

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

Laboratory Animal Science: Management and Techniques (3 credits)

11:067:275, Fall 2022

Lectures: Tuesdays and Thursdays 5:40 pm – 7:00 pm, Bartlett, 123.

Labs: Tuesdays and Thursdays 5:40 pm – 8:50 pm, Bartlett, 012. The labs start later in the semester (see **COURSE SCHEDULE**, p. 2). For the lab sessions, the class will be divided into sections; one half will attend on Tuesdays and the other half on Thursdays. Sections will be determined 1-2 weeks before the labs.

CONTACT INFORMATION:

Instructor: Dr. Mehmet Uzumcu, 848-932-6912, uzumcu@rutgers.edu, Office hours: By appointment

Instructor: Nancy Rossi, BS, LATG, 848-445-8412, nbrossi@research.rutgers.edu

COVID-19 RELATED ISSUES

Please refer to this page for more information. <https://coronavirus.rutgers.edu/fall-semester-2022-health-and-well-being-protocols/>. The most relevant information is adapted below:

Face coverings: Face coverings are required in all indoor teaching spaces, libraries, and clinical settings. Compliance is mandatory. Masks must be worn in animal facilities; any student not wearing a mask may be asked to leave.

Vaccines and boosters: All students and employees are required to be fully vaccinated, obtain a booster when eligible, and upload records to the university vaccine portal.

COURSE WEBSITE, RESOURCES AND MATERIALS:

- Lectures and course materials will be available at Canvas.

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. Students will gain hands-on experience for common lab animal skills, techniques, and procedures.

LEARNING GOALS:

The students will:

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

COURSE SCHEDULE:

FALL 2022			Lecture #	Subject
Tue	Sep	6	1	Introduction, Objectives, Animal Research, Scientific Terminology
Thur		8	2	Animal Rights and Animal Welfare; Laws and Regulations
Tue		13	3	Animal Housing Equipment & Design, and Environmental Enrichment
Thur		15	4	Sanitation, Hygiene, Safety, and Gnotobiology
Tue		20	5	Animal Models 1 (rats, mice hamsters, guinea pigs)
Thur		22	6	Animal Models 2 (rabbits, dogs, cats, and non-human primates)
Tue		27	7	Animal Models 3 (fishes, and others)
Thur		29		EXAM #1 (Covers all lectures up to this date)
Tue	Oct	4	Lab 1A	Rat Dissection Laboratory Section A
Thur		6	Lab 1B	Rat Dissection Laboratory Section B
Tue		11	8	Transgenic Animal Models and Gene Editing Tools
Thur		13	9	Anatomy & Physiology 1 (Cells/Tissues; Skeletal, Integument, Muscular)
Tue		18	10	Anatomy & Physiology 2 (Respiratory, Cardiovascular, Digestive)
Thur		20	11	Anatomy & Physiology 3 (Endocrine, Urinary, and Nervous Systems)
Tue		25	12	Genetics, Epigenetics, and Reproduction
Thur		27	13	Animal Health and Disease
Tue	Nov	1	14	Pharmacology
Thur		3		EXAM #2 (Covers all lectures, <u>not labs</u> after EXAM # 1)
Tue		8	Lab 2A	Histology Laboratory Section A
Thur		10	Lab 2B	Histology Laboratory Section B
Tue		15	Lab 3A	Animal Handling Laboratory Section A
Thur		17	Lab 3B	Animal Handling Laboratory Section B
Tue		22	Lab 4A	Pharmacology Laboratory Section B
<i>Thanksgiving - Change in Designation of Class Day – Thurs lab students will attend lab on Tues Nov 22nd</i>				
Tue		29	Lab 4B	Pharmacology Laboratory Section A
Thur	Dec	1	Lab 5A	Animal Surgery Laboratory Section B - Rat Castration
Tue		6	Lab 5B	Animal Surgery Laboratory Section A - Rat Castration
Thur		8	Lab 6A	Animal Surgery Laboratory Section B - Rat Ovariectomy
Tue		13	Lab 6B	Animal Surgery Laboratory Section A - Rat Ovariectomy
Tue	Dec	20	8:00 P.M. LABORATORY PRACTICAL EXAM Laboratory practical exam covers subject matters from all six laboratory exercises (Lab 1 through Lab 6).	

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

GRADE DETERMINATION:

Two mid-term exams:	60%
Practical exam:	30%
Quizzes (6-10 quizzes):	10%

Pop-quizzes, will be given for lecture materials covering previous two lectures **at the beginning of the class**. Students are expected to review previous two lectures before coming to class and be on time.

Scheduled quizzes will cover material of lab exercises and will be given **at the beginning of the labs**. So, students are expected to review lab materials for the on-coming lab session prior to every lab to be ready for the quiz and the lab session.

Grading scheme:

A: 100-90%, B+: 85-<90%, B: 80-<85%, C+: 75-<80%, C: 70-<75%, D: 60-<70%, F: <60%.

ABSENCE POLICY AND MAKE UP EXAMS

Attendance is required and is critical for success. However, if you are told to quarantine or experiencing some covid or flu symptoms, you are to remain home. In this case, you must let Dr. Uzumcu know about the situation as soon as possible, and if possible, in advance of the class. You may be asked to provide evidence, like doctor note.

Making up the missing classes is important, and you should contact Dr. Uzumcu as soon as possible if this would be possible. It is not always possible to make up the missed classes, but the sooner you inform Dr. Uzumcu about your possible absence, the more likely to provide remedy.

Make-up exams are not typically given. When a student has a legitimate excuse, the student must contact Dr. Uzumcu and get approval in advance. You will be asked to provide evidence, like doctor note.

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/>

If you need accommodation for disability, provide the documentation to the instructor at the beginning of the semester.

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

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. NJ Hopeline (1.855.654.6735) and National Suicide Hotline (988 in addition to CAPS also can be used.

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/getting-registered>.

Other resources:

DoSomething button through Rutgers Dean of Students office

<http://health.rutgers.edu/do-something-to-help/>

Wellness Coaching through Rutgers HOPE

<http://health.rutgers.edu/education/hope/wellness-coaching/>

Self-Help Apps found on the Rutgers Student Health website:

<http://health.rutgers.edu/education/self-help/self-help-apps/>

NO PHOTOGRAPHY OR VIDEO RECORDING

Per Rutgers' IACUC regulations and rules, no photography, video recording, or similar activity of animals – dead or alive, is allowed in teaching labs or animal facilities. This may result in termination of animal protocols and a access to animals.