JEFFERSON COLLEGE  
COURSE SYLLABUS

VAT 252

APPLIED RADIOLOGY

2 Credit Hours

Prepared by  
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Dean, Dr. John Keck
VAT152 APPLIED RADIOLOGY

1. CATALOG DESCRIPTION

Prerequisite: Completion of the first three semesters of the program. 2 semester hours credit

Applied Radiology is a lecture/laboratory course covering basic principles of radiation safety, preparing technique charts, positioning and radiographing domestic animal species, and processing radiographs. Also included is the identification and solution of problems common in veterinary radiology.

H. EXPECTED LEARNING OUTCOMES
To provide students practice and understand the diagnostic imaging procedures and critical thinking skills listed in the AVMA’s Veterinary Technician Second Year Task List.

III. COURSE OUTLINE

A. Radiographs as Part of the Medical Record
B. Production of X-Rays, Radiographic Equipment
C. Exposure Factors
D. Technique Charts
E. Image Information
F. Darkroom and Processing Equipment
G. Film Quality
H. Technical Errors & Radiation Safety
   1. Contrast Agents
J. Ultrasound, Nuclear Medicine, CT Scan
K. Radiographic Anatomy & Positioning

IV. UNIT OBJECTIVES

By the end of this course the student should be able to:

A. Radiographs as Part of the Medical Record
   1. Understand the medicolegal aspects of film identification.
   2. Understand various types of film labeling systems available.
   3. Be able to file radiographs.

B. Production of X-Rays, Radiographic Equipment
   1. Understand the physics of x-ray production.
   2. Understand the various types of radiographic units encountered in practice.

C. Exposure Factors

Understand how mA, exposure time, KvP and focal film distance are used to produce diagnostic radiographs.
D. Technique Charts

Be able to use and construct a technique chart.

E. Image Formation

Understand how cassettes, intensifying screens, grids, and different film types are used to produce diagnostic radiographs.

F. Darkroom & Processing Equipment

1. Understand how to store radiographic film.
2. Understand how to label and develop film using both hand and automatic processing.

G. Film Quality

Understand detail, contrast, radiographic, and subject density.

H. Technical Errors & Radiation Safety

1. Recognize artifacts.
2. Avoid common processing and non-processing errors.
3. Understand principles of radiation safety.

1. Contrast Agents

1. Understand the use of positive and negative contrast media.
2. Identify commonly used contrast media.
3. Perform contrast studies.

J. Ultrasound, Nuclear Medicine, CT Scan

Understand basic principles of other diagnostic imaging techniques.

K. Radiographic Anatomy & Positioning

1. Know normal radiographic anatomy.
2. Know how to correctly position patients for various studies.

V. METHODS OF INSTRUCTION

A. Lecture - Wednesday, 10:00 -10:50 a.m.
B. Labs - Section 1: Monday, 2:00-4:00 p.m.

Section 2: Wednesday, 2:00-4:00 p.m.

1. Introduction to equipment
2. Technique chart
3. Abdominal radiography
4. Thoracic radiography
5. Limbs and extremities
6. Equine radiography
7. Upper GI study
8. Double contrast cystogram
9. Feline radiography
10. OFA
11. Hand processing

V1. REQUIRED TEXTBOOK(S)


REQUIRED MATERIALS

None

VIII> METHOD OF EVALUATION (170 point total)

A. 25 point midterm exam
B. 50 point written final exam
C. 15 point lab practical skills test
D. 50 point lab participation
E. 25 point film test

X. GRADING SCALE

A. A = 90-100%
B. B = 80-89%
C. C = 70-79%
D. D = 60-69%
E. F = below 60%

Program Attendance policy – There are no excused absences. Students may miss 2 times with no point deductions, after that point deductions will accumulate. Students will lose 1 point for each lecture missed, and 5 points per lab. If a student has more than 10 absences including the first two, he or she will be advised to drop from the course to avoid receiving a grade of F for the course.

Students who are more than 10 minutes tardy for class will be counted as absent for that day.

Students may miss one exam with no penalty; for each subsequent exam missed the student is penalized 10% of the total value of the exam

If the paper or checklist are turned 1 class late, they will be penalized 10%, two classes late they will be penalized 50%, after that they will receive a 0.

The instructor may make exceptions to this policy in certain cases such as illness requiring hospitalization or death in the family etc.
academic honesty: Students must comply with campus policies as stated in the Student Handbook. Students proven to be in violation of academic honesty policy and procedure as outlined in the Student Handbook will receive an F for the course as part of the course evaluation, regardless of prior academic standing.

Students requiring accommodations for disabilities should notify the instructor. The ADA student contact is Sundaye Harrison, ext. 169.

Students need to behave in a respectful manner towards other students and the instructor. Cell phones, iPods, and similar devices are not to be used in class.

The instructor reserves the right to change this syllabus at any time.