

VS108
Anesthesia and Analgesia

3 Credits

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Reviewer: Dr. Robyn Rodgers

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VS108 Version: 6



Anesthesia and Analgesia

Calendar Description

Principles and concepts of anesthesiology are discussed. Topics covered include presurgical patient preparation, anesthetic agents and adjuncts, pharmacological calculations, anesthetic monitoring equipment as well as the proper administration and monitoring of anesthesia.

Rationale

This course is required for first year Animal Health Technology students. Animal Health Technologists play a vital role in the administering and monitoring of sedation and general anesthesia. A thorough understanding of proper anesthetic procedure, pharmaceuticals used, and the maintenance and functioning of equipment is critical to the safety and success of veterinary anesthesia.

Prerequisites

None

Co-Requisites

None

Course Learning Outcomes

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

1. explain the need for thorough pre-anesthetic assessment to prevent unexpected complications during anesthesia.
2. explain the importance of withholding food and water before anesthesia and the necessity of signed consent forms prior to anesthesia.
3. explain the importance of correct drug dosing and safe administration of pre-anesthetic and general anesthetic drugs.
4. demonstrate correct dosage calculation.
5. acknowledge the appropriate response in the anesthetic patient to anesthetic drugs.
6. demonstrate the sequence of steps involved in proper endotracheal intubation.

7. explain the function of the inhalation anesthetic machine and demonstrate the assembly and function of the machines.
8. demonstrate how to properly operate and maintain the equipment that is frequently used to monitor the anesthetic patient.
9. describe the 4 different stages and planes of anesthesia.
10. demonstrate the ability to assess vital signs and protective reflexes in order to determine an animal's depth of general anesthesia.
11. evaluate patient's anesthetic depth and physiological status and formulate corrective actions to commonly anticipated problems during maintenance and recovery periods of general anesthesia.
12. explain and demonstrate the need for attentive nursing care before, during maintenance and in the recovery periods of general anesthesia.
13. demonstrate the ability to properly fill out anesthetic monitoring forms.
14. explain the role of the Animal Health Technologist as part of the anesthetic and diagnostic/surgical team.
15. demonstrate how to perform the correct mathematical calculations for IV fluids, premed and induction drug dosages, reservoir bag sizes, oxygen flow rates and solutions.
16. describe the common complications of exotic anesthesia and methods of anesthesia for reptiles, birds and rabbits.

Resource Materials

Required Text:

None

Reference Text:

Thomas, J., & Lerche, P. (2017). *Anesthesia and Analgesia for Veterinary Technicians* (5th ed.). St. Louis, Missouri: Elsevier.

Lake, T., & Green, N. (2017). *Essential calculations for Veterinary Nurses and Technicians* (3rd ed.). St. Louis, Missouri: Elsevier.

Tear, M. (2017). *Small animal surgical nursing* (3rd ed.). St. Louis, Missouri: Elsevier.

Conduct of Course

Lecture Portion: 42 hours

Lab portion: 21 hours

The lecture portion of the course covers the theory and explains techniques used before, during and after anesthesia and surgery in small animals. The lab portion gives the students experience

using the anesthetic monitoring equipment and administering and monitoring sedation and general anesthesia.

Students are responsible for animal care outside of regular scheduled class time.

Evaluation Procedures

Students are not allowed to participate in a lab if they are not on time for the lab. An unexcused absence for a lab results in a mark of zero for that lab.

Failure to properly care for a patient that has been assigned to a student will result in a mark of zero for the lab. Refer to student handbook on Animal Care guidelines.

Lecture:

Midterm	20%
Quizzes	10%
Final Lecture Exam	25%

Lab:

Laboratory Assignments/Quizzes	20%
Kennel care/Medical records	10%
Lab Final	<u>15%</u>

TOTAL	100%
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The instructor reserves the ability to hold pop quizzes throughout the semester with no prior notification.

Lakeland College is committed to the highest academic standards. Students are expected to be familiar with Lakeland College policies related to academic conduct and academic honesty and to abide by these policies. Violations of these policies are considered to be serious and may result in suspension or expulsion from the College.

Grade Equivalents and Course Pass Requirements

Letter	F	D	D+	C-	C	C+	B-	B	B+	A-	A	A+
Percent Range	0-49	50-52	53-56	57-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-100
Points	0.00	1.00	1.30	1.70	2.00	2.30	2.70	3.00	3.30	3.70	4.00	4.0

Students must successfully pass or complete the lecture portion of the course with a 60% (C), and the lab portion with a 70% (B-). A mark in the lecture portion of 50-59% is recorded as a 'D'. A mark of 50-69% in the lab portion is recorded as a 'D'.

A grade of C (60%) is required in the lecture portion of this course, and a grade of B- (70%) is required in the laboratory portion of this course, in order to progress to VS202 Surgery, Dentistry and Pain Management.

Attendance

Classroom and laboratory attendance is considered vital to the learning process and as significant to the students' evaluation as examinations and reports, therefore absenteeism is recorded.

- a. Students having a combination of excused and/or unexcused absence of 20 percent or higher for the scheduled course hours can be required to withdraw and would then automatically receive a "RW" (required withdrawal) for the course, regardless of any other evaluation results. (RW is a failing grade).
- b. An excused absence is one that is verified with your instructor. Verification should be prior to the absence or the next class day following the absence. Verification of the absence may take the form of a note from your doctor/College nurse regarding illness, or a note from another instructor regarding a field trip or other activity, or authorization by your instructor following an in-person meeting. Be sure to contact your instructor and ask what they will require from you as verification for each absence. An unexcused absence is anything NOT verified by the instructor prior to the absence or the next class day following the absence.

NOTE: Any exceptions to the above attendance policy (e.g. timetable conflicts, work-related issues) must be approved in writing by the Department Chair prior to the beginning of the course.

It is the students' responsibility to know their own absentee record.

Normal hours are 8:30 a.m. to 6:30 p.m., with potential for evening courses, exams or extended field trips. Students are expected to be available for classes during these times.

Course Units/Topics

Topics may include but are not limited to the following:

Unit 1 Preanesthetic Period

- a) Criteria for Selection of Anesthetic Procedure
- b) Preparation of the anesthetic patient

- c) Pre-anesthetic Agents
- d) Preemptive analgesia

Unit 2 General Anesthesia (G.A.)

- a) Assessing Depth/Vital signs
- b) Endotracheal Intubation
- c) Classic Stages of General Anesthesia
- d) Introduction to commonly used monitoring equipment: correct placement and operation
- e) General Anesthesia; Injectable Agents
- f) General Anesthesia; Inhalation Agents
- g) Monitoring Recovery from Anesthesia
- h) Anesthesia and Workplace Safety

Unit 3 Calculations

- a) Dosage calculations for a variety of veterinary anesthetic drugs and solutions
- b) Pre-anesthetic calculations for bag size and oxygen flow rate

Unit 4 Anesthesia in the Unusual Patient: Exotics



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