EATM M119: VETERINARY RADIOGRAPHY

Originator
Ishapiro

College
Moorpark College

Attach Support Documentation (as needed)
RVTProgramJustification.pdf
RVTProgramCourseRequirements.docx

Discipline (CB01A)
EATM - Exotic Animal Training Mgmt

Course Number (CB01B)
M119

Course Title (CB02)
Veterinary Radiography

Banner/Short Title
Veterinary Radiography

Credit Type
Credit

Honors
No

Start Term
Fall 2020

Catalog Course Description
Provides the veterinary technology student with entry-level information to begin clinical practice with diagnostic x-rays in a veterinary setting. Emphasizes radiation protection, equipment manipulation, animal positioning, and safety.

Taxonomy of Programs (TOP) Code (CB03)
0102.10 - *Veterinary Technician (Licensed)

Course Credit Status (CB04)
D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)
B (Transferable to CSU only)

Course Basic Skills Status (CB08)
N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)
C - Clearly Occupational

Course Cooperative Work Experience Education Status (CB10)
N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)
Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)
N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)
Y - Not Applicable

Course Noncredit Category (CB22)
Y - Credit Course

Funding Agency Category (CB23)
B - Partially Developed Using Economic Development Funds

Course Program Status (CB24)
1 - Program Applicable

General Education Status (CB25)
Y - Not Applicable

Support Course Status (CB26)
N - Course is not a support course

Field trips
Will not be required

Grading method
Letter Graded

Alternate grading methods
Credit by exam, license, etc.

Does this course require an instructional materials fee?
No

Repeatable for Credit
No

Is this course part of a family?
No

Units and Hours

Carnegie Unit Override
No

In-Class

Lecture
Minimum Contact/In-Class Lecture Hours
35
Maximum Contact/In-Class Lecture Hours
35

Activity

Laboratory

Total in-Class

Total in-Class
Total Minimum Contact/In-Class Hours
35
Total Maximum Contact/In-Class Hours
35

Outside-of-Class

Internship/Cooperative Work Experience

Paid

Unpaid

Total Outside-of-Class

Total Outside-of-Class
Minimum Outside-of-Class Hours
70
Maximum Outside-of-Class Hours
70

Total Student Learning

Total Student Learning
Total Minimum Student Learning Hours
105
Total Maximum Student Learning Hours
105

Minimum Units (CB07)
2
Maximum Units (CB06)
2

Prerequisites
EATM 120 and EATM M120L

Corequisites
EATM M119L

Limitations on Enrollment
Criminal background clearance
Current CPR certification for health care provider (American Heart Association) or professional rescuer (American Red Cross)
Fingerprint clearance
Current negative TB test or chest x-ray
Others (specify)
No visible tattoos or visible body piercings except single studs in earlobes

Other Limitations on Enrollment
1. Admission to the Moorpark College Registered Veterinary Technology Program
2. Current tetanus vaccination.

Entrance Skills

Entrance Skills
EATM M120
1. identify and describe the basic anatomical structures of mammals.
2. identify and utilize basic nomenclature related to anatomy and physiology.
3. explain the relationship between the various anatomical and physiological systems found in normal mammal, avian, and reptile species.
4. discuss in terms of structure and function, the unique anatomical and physiological adaptations of certain groups of mammal, avian, and reptile species.
5. distinguish between the major components of the nervous system and describe the structure and function of the neuron and process of nerve transmission.
6. distinguish between the major components of the reproductive system and describe the structure and function of the ovary.
7. compare the effects of hormones on follicle development.
8. describe the structure and function of the nephron and the effects of hormones on urine formation.
9. distinguish between the different organs that contribute to digestion.
10. compare and contrast the digestive process for major macro-molecules.

EATM M120L
1. distinguish the parts of the brain and major nerves and describe their functions.
2. utilize microscopes and photographs to identify and describe the location and function of epithelial, muscular, nervous, and connective tissues.

3. distinguish the three layers of the skin, the associated structures found within the skin layers, and the structures derived from the skin.
4. differentiate individual bones of the axial and appendicular skeleton using articulated and disarticulated skeletons from common domesticated species.
5. distinguish the surface features of bones of the axial and appendicular skeleton.
6. identify the major joints using articulated and disarticulated skeletons.
7. distinguish the major skeletal muscles and describe their actions.
8. differentiate and describe the functions of the major organs of the respiratory, cardiovascular, digestive, and genitourinary systems.
9. differentiate the major internal organs on radiographs.
10. identify the individual bones and major joins on radiographs.
11. identify on various radiographs anatomical differences between species, gender and age.
12. identify histological differences of the four basic animal tissues and relate normal from abnormal cells.

Requisite Justification

Requisite Type

Prerequisite

Requisite

EATM M120
EATM M120L

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Required by 4 year institution

Requisite Type

Corequisite

Requisite

EATM M119L

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Closely related lecture/laboratory course

Requisite Type

Enrollment Limitation

Requisite

1. Criminal background clearance; 2. Current negative TB test or chest x-ray; 3. Drug and alcohol clearance; 4. Fingerprint clearance; 5. No visible tattoos or visible body piercings except single studs in earlobes. Other: 1. Admission to the Moorpark College Registered Veterinary Program; 2. Current tetanus vaccination

Requisite Description

Credit program requisite (credit only)

Level of Scrutiny/Justification

Required by statute or regulation

Student Learning Outcomes (CSLOs)

	Upon satisfactory completion of the course, students will be able to:
1	describe the criteria necessary to produce quality diagnostic x-rays.
2	evaluate a given radiographic image for technique and quality to provide corrective measures as needed.
3	explain the radiographic process from the veterinarian's order to the completed radiograph.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1	discuss the California regulations for radiation safety for taking x-rays in a veterinary hospital.
2	explain the fundamentals of x-ray production.
3	describe the potential hazards of radiation exposure.
4	describe methods of minimizing exposure to radiation.
5	explain the function of the various parts of the x-ray machine.
6	discuss the construction and use of x-ray film, screens and cassettes.
7	discuss the fundamentals of equine radiography.
8	discuss the fundamentals of companion exotic and zoo animal radiography.
9	compare and contrast digital and film radiography systems.
10	describe the purpose, agents, and techniques used for contrast studies.
11	describe the purpose and techniques of other imaging modalities.

Course Content

Lecture/Course Content

(6%) Understanding the Fundamentals of X-ray Production
(12.6%) Concepts in Radiation Safety
(15.4%) X-ray Film and Cassettes: they are and how they work?
(18%) The Role of Processing in Producing a Diagnostic Quality Radiograph
(6%) Understanding Exposure Factors: Their Effects on the Finished Product
(6%) Radiographic Quality: Producing a Diagnostic Quality Radiograph "First Time, Every Time"
(6%) Recognizing and Avoiding Radiographic Artifacts
(6%) Basic Concepts in Equine Radiography
(6%) Basic Concepts in Companion Exotic and Zoo Animal Radiography
(6%) New Technology: Digital Radiography
(6%) Contrast Studies: Why and How
(6%) Exploring Other Imaging Modalities

Laboratory or Activity Content

n/a

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

Problem solving exercises
Written expression

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Essay exams
Group projects
Individual projects
Oral analysis/critiques
Objective exams
Problem-solving exams
Quizzes
Reports/papers
Research papers

Simulations
Treatment plans

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Class activities
Class discussions
Case studies
Demonstrations
Field trips
Group discussions
Instructor-guided interpretation and analysis
Instructor-guided use of technology
Lecture
Small group activities

Describe specific examples of the methods the instructor will use:

PowerPoint presentations, instructor interpretation and analysis of x-rays, methodology and equipment.

Representative Course Assignments

Writing Assignments

Write a short paper on the essential process to produce a quality radiographic image.

Write an essay on radiation safety.

Critical Thinking Assignments

Critique a radiographic image of an animal and provide recommendations for improvement.

Analyze the case scenario of the presenting animal and develop a plan of action to obtain the best radiographic image.

Reading Assignments

Complete assigned reading from textbooks related to lecture content and discussions on veterinary radiography

Read and understand the radiation regulations booklet generated by California Department of Consumer Affairs.

Other assignments (if applicable)

Students will access the Internet when preparing their case presentation and utilize the online learning management system to access course materials relative to the techniques of radiography of animals.

Outside Assignments

Representative Outside Assignments

Complete worksheets on techniques for proper collimation to optimize the radiographic imaging technique and minimize radiation exposure.

Research safe positioning techniques for companion, exotic, and zoo animals for class discussions.

Articulation

Comparable Courses within the VCCCD

AG V68 - Veterinary Diagnostic Imaging

Equivalent Courses at other CCCs

College	Course ID	Course Title	Units
L.A. Pierce College	ANML SC 435	Veterinary Radiography	2

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

Course is CSU transferable
Yes

CSU Baccalaureate List effective term:
FALL 2020

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Description
Brown, Marg, and Lois Brown. *Lavin's Radiography in Veterinary Technology*. 6th ed., Elsevier, 2017.

Description
Bassert, Joanna. *McCurnin's Clinical Textbook for Veterinary Technicians*. 9th ed., Saunders, 2018.

Primary Minimum Qualification
ANIMAL TRAINING & MANAGEMENT

Additional Minimum Qualifications

Minimum Qualifications
Biological Sciences

Additional local certifications required
RVT or DVM

Review and Approval Dates

Department Chair
12/06/2019

Dean
12/09/2019

Technical Review
01/31/2020

Curriculum Committee
02/04/2020

DTRW-I
02/13/2020

Curriculum Committee
MM/DD/YYYY

Board
03/10/2020

CCCCO
MM/DD/YYYY

DOE/accreditation approval date
MM/DD/YYYY