

V T 86: LABORATORY ANIMAL NURSING

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2025
Units:	2.5
Hours:	2 lecture, 2 laboratory per week (48 total per quarter)
Prerequisite:	V T 55.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Articulate the husbandry and care of common species of laboratory animals.
- Know and discuss all the laws that pertain to the Care and Use of Laboratory Animals.

Description

Study of the husbandry, management, and nursing care of rabbits and rodents kept as both research and companion animals. Orientation to the humane and ethical use of animals in research. Discussion of the veterinary technician as an animal advocate and nurse in biomedical research and the regulations affecting the use of animals in research. Students build on their knowledge of anatomy and physiology as well as their restraint and nursing skills. Includes husbandry and housing, feeding and nutrition, and medical and surgical nursing techniques for the common species of laboratory animals, as well as an introduction to diagnostic and therapeutic techniques and the common diseases of laboratory animals, appropriate anesthesia, analgesia, and euthanasia methods. Intended for students in the Veterinary Technology Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

1. Identify and discuss the legal, moral, and ethical obligations involved in the humane care and use of research animals.
2. Explain the laws governing the humane and ethical use of laboratory animals.
3. Discuss the requirements for research animal facilities.
4. Explain the taxonomy, anatomy, uses in research, restraint, husbandry, and diseases of common laboratory animal species.
5. Describe acceptable methods that are compatible with the Animal Welfare Act of anesthesia, analgesia, and euthanasia in common laboratory animal species.
6. Describe colony surveillance techniques.
7. Discuss various career opportunities in biomedical research.

Course Content

1. Legal, moral, and ethical obligations
 - a. Introduction to biomedical research and laboratory animal science
 - i. Survey of methods of biomedical research
 - ii. Animal biomedical research
 - iii. Animal research cost and benefits
 1. Cost and benefits to animals
 2. Cost and benefits to humans
 - b. Comparisons of companion animal and research animal species
 - i. Common research animal species
 - ii. Common companion animal species
 - iii. Common ground for the veterinary professional
 - iv. Roles of the RVT and DVM
 - c. Issues related to animal research
 - i. Ethical issues
 - ii. Humane issues
 - iii. Scientific issues
 - iv. Alternatives to the use of animals in research, the three "Rs"
2. Laws, regulations, and policies
 - a. Federal laws and regulations
 - b. State laws and regulations
 - c. Other regulations and policies
3. Requirements for research animal facilities
 - a. Introduction to laboratory animal facilities
 - b. Facility design
 - i. Environmental concerns
 - ii. Animal caging systems
 - iii. Sanitation practices
 - c. Animal records
 - d. Animal procurement and transportation
 - e. Safety and health considerations
 - i. Biosecurity
 - ii. Pest control
4. Identification, husbandry, and nursing care of mouse, rat, hamster, guinea pig, and rabbit
 - a. Taxonomy
 - b. Origin
 - c. Use in research
 - d. Behavioral patterns
 - e. Anatomic characteristics
 - f. Life history data
 - g. Husbandry practices
 - h. Restraint
 - i. Identification
 - j. Breeding
 - k. Biotechnology techniques
 - l. Diseases and conditions
 - m. Survey of miscellaneous species
5. Anesthesia, analgesia, and euthanasia of mouse, rat, hamster, guinea pig, and rabbit
 - a. Anesthesia
 - b. Analgesia
 - c. Euthanasia

6. Colony health surveillance techniques
 - a. Sentinel animals
 - b. Other techniques in health surveillance
 - c. Zoonoses
 - d. Necropsy procedures
7. Career opportunities in research

Lab Content

Hands-on skills relating to restraint, physical exam, and medication administration for the mouse, rat, and rabbit.

Special Facilities and/or Equipment

1. Classroom with multimedia projection and presentation capability.
2. Instructional media which show animal handling techniques, blood collection procedures, surgery, etc.
3. Appropriate laboratory animal housing that meets or exceeds the requirements of the Animal Welfare Act.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Assessments
Research project
Journal review essay
Essay on comparison of animal rights to animal welfare

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
Discussion
Oral presentations
Demonstrations
Hands-on practice with rodents and other animals

Representative Text(s) and Other Materials

National Research Council. [Guide for the Care and Use of Laboratory Animals](#). 2021.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Weekly reading assignments from text, class handouts, and outside sources, ranging from 30-60 pages per week.
2. Research project and/or journal review articles may be assigned.
3. Essay comparing and contrasting animal welfare to animal rights.

Discipline(s)

Registered Veterinary Technician