, application of appropriate analgesia, assure proper fluid administration rates, evaluation of patient well-being during the recovery process)				
<u>RESPONSIBILITY</u> (Dependability; ability to work well with peers, staff and faculty, facilitatory approach to block in regards to teamwork and cooperative effort, persistence in asking questions and learning at every available opportunity)				
<u>COMMUNICATION & INTERACTION</u> (ability to verbally express thoughts, plans or ideas and work together as a team harmoniously)				

The standard SVM grading scale listed below will be used with grades rounded to the nearest percentage point.

- A+ 97-100% - all excellent scores
- A 93-96% - six excellent and one good score
- A- 90-92% - five excellent and two good score
- B+ 87-89% - one average score
- B 83-86% - any mixture between excellent, good and average
- B- 80-82% - any mixture between excellent, good and average
- C+ 77-79% - any needs improvement score
- C 73-76% - more than one needs improvement score
- C- 70-72% - more than two needs improvement score
- D+ 67-69% - more than three needs improvement scores
- D 63-66% - more than four needs improvement scores
- D- 60-62% - more than five needs improvement scores
- F <60% - fail all aspects of the rotation without observed improvement over time throughout the rotation or missed one emergency call without reasonable justification

HOW TO GET AN “A” IN ANESTHESIA?

Students getting “A” on anesthesia are those who:

- 1- **History/Physical Examination:** Demonstrates superior efficiency, thoroughness and accuracy in performing a history. Always asks questions that are systematic, relevant, precise, objective, non-leading and interactive. Always asks questions of clarification and corrects inconsistencies. Excellent at organizing history information accurately in the medical record and presents information in an orderly, clear and concise manner. Always performs accurate, thorough and complete examinations in a timely manner. Superior in ability to elaborate key physical examination findings and associated subtleties.
- 2- **Patient Assessment/Clinical Thinking Skills:** Accurately identifies all patient problems. Appropriate diagnostic and therapeutic plans are always suggested. Diagnostic test results are promptly obtained and correctly assessed independently of instructor. Displays outstanding ability to integrate relevant information to make sound clinical judgments. Always formulates a complete problem list, accurately prioritizes problems and develops a complete and accurate differential diagnosis list.

- 3- **Knowledge Base/Basic Pathophysiology:** Displays superior knowledge (pathophysiology, therapeutics, medicine, surgery, etc) on own cases, as well as cases of others. Excels at demonstrating technical knowledge specific to the rotation and the application of clinical skills. Has a strong understanding of what he/she knows and does not know. Shows exceptional logic and knowledge in interpretation of histories, case reports, discussion with faculty and always links observations from assessments to plans/discharge summaries.
- 4- **Diagnostic Skills/Clinical Laboratory Assessment:** Has excellent understanding of diagnostic tests and protocols; excellent understanding of the strengths and limitations of the diagnostic test, can choose appropriate diagnostic tests and knows available options; all diagnostic tests scheduled as needed; patients always prepared and ready on time. Excellent ability to assess clinical laboratory data independently.
- 5- **Participation in Patient Discussions:** Actively participates in discussion of own cases and others' cases. Evidence of a large amount of additional reading to support and improve knowledge of all cases. Accurately interprets and weighs conflicting information. Case information presented accurately and concisely. Listens and shows respect for others during rounds.
- 6- **Medical Records:** Problem oriented medical records and/or procedural reports are concise, accurate and always completed on time. Reports are easy to read and provide clear case documentation. Adept at using the current system to enter medical records. Puts great effort into clear communication and documentation in the medical records. Medical records are always returned to medical records in a timely fashion.

ASSIGNMENTS/RESPONSIBILITIES:

Students will be assigned to cases on the day before the anesthetic event or up to one hour prior to procedure and are responsible for the revision of the clinical history of the patient, performing a complete physical exam, review available diagnostic materials (blood work, urinalysis, radiology studies, cardio studies, etc), describe possible complications related to the procedure and/or diseases, design an anesthetic protocol that includes sedation, induction and maintenance of anesthesia, pre and post-op pain management, monitoring of the patient and concerns with anesthesia recovery.

Students are expected to rotate through the anesthesia emergency service as needed

COURSE CONTENT AND OUTLINE:

Date	Contact Hours	Topics and Activities	Readings (due on this date)	Assignments (due on this date)
T-F	8-9am	Morning rounds	Topics will be distributed a day before	Assignments will be distributed a day before
M-F	9-till	Clinical cases	Read relevant material related to your clinical case	Material will be reviewed during case discussions
M-F	4-5pm	Afternoon rounds	Present relevant material	Material will be reviewed during case discussions
M	8-noon	Monday morning lab	Read about anesthesia for spays and neuters	Material will be reviewed during case discussions
M-S	24/7	Emergency duty	N/A	N/A

M= Mondays, T= Tuesdays, F= Fridays, S= Sundays

PHOTOGRAPHS AND VIDEO OF PATIENTS:

Photographs and video may be taken of patients for educational purposes (e.g., for use in abstracts, articles, and presentations). Any photographs and video for use by the media may not be taken without

the express consent of the patient's owner. Verbal consent by the animal's owner is an acceptable means of gaining permission to photograph/video the patient. If a member of the media is present in the hospital and wishes to take background footage of clinicians and students working with animal, no close-up shots are permitted such that the animal would be identified by its owner. All media requests must be directed to the LSU – School of Veterinary Medicine Public Relations Director, Mrs. Ginger Guttner.

POSTINGS ON INTERNET/ SOCIAL NETWORKING SITES:

Posting, releasing, or otherwise disclosing photos, identifiable case descriptions, images, or records related to the educational, clinical, or research activities of the LSU - School of Veterinary Medicine, outside of the LSU - School of Veterinary Medicine via social networking sites (e.g. MySpace, Facebook, Twitter, etc.) or via other than standard professional means of query and/or dissemination of educational, clinical, or research information is prohibited. This policy applies to all students, faculty, staff, clients, and visitors of the LSU - School of Veterinary Medicine and to all activities of the LSU - School of Veterinary Medicine, on or off campus, related to veterinary clinical services and teaching and research labs. Pictures of animals (whether owned by University or client), and client information are strictly forbidden from being published or posted on social networking sites such as “Facebook”, “Twitter”, and “Myspace”; and non-educational blogs, message boards, or internet websites; without the prior approval from an appropriate Supervisor, Department Head, Director of the LSU – School of Veterinary Medicine Veterinary Teaching Hospital, or the Director of the Louisiana Animal Disease Diagnostic Laboratory. This policy is to promote the safety and privacy of students, faculty, staff, clients, and visitors. Failure to comply with this policy could result in damage to persons or property, may be a violation of legal, professional, and/or ethical obligations, and may result in disciplinary action by the LSU - School of Veterinary Medicine, up to and including dismissal.

LSU SCHOOL OF VETERINARY MEDICINE ACADEMIC MISCONDUCT POLICY:

The LSU Code of Student Conduct applies to the School of Veterinary Medicine within the Code is the Academic Misconduct Policy, which outlines the School of Veterinary Medicine expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the LSU Code of Student Conduct Policy and for living up to their pledge **not** to violate the Code.

- I. It shall be a violation of this Code for a student to cheat.
- II. It shall be a violation of this Code for a student to knowingly circumvent any course requirement.
- III. It shall be a violation of this Code for a student to steal.
- IV. It shall be a violation of this Code for a student to purposely impair another student's educational opportunity.
- V. It shall be a violation to act in a manner which is detrimental to the moral and ethical standards of the veterinary medical profession.
- VI. It shall be a violation for a student to knowingly deceive another student, faculty member, or professional associate with the intent to gain advantage, academic or otherwise, for said student or for any other student.
- VII. It shall be a violation for any student to fail to report any infraction of the LSU Code of Student Conduct Policy to an appropriate representative.

LSU Code of Student Conduct can be found at: <http://saa.lsu.edu/code-student-conduct>

SEXUAL HARASSMENT POLICY

The University reaffirms and emphasizes its commitment to provide an educational and work

environment free from sexual harassment and to provide a means to remedy sexual harassment that employees may have experienced. (PS-73 Sexual Harassment and PS-95 Sexual Harassment of Students)

The intent of this policy is to express the University's commitment and responsibility to protect its students from sexual harassment and from retaliation for participating in a sexual harassment complaint. It is not intended to infringe upon constitutionally guaranteed rights nor upon academic freedom. In considering allegations of sexual harassment, the University must be concerned with the rights of both the complainant and the accused.

All proven cases of sexual harassment shall result in appropriate disciplinary action. The severity of the disciplinary action shall be consistent with the seriousness of the act of sexual harassment. Additionally, under appropriate circumstances, the University may take action to protect its students from sexual harassment by individuals who are not students of the University. If the alleged harasser is a student, the Dean of Students Office must be notified of the complaint.

Student Advocacy & Accountability, Office of the Dean of Students, LSU Student Life & Enrollment, 340 LSU Student Union, Baton Rouge, LA 70803, Phone: (225) 578-4307 Fax: (225) 578-5637
dossaa@lsu.edu

GENERAL STATEMENT ON ACADEMIC INTEGRITY:

Louisiana State University adopted the Commitment to Community in 1995 to set forth guidelines for student behavior both inside and outside of the classroom. The Commitment to Community charges students to maintain high standards of academic and personal integrity. All students are expected to read and be familiar with the LSU Code of Student Conduct and Commitment to Community, found online at www.lsu.edu/saa. It is your responsibility as a student at LSU to know and understand the academic standards for our community.

Students who are suspected of violating the Code of Conduct will be referred to the office of Student Advocacy & Accountability. For undergraduate students, a first academic violation could result in a zero grade on the assignment or failing the class and disciplinary probation until graduation. For a second academic violation, the result could be suspension from LSU. For graduate students, suspension is the appropriate outcome for the first offense.

PLAGIARISM AND CITATION METHOD:

As a student at LSU, it is your responsibility to refrain from plagiarizing the academic property of another and to utilize appropriate citation method for all coursework. In this class, there is no recommended citation method considered appropriate for the course. Ignorance of the citation method is not an excuse for academic misconduct. Remember there is a difference between paraphrasing and quoting and how to properly cite each respectively.

One tool available to assist you in correct citations is the "References" function in Microsoft Word. This program automatically formats the information you input according to the citation method you select for the document. This program also has the ability to generate a reference or works cited page for your document. The version of Microsoft Word with the "References" function is available in most University computer labs. A demonstration of how to use this tool is available online at www.lsu.edu/saa.

AMERICANS WITH DISABILITIES ACT:

Louisiana State University is committed to providing reasonable accommodations for all persons with disabilities. The syllabus is available in alternate formats upon request.

Students with disabilities: If you are seeking classroom accommodations under the Americans with Disabilities Act, you are required to register with Disability Services (DS). DS is located in 115 Johnston Hall. Phone is 225-578-5919. To receive academic accommodations for this class, please obtain the

proper DS forms and meet with me at the beginning of the class. The Office of Veterinary Education and Student Affairs can help you if you have questions as well. <http://disability.lsu.edu/students>

SYLLABUS CHANGE POLICY:

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change without advanced notice.

SVM INSTITUTIONAL LEARNING GOALS/OBJECTIVES ALIGNED WITH COMPETENCIES:

SVM 9 +1 Clinical Competency Anchor Points			
Competency One:	Aligned with VMED 5463 Learning Objectives	Assessment Method	Teaching Method
1.1 History/Physical Examination	1, 2, 3	Clinical performance rating/checklist	Clinical experience, Inpatient
1.2 Patient Assessment/Clinical Thinking Skills	2, 3, 4, 6, 7, 8	Clinical performance rating/checklist	Clinical experience, Inpatient
1.3 Knowledge Base/Basic Pathophysiology	4, 5, 6	Clinical performance rating/checklist	Clinical experience, Inpatient
1.4 Diagnostic Skills/Clinical Laboratory Assessment	2, 4, 9	Clinical performance rating/checklist	Clinical experience, Inpatient
1.5 Participation in Patient Discussions	1, 2, 3, 4, 5, 9, 10, 11	Clinical performance rating/checklist	Clinical experience, Inpatient
1.6 Medical Records	1	Clinical performance rating/checklist	Clinical experience, Inpatient
Competency Two:			
2.1 Treatment planning	2, 3, 4, 5, 6, 8, 9, 10, 11	Clinical performance rating/checklist	Clinical experience, Inpatient
2.2 Understanding Therapeutic Modalities and Availability	5	Clinical performance rating/checklist	Clinical experience, Inpatient
Competency Three:			
3.1 Anesthesia/Patient Status/Response/Plans	1, 2, 3, 4, 5, 6, 8, 9, 10,11	Clinical performance rating/checklist	Clinical experience, Inpatient
3.2 Pain Management/Patient Welfare/Empathy	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	Clinical performance rating/checklist	Clinical experience, Inpatient
Competency Six:			
6.1 Emergency Care Management	1, 2, 3, 4, 5, 6, 7, 8,	Clinical	Clinical

	9, 10, 11	performance rating/checklist	experience, Inpatient
6.2 Intensive Care Management	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	Clinical performance rating/checklist	Clinical experience, Inpatient
Competency Eight:			
8.2 Working with Health Care Team	6	Clinical performance rating/checklist	Clinical experience, Inpatient
8.3 Ethical Conduct	6	Clinical performance rating/checklist	Clinical experience, Inpatient
8.4 Emotional Stability	6	Clinical performance rating/checklist	Clinical experience, Inpatient
8.5 Reliability/Thoroughness/Punctuality/Appearance	6	Clinical performance rating/checklist	Clinical experience, Inpatient
Competency Nine:			
9.1 Critical Analysis of New Information and Research Findings Relevant to Veterinary Medicine	2, 6	Clinical performance rating/checklist	Clinical experience, Inpatient
9.2 Demonstrate effective use of literature, references and informational technology in support of diagnosis, case management, and continuing medical education	2, 6	Clinical performance rating/checklist	Clinical experience, Inpatient
Competency Ten:			
10.1 Comparative and developmental physiology & anatomy	2, 3, 5, 6, 9, 10, 11	Clinical performance rating/checklist	Clinical experience, Inpatient
10.2 Drug metabolism as it relates therapy, anesthesia, analgesia, and adverse drug reactions.	2, 3, 4, 5, 6, 10, 11	Clinical performance rating/checklist	Clinical experience, Inpatient