

VE 121

Introduction to Radiography & Surgery

3 Credits

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VE121 Version: 10



Introduction to Radiography & Surgery

Calendar Description

Safe and accurate radiographic techniques for animals using digital technology are studied. Surgery is a common component in a veterinary practice. Students learn the necessary skills required to be competent in preparing for these surgeries.

Rationale

Radiographic procedures and surgical preparation are crucial components of a Veterinary Medical Assistant's job in a clinical setting. This course enhances the skills required to be an intricate part of the veterinary team.

Prerequisites

None

Co-Requisites

None

Course Learning Outcomes

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

1. identify common surgical instruments, their uses and care.
2. prepare a surgical pack and properly wrap it for autoclaving.
3. fold and wrap surgical gown and drapes for sterilization.
4. explain the function of an autoclave and have the ability to operate one.
5. describe the maintenance required for an autoclave and the use of indicators to ensure quality control.
6. demonstrate areas of patient preparation including clipping landmarks and surgical scrub techniques.
7. transfer the patient into the surgical suite and secure it to the table.
8. explain the basic function of an anesthetic machine and its circuits.
9. describe the care and maintenance of the anesthetic machine and its circuits.
10. explain the functions of different suture material and needles.

11. maintain a safe working environment during radiographic procedures.
12. explain and demonstrate the care and safety involved when using the x-ray machines (both portable and stationary) and accessory equipment.
13. explain the various parts of the x-ray machine and use a technique chart to establish settings.
14. properly position animals for radiographs at an introductory level.
15. demonstrate the various labeling techniques.
16. explain and use digital techniques for radiographs.
17. demonstrate proper technique to obtain a large animal radiograph using the portable machine.
18. maintain an x-ray log for QC purposes.
19. maintain a digital filing system.

Resource Materials

Required Text(s):

None

Reference Text(s):

Vanhorn & Clark. (2011). *Veterinary assisting fundamentals and applications*. Delmar.

Conduct of Course

This is a lecture and lab course. The lecture portion of the course covers the theory and explains the techniques that are used. The lab allows the students to put into practice the skills that have been taught. The students are provided with a personal TLD x-ray monitoring badge registered to them while they are a student at Lakeland College. Loss of the badge results in a \$100.00 charge to the student.

Evaluation Procedures

Midterm 1	15%
Midterm 2	15%
Quizzes and Assignments	5%
Radiology/Surgery Comprehensive lecture final exam	20%
Surgery and Radiology lab assignments	25%
Radiology/ Surgery final lab exam	20%
Total	100%

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.

Late assignments are not accepted and receive a grade of 0. Refer to the VMA student handbook for more information on the late assignment policy.

Grade Equivalents and Course Pass Requirements

A minimum grade of D (50%) (1.00) is required to pass this course.

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	4.00

Students must achieve a minimum D as a combined lab and lecture mark in order to pass this course.

Attendance

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

- a. Students having a combination of excused and/or unexcused absence of 20 percent or higher for the scheduled course hours will be required to withdraw and will 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. 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

Unit 1: Surgery

Surgical Instruments:

- a) Cutting
- b) Forceps
- c) Clamps
- d) Needle Holder/Drivers
- e) Retractors
- f) Instrument cleaning and care

Sterilization and Pack Preparation:

- a) Methods of sterilization
- b) Autoclave operation
- c) Wrapping instruments, drapes and gowns
- d) Autoclave indicators

Patient Preparation and Recovery:

- a) Landmarks when clipping a patient
- b) Scrubbing the patient
- c) Patient transfer and tying to the surgical table
- d) Draping
- e) Microchipping
- f) Patient recovery
- g) Clipper maintenance

Aseptic Techniques:

- a) Rules of asepsis
- b) Applications of masking, gloving and gowning
- c) Sterile field

Anesthetic Machine:

- a) Basic function and parts
- b) Cleaning and machine maintenance

Suture material and needles:

- a) Suture Material sizes and purpose
- b) Absorbable and Non-Absorbable
- c) Brands of suture
- d) Needle sizes and purposes
- e) Alternative methods to suturing

Unit 2: Radiology

Introduction to radiology- history

Radiation Safety:

- a) effects on humans and animals
- b) how to measure levels of radiation
- c) safety equipment

d) logs and records

X-rays and x-ray machines:

- a) components of an xray machine
- b) steps to taking a radiograph
- c) measuring and technique charts
- d) portable and stationary machines

Anatomy and Positioning:

- a) Directional terms
- b) Landmarks
- c) Proper restraint

Developing:

- a) digital images: CR and DR machines

Labeling:

- a) Lead tape
- b) digital images



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