I. TITLE:
Veterinary Diagnostic Imaging

II. COURSE DESCRIPTION:

Students will be exposed to learning appropriate diagnostic imaging skills needed in the field of veterinary technology. Students will learn handling and restraint techniques of small and large animals, as it relates to diagnostic imaging in areas of radiology, ultrasonography, and endoscopy. Students will also learn utilization of radiographic equipment, safety measures, equipment maintenance, along with proper positioning and exposures with small and large animals.

Each week there will be two 1-hour lectures and one 2-hour lab.

Prerequisites: AGR 310

III. PURPOSE:
To teach students the appropriate radiographic skills in both large and small animals as it relates to the field of veterinary medicine. Also to teach students the appropriate skills necessary in the exposure, processing, and safety in the veterinary radiology laboratory.

IV. COURSE OBJECTIVES:
To teach students the basic knowledge involved with diagnostic imaging and radiology as it impacts the field of veterinary technology. Students will acquire a general background in the following areas (see V – Content Outline).

V. CONTENT OUTLINE:

A. Introduction
   1. Students will be introduced to the methods behind the science of radiology in lecture periods. Students will be given the materials and resources to understand the overall production, definition, physical properties, and generation of X-rays.

B. Restraint and Positioning of small and large animals
   1. Students will learn proper positioning and restraint techniques of small and large animals to achieve specific views to be taken.
2. Students will learn general principles of positioning as it deals with small animal forelimbs, pelvis and hindlimbs, as well as, the animal’s spine and soft tissue.

3. Students will also be exposed to large animal radiology positioning of the distal phalanx, navicular bone, proximal phalanges, fetlock joints, along with carpus and tarsus joints.

C. Diagnostic Imaging Overview
   1. Positioning of small and large animals
   2. Developing radiographs – film processing – radiographic quality
   3. Darkroom techniques – uploading film cassettes – maintaining equipment
   4. Use of the x-ray machine – stationary and portable units
   5. Use of contrast media in the small animal – Barium Sulfate Series
   6. Maintenance of equipment
   7. Safety procedures
   8. Introduction to Ultrasonography
   9. Introduction to CAT scans
   10. Introduction to Endoscopy
   11. Introduction to MRI

VI. INSTRUCTIONAL ACTIVITIES:

   A. Lectures
   B. Video tapes
   C. Demonstrations
   D. Clinical situations
   E. Case studies

Each week the labs will correspond with the lecture material as closely as possible. Laboratory rotations will include small and large animal radiology.

ADDITIONAL REQUIREMENTS:
Ceil blue scrubs and a clean white lab coat will be worn in the small animal radiology rotation, along with coveralls in the large animal rotation- these must be worn during each lab period or student will be asked to leave for protection purposes.

VII. FIELD, CLINICAL, AND/OR LABORATORY EXPERIENCES:

Clinical and field experiences will be in the areas of small and large animal radiology.
VIII. RESOURCES:

None.

IX. GRADING PROCEDURES:

Grades will be based on the cumulative total scores from three-hour exams, a final, skill tests, and laboratory attendance and participation.

Exams
Midterm
Laboratory & Class Participation
Outside Assignments
Skills Test
Final Exam

Grading Scale:
A = 90 and above
B = 80-89
C = 70-79
D = 60-69
E = below 60

The final exam will be given as scheduled in the schedule booklet.

Due to the amount and content of material, pop quizzes may be given to make the students remain current in their studies. There will be no chance to make these quizzes up.

X. ATTENDANCE POLICY:

Please refer to the most current copy of the Murray State University’s Undergraduate Bulletin. The attendance policy is as follows, if a student misses 3 unexcused class or laboratory periods, this will result in an automatic drop of the overall letter grade after each class missed.

XI. ACADEMIC HONESTY POLICY:

Please refer to the most current copy of the Murray State University’s Undergraduate Bulletin.

XII. TEXT AND REFERENCES:

Radiography in Veterinary Technology, 4th edition, by Lavin
XIII. PREREQUISITES:

AGR 310

XIV. STATEMENT OF AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY:

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or other provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities.

XV. MSU SCHOOL OF AGRICULTURE CELL PHONE POLICY:

The School of Agriculture recognizes that in today’s world cell phones are a familiar and often necessary form of communication for students.

It shall be the policy of the School that no cell phone usage shall be allowed in class and/or labs without the prior consent of the course instructor. This shall include verbal calling, incoming calls, email, text messaging, and use of cell phone calculators on tests and quizzes.

Cell phones must be kept off and out of sight (i.e. secured to a person’s belt or kept in a bag or purse away from desks and lab counters).

Should a student’s cell phone be visible, ring, or other form of unauthorized usage that is interruptive to the class or lab, the student may be asked to leave class and not return for that class/lab period.

Upon prior consent of the instructor, a student may obtain permission to have their phone on in case of an emergency or in critical family situations.

This policy also includes pagers and other electronic equipment such as blackberries and/or computers/laptops.