

DIVISION: Veterinary Technology
COURSE TITLE: Radiation Safety
COURSE NUMBER: VTE 2821
CREDIT HOURS 1
SEMESTER: Fall 2021
TIME: On-Line
INSTRUCTOR: Barbara A. Berg LVT, BS
OFFICE: Veterinary Technology Building Room 105
OFFICE HOURS: Arranged
PHONE NUMBER: 308-367-5219 (NCTA)
E-Mail: bberg2@unl.edu

COURSE DESCRIPTION

This course is designed for veterinary assistants who are working in a private practice. The course covers the dangers of radiation and how to protect our patients and ourselves from potential harm. Rules and regulations as they apply to veterinary assistants and technicians are reviewed and a clinic safety plan is developed. Successful completion of this course will allow the individual to meet the State of Nebraska's Radiation Safety training requirements for people working in a veterinary clinic who are not a LVT or DVM.

DIVISION MISSION

Veterinary Technology supports the college mission by striving to develop students into competent citizens through general education and promoting involvement, innovation, individuality and technical skills in the field of veterinary medicine.

STUDENT LEARNING OUTCOMES

At the end of this course the student will be able to:

1. List the dangers of radiation within the field of veterinary technology
2. List the rules and regulations pertaining to x-rays in a Nebraska veterinary clinic.
3. Recall the radiation dosage limits and recognize who does and does not need to be monitored.
4. Describe methods utilized to monitor radiation exposure.
5. Identify practical radiation safety practices
6. Develop a Safety Plan for the clinic

TEXTBOOK:

None required. All information is provided within the canvas based course

ASSESSMENT – TESTS AND GRADING

There is a canvas test after each unit of instruction. The canvas tests are open book with no time limit and can be repeated if necessary. The comprehensive exam at the end of the course is taken under the supervision of an identified proctor.

COMPUTER ASSISTANCE

- Always access Canvas by going to myunl.edu.
- Once you have logged into canvas, click on Courses and Organizations tab, then scroll down the list of classes until you find Radiation Safety Short Course – on-line.
- Once the course has been found and opened, all class materials, outline, syllabus, lectures, assignments and tests can be found under the “Assignments” tab.
- It is recommended that you use either Firefox or chrome browser when accessing Canvas courses. If you experience specific issues with Canvas, try using an alternate browser before requesting assistance. (Even internet explorer). Switching browsers often solves simple issues.
- **UNL Help Desk contact information for all Canvas-related problems or questions: toll free (866) 472-3970 and helpdesk@unl.edu**

INSTRUCTOR’S ROLE

I will monitor the progress of the course and answer any questions you have or explain sections that are confusing. Communication is best done via E-mail. Don’t forget to include the course name in the subject line. I can be reached at bberg2@unl.edu. Or you may call my office number at 308-367-5219. If on campus feel free to stop by my office in the Veterinary Technology Building.

PROFESSIONAL CONDUCT

1. Responsible, ethical, adult behavior is expected.
2. Complete all assignments in a timely manner.
3. Do your own work on assignments and tests. All cases of cheating or plagiarism shall be handled at the discretion of the instructor and is based on the NCTA Student Code of Conduct and the Vet Tech Handbook. (Page 65, Academic Dishonesty and Disciplinary Procedures). Students may be disciplined by dismissal from the course and/or a failing grade.
4. Follow all guidelines set forth by the instructor and NCTA.
5. Avoid the misuse of any PDA device, computer or cell phone.
6. Dishonesty or unprofessional behavior may result in grade reduction, failing the class, or permanent withdrawal from the class.

OUTLINE

Week One

1. Radiation Exposure, Radiation Safety – Everything You Need to Know – video on canvas
Quiz

Week Two

2. Rules and Regulations for Assistants and Technicians
This power point covers who can do what in the clinic, levels of supervision etc. Please read through and take the quiz.
Quiz

Week Three

3. Radiation Safety in an Equine Clinic
This 60 minute video talks all about radiation safety and taking x-rays in an equine veterinary practice. Equine radiographs can expose technicians to many dangers not limited to just radiation exposure.
Quiz

Week Four

4. Safety Overview – The formation of x-rays and the potential dangers associated with x-rays as well as how to protect ourselves from radiation are discussed in this power point. Read through the information and then take the quiz.
Quiz

Week Five

5. This short video follows the oncology case on a Golden Retriever at Cornell University's Companion Animal Hospital.
6. Radiation limits and monitoring
The power point covers radiation limits for different groups of people and how radiation exposure can be monitored as well as who needs to be monitored. After reading through the material please take the quiz.
Quiz

Week Six

7. Safety for Veterinary Technicians

This video covers safety issues for Veterinary Technicians in radiology and other areas as well.

8. X-Ray Production Part One

The basics of x-ray production is covered in these power point slides. Read through the material and then take the quiz
Quiz.

Week Seven

9. Radiation Safety Video using ALARA Principles ("As Low As Reasonably Achievable")

10. Quality Control

There are some quality control checks that can easily be done in the clinic such as checking the aprons and gloves for cracks, insuring that the darkroom is really dark and that the lighted collimator is providing a true indication of where the primary beam is. Read through the attached materials and take the quiz please.

Apron and Glove Safety Check

Caliper – what it is used for

Collimation accuracy

Checking Darkroom for light leaks

Quiz

Week Eight

11. Hyperthyroid cats and radiation concerns – video

In some situations we need to think about the owners of our patients as well as the patient and ourselves.

12. X-Ray Film

The power point presentation covers how x-ray film is constructed and the different types available.

Quiz

Week Nine

13. Cassettes & Screens

Cassettes, digital imaging plates and the screens inside of them are covered in power point. After reading through the film, cassettes and film information then take the quiz.

Film – PP

Screens - PP

Quiz

Week Ten

14. OSHA Compliance –Why veterinarians should care – video
15. Staying Safe – Power point
Quiz

Week Eleven and Twelve

16. Scatter radiation video
In addition to primary beam radiation, scatter radiation is a concern as well.
17. Where Does Radiation Originate and how is it Measured – U-Tube Video - Fluoroscopy
Radiation Safety Course Section 1
18. Safety Review
Quiz

Week Thirteen and Fourteen

19. Safety Plan Assignment
The power point provides the assignment details.

Week Fifteen

20. Final Exam

This is a proctored 100 question On-line final exam. This is a closed book, closed notes test. A piece of scratch paper, simple calculator and pencil is all you need / can have with you. The proctor needs to be an instructor, teacher or work supervisor. Provide their name, phone number or E-mail and I will contact them about sending the codes for the test. The final exam is broken down into 4 smaller sections. Each section must be completed in one sitting. Once you start the section you must complete it. All course work and the test needs to be completed before the last day of regular classes.

ASSESSMENT- NCTA % to Grade Conversion (College Catalog)

Grade		GPA	%
A+		4.00	100
A	Indicates excellent work and progress	4.00	90-100
A-		3.67	86.7-90
B+		3.33	83.3-86.7
B	Indicates very good work and progress above the required standards of the course	3.00	80-83.3
B-		2.67	76.3-80
C+		2.33	73.3-76.3
C	Indicates work and progress that meets the required	2.00	70-73.3

	standards of the course		
C-		1.67	66.7-70
D+		1.33	63.3-66.7
D	Passing grade. Indicates work and progress slightly below expectations of the course	1.00	60-63.3
F	Failing grade	0.00	0-60