

JEFFERSON COLLEGE

COURSE SYLLABUS

VAT264

LABORATORY ANIMAL TECHNOLOGY

3 Credit Hours

Prepared by: Dana Nevois, MBA, BS, RVT

Minor Revision or Update by: Dana Nevois, MBA, BS, RVT
Date: August 16, 2018

Chris DeGeare, M.Ed., Interim Associate Dean, Business and Technical Education
Dena McCaffrey, Ed.D., Dean, Career & Technical Education

VAT264 Laboratory Animal Technology

I. CATALOGUE DESCRIPTION

- A. Pre-requisites: VAT101 Introduction to Veterinary Tech, VAT106 Applied Pharmacology, VAT113 Principles of Clinical Medicine I, VAT114 Principles of Clinical Medicine II, VAT199 Veterinary Technology Internship, VAT250 Veterinary Hospital Technology I, VAT258 Clinical Pathological Techniques, and VAT266 Large Animal Technology I (all courses must be completed with a grade of “C” or better) and reading proficiency
- B. 3 Semester Credit Hours
- C. Laboratory Animal Technology covers the care, anatomy, physiology, and common disease problems of the common species of laboratory animals and includes a laboratory session to familiarize students with various research facilities and cover handling and common procedures of animals used in research. Also covered is the consideration of the use of animals as experimental models in the research laboratory. (S)
- D. Fulfills degree requirement for the Associate of Applied Science degree in Veterinary Technology

II. EXPECTED LEARNING OUTCOMES/CORRESPONDING ASSESSMENT MEASURES

Define laboratory animal medicine and explain why animals are used in biomedical research, product safety testing, and education	In-class exercises/discussions, exam, and final exam
Explain the ethical considerations involved with laboratory animal medicine and differentiate between animal rights and animal welfare	In-class exercises/discussions, laboratory assignments, exam, and final exam
Distinguish organizations affiliated with laboratory animal husbandry, medical care, production, and management of animal facilities and describe their purposes	In-class exercises/discussions, exam, and final exam
Describe the Animal Welfare Act and other regulations that effect the care and use of animals in laboratory animal medicine	In-class exercises/discussions, laboratory assignments, exam, and final exam
Describe appropriate facility designs based on research being performed, recognize common equipment and explain its use, determine appropriate housing for each species used in laboratory animal medicine, and explain basic management duties in animal facilities	In-class exercises/discussions, exam, and final exam
Identify common breeds or strains, anatomic and physiologic features; explain the breeding and reproduction process; describe husbandry needs, nutrition needs, common handling and restraint	In-class exercises/discussions, laboratory assignments, exam, and final exam

techniques, identification methods, methods of medication administration, common blood collection techniques, and proper euthanasia techniques in traditional lab animals (rat, mouse, guinea pig, hamster, gerbil, chinchilla, ferret, rabbit, and nonhuman primate)	
---	--

III. OUTLINE OF TOPICS

- A. Introduction to Laboratory Animal Medicine
 - 1. Animals used in research, product safety testing, and education
 - 2. Ethical considerations
 - 3. Organizations

- B. Regulations, Policies, and Principles Governing the Care and Use of Laboratory Animals
 - 1. Animal Welfare Act
 - 2. Other regulations

- C. Facility Design, Equipment, Housing, and Management
 - 1. Laboratory animal facility design
 - 2. Biosecurity
 - 3. Facility equipment
 - 4. Housing
 - 5. Management

- D. Mice
 - 1. Genetics
 - 2. Microbiologic classifications
 - 3. Uses
 - 4. Behavior
 - 5. Anatomic and physiologic features
 - 6. Breeding and reproduction
 - 7. Husbandry
 - 8. Techniques
 - 9. Special techniques: transgenic production technology
 - 10. Therapeutic agents
 - 11. Introduction to diseases of mice

- E. Rats
 - 1. Genetics
 - 2. Microbiologic classifications
 - 3. Uses
 - 4. Behavior
 - 5. Anatomic and physiologic features
 - 6. Breeding and reproduction
 - 7. Husbandry

8. Techniques
 9. Therapeutic agents
 10. Introduction to diseases of rats
- F. Gerbils
1. Uses
 2. Behavior
 3. Anatomic and physiologic features
 4. Breeding and reproduction
 5. Husbandry
 6. Techniques
 7. Therapeutic agents
 8. Introduction to diseases of gerbils
- G. Hamsters
1. Uses
 2. Behavior
 3. Anatomic and physiologic features
 4. Breeding and reproduction
 5. Husbandry
 6. Techniques
 7. Therapeutic agents
 8. Introduction to diseases of hamsters
- H. Guinea Pigs
1. Uses
 2. Behavior
 3. Anatomic and physiologic features
 4. Breeding and reproduction
 5. Husbandry
 6. Techniques
 7. Therapeutic agents
 8. Introduction to diseases of guinea pigs
- I. Chinchillas
1. Uses
 2. Behavior
 3. Anatomic and physiologic features
 4. Breeding and reproduction
 5. Husbandry
 6. Techniques
 7. Therapeutic agents
 8. Introduction to diseases of chinchillas
- J. Rabbits
1. Breeds
 2. Uses

3. Behavior
 4. Anatomic and physiologic features
 5. Breeding and reproduction
 6. Husbandry
 7. Techniques
 8. Therapeutic agents
 9. Introduction to diseases of rabbits
- K. Ferrets
1. Uses
 2. Behavior
 3. Anatomic and physiologic features
 4. Breeding and reproduction
 5. Husbandry
 6. Techniques
 7. Therapeutic agents
 8. Introduction to diseases of ferrets
- L. Primates
1. Taxonomy
 2. Uses
 3. Behavior
 4. Anatomic and physiologic features
 5. Breeding and reproduction
 6. Husbandry
 7. Techniques
 8. Therapeutic agents
 9. Introduction to diseases of nonhuman primates

IV. METHOD(S) OF INSTRUCTION

- A. Lectures
- B. Laboratory assignments including live animal models
- C. In-class exercises/discussions
- D. Homework Assignments
- E. Textbooks
- F. Audio-visual aids

V. REQUIRED TEXTBOOK(S)

Hrapkiewicz, K., Colby, L., and Denison, P. *Clinical Laboratory Animal Medicine: an*

Introduction (Current Edition). Ames: Wiley Blackwell Publishing.

VI. REQUIRED MATERIALS

Appropriate Laboratory Attire (Scrubs)

VII. SUPPLEMENTAL REFERENCES

McCurnin, D. *Clinical Textbook for Veterinary Technicians* (Current Edition),
St. Louis: Saunders Publishing

VIII. METHOD OF EVALUATION

A. Distribution of Final Grade

There are written exams/quizzes, in-class exercises/discussions, homework assignments and a comprehensive final, all of which comprise the final lecture grade.

Laboratory participation and laboratory assignments comprise the final laboratory grade.

A student must independently pass both the lecture portion and the laboratory portion of each class to advance in the program.

Class participation and attendance are expected of the students and the instructor reserves the right to award or detract percentage points based on these attributes.

B. Assignment of Final Letter Grades

A = 93-100

B = 84-92

C = 75-83

D = 60-74

F = below 60

C. Attendance Policy

Student attendance is mandatory. There are no excused absences. If a student misses more than 15% of the total time (including lecture and laboratory) that the class meets in a semester, the student may be prohibited from attending the class by the instructor. In such cases, the student must officially withdraw from the course, by the designated withdrawal date, in order to reduce the possibility of receiving an "F" for the course.

Tardiness beyond 10 minutes is considered an absence.

Students are permitted to miss one exam date with no penalty. Make up exams are taken in the Testing Center within 3 days of the original exam.

The instructor may make exceptions to this policy in certain cases, i.e., illness requiring hospitalization, death in the family, etc.

IX. ADA AA STATEMENT

Any student requiring special accommodations should inform the instructor and the Coordinator of Disability Support Services (Technology Center 101; phone 636-481-3169).

X. ACADEMIC HONESTY STATEMENT

All students are responsible for complying with campus policies as stated in the Student Handbook (see College website <http://www.jeffco.edu>).

XI. ATTENDANCE STATEMENT

Regular and punctual attendance is expected of all students. Any one of these four options may result in the student being removed from the class and an administrative withdrawal being processed: (1) Student fails to begin class; (2) Student ceases participation for at least two consecutive weeks; (3) Student misses 15 percent or more of the coursework; and/or (4) Student misses 15 percent or more of the course as defined by the instructor. Students earn their financial aid by regularly attending and actively participating in their coursework. If a student does not actively participate, he/she may have to return financial aid funds. Consult the College Catalog or a Student Financial Services representative for more details.

XII. OUTSIDE OF CLASS ACADEMICALLY RELATED ACTIVITIES

The U.S. Department of Education mandates that students be made aware of expectations regarding coursework to be completed outside the classroom. Students are expected to spend substantial time outside of class meetings engaging in academically-related activities such as reading, studying, and completing assignments. Specifically, time spent on academically-related activities outside of class combined with time spent in class meetings is expected to be a minimum of 37.5 hours over the duration of the term for each credit hour.

Since this class is a face-to-face, 16-week, 3 credit hour class, the expectation is that 112.5 hours be spent on academically-related activities over the 16-week period. The class meets face-to-face for 52.5 hours over the 16 weeks, so it is expected that 60 hours be spent on outside-of-class activities. This means you should spend about 4 hours each week reading the textbook, completing assignments, studying for exams, etc.