

COURSE NAME; NUMBER; SEMESTER; MEETING DAYS, TIMES, AND PLACE.

Laboratory Animal Science: Management and Techniques (3 credits)

11:067:275, Spring 2020

Lectures: Tue and Thursday 5:35 pm - 6:55 pm; Labs: Tue and Thursday 5:35 pm – 8:35pm

Lectures: Bartlett, 123; Labs: Bartlett, 012

CONTACT INFORMATION:

Instructor: Dr. Mehmet Uzumcu

Office Location: Bartlett, 119

Phone: 848-932-6912

Email: uzumcu@rutgers.edu

Office Hours: By Appointment

Part-time lecturer: Nancy Rossi, BS, LATG

Office Location: Nelson D105 and Bartlett Animal Facility

Phone: 732-233-2023/ 848-445-8412

Email: nbrossi@ored.rutgers.edu

COURSE WEBSITE, RESOURCES AND MATERIALS:

- Lectures and course materials will be available at sakai.rutgers.edu.

COURSE DESCRIPTION:

A lecture- and laboratory-based course required for majors in lab animal science options. Students will develop an understanding of laboratory animal science, including laws and regulations governing use and care of laboratory animal species and their general health and common diseases. Examples of common non-transgenic and transgenic models will be discussed. Their housing, equipment, and facilities and pharmacological concepts associated with lab animal models will be examined.

LEARNING GOALS:

The students will:

1. Develop an in-depth understanding of laboratory animal science. (PLG 3)
Assessment: Two midterm exams and pop quizzes
2. Acquire skills for handling, restraint, care, and dosing of laboratory animal species, and for surgical procedures. (PLG 4)
Assessment: Practical exam
3. Develop an understanding of the principles of animal welfare and ethical use and care of laboratory animal species. (PLG 7)
Assessment: Two midterm exams and periodic pop quizzes

GRADE DETERMINATION:

Two mid-term exams: 30.3% for each mid-term

Practical exam: 30.3%

5-6 Pop quizzes (each is worth 5-6 points): 9.1%

ACCOMODATIONS FOR STUDENTS WITH DISABILITIES

Please follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full policies and procedures are at <https://ods.rutgers.edu/>

ABSENCE POLICY AND MAKE UP EXAMS

Students are expected to attend all classes and lab sessions. Unexcused absences, especially from the lab sessions may lead to reduction in the final course grade.

Make-up exams are only given when a student has a legitimate excuse, the student must contact Dr. Uzumcu and get approval in advance.

COURSE SCHEDULE:

SPRING 2020

			Lecture #	Subject
Tue	Jan	21	1	Introduction, Objectives, Animal Research, Scientific Terminology
Thur		23	2	Animal Rights and Animal Welfare; Laws and Regulations
Tue		28	3	Animal Housing Equipment & Design, and Environmental Enrichment
Thur		30	4	Sanitation, Hygiene, Safety, and Gnotobiology
Tue		4	5	Animal Models 1 (rats, mice hamsters, guinea pigs)
Thur	Feb	6	6	Animal Models 2 (rabbits, dogs, cats, and non-human primates)
Tue		11	7	Animal Models 3 (fishes, and others)
Thur		13	8	Transgenic Animal Models and Gene Editing Tools
Tue		18		EXAM #1 (Covers all lectures up to this date)
Thur		20	<i>Lab 1A</i>	Rat Dissection Laboratory Section A
Tue		25	<i>Lab 1B</i>	Rat Dissection Laboratory Section B
Thur		27	<i>Lab 2A</i>	Histology Laboratory Section A
Tue	Mar	3	<i>Lab 2B</i>	Histology Laboratory Section B
Thur		5	9	Anatomy & Physiology 1 (Cells/Tissues; Skeletal, Integument, Muscular)
Tue		10	10	Anatomy & Physiology 2 (Respiratory, Cardiovascular, Digestive)
Thur		12	11	Anatomy & Physiology 3 (Endocrine, Urinary, and Nervous Systems)
Tue		17		SPRING BREAK
Thur		19		SPRING BREAK
Tue		24	12	Genetics, Epigenetics, and Reproduction
Thur		26	13	Animal Health and Disease
Tue		31	14	Pharmacology
Thur	Apr	2		EXAM #2 (Covers all lectures after EXAM # 1)
Tue	Apr	7	<i>Lab 3B</i>	Animal Handling Laboratory Section B
Thur		9	<i>Lab 3A</i>	Animal Handling Laboratory Section A
Tue		14	<i>Lab 4B</i>	Pharmacology Laboratory Section B
Thur		16	<i>Lab 4A</i>	Pharmacology Laboratory Section A
Tue		21	<i>Lab 5B</i>	Animal Surgery Laboratory Section B - Rat Castration
Thur		23	<i>Lab 5A</i>	Animal Surgery Laboratory Section A - Rat Castration
Tue		28	<i>Lab 6B</i>	Animal Surgery Laboratory Section B - Rat Ovariectomy
Thur		30	<i>Lab 6A</i>	Animal Surgery Laboratory Section A - Rat Ovariectomy
Wed	May	13		4:00 P.M. LABORATORY PRACTICAL EXAM

Hands-on exam will cover subject matters from all laboratory exercises, except surgeries, which will be primarily covered with theoretical questions.

Note: For the six weeks during which we have laboratory exercises, rather than lectures, students come to either section A or B, not both. The section assignment will be done 1-2 weeks before the first lab session.

ACADEMIC INTEGRITY

The university's policy on Academic Integrity is available at <http://academicintegrity.rutgers.edu/academic-integrity-policy>. The principles of academic integrity require that a student:

- properly acknowledge and cite all use of the ideas, results, or words of others.
- properly acknowledge all contributors to a given piece of work.
- make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- all student work is fairly evaluated and no student has an inappropriate advantage over others.
- the academic and ethical development of all students is fostered.
- the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

Cheating on exams deprives of you of the educational benefits of the course materials. It is also unfair since it gives you an undeserved advantage over your fellow students who are graded on the basis of their own work. In this class, all cheating will be taken very seriously. All suspected cases of cheating will be automatically referred to relevant University office, and penalties appropriate to the gravity of the infraction will be recommended.

STUDENT WELLNESS SERVICES

Just In Case Web App <http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ www.rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

Scarlet Listeners

(732) 247-5555 / <https://rutgers.campuslabs.com/engage/organization/scarletlisteners>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.