

IMPORTANT: This syllabus form should be submitted to OAA (gsbs_academic_affairs@uth.tmc.edu) a week before the start of each semester.

NOTE to STUDENTS: If you need any accommodations related to attending/enrolling in this course, please contact one of the Graduate School's 504 Coordinator, Natalie Sirisaengtaksin, PhD. We ask that you notify GSBS in advance (preferably at least 3 days before the start of the semester) so we can make appropriate arrangements.

Term and Year: Summer 2026 Course Number and Course Title: GS04 1011 Workshop for Experimental Training in Mouse Cancer Biology Credit Hour: 1 Meeting Location: In Person Building/Room#: Gallick Classroom (BSRB S3.8367) & North Campus Animal Facility WebEx/Zoom Link: N/A	Program Required Course: No Approval Code: Yes (If yes, the Course Director or the Course Designee will provide the approval code.) Audit Permitted: Yes Classes Begin: June 1, 2026 Classes End: July 15, 2026 Final Exam Week: N/A						
Class Meeting Schedule <table border="1"> <thead> <tr> <th>Day</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>Monday</td> <td>10:00 – 11:00 am; 1:00-3:00 pm</td> </tr> <tr> <td>Wednesday</td> <td>10:00 – 11:00 am; 1:00-3:00 pm</td> </tr> </tbody> </table>		Day	Time	Monday	10:00 – 11:00 am; 1:00-3:00 pm	Wednesday	10:00 – 11:00 am; 1:00-3:00 pm
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Course Director Name & Degree: Natalie Wall Fowlkes, DVM, PhD Title: Associate Professor Department: Stem Cell Transplantation and Cellular Therapy Institution: MDACC Email Address: nwfowlkes@mdanderson.org Contact Number: 713-792-3071 Course Co-Director/s: Name and Degree: Jody Swain, DVM, DACLAM Title: Associate Professor Department: Veterinary Medicine and Surgery Institution: MDACC Email Address: jswain@mdanderson.org	Instructor/s Jody Swain, DVM, DACLAM Institution: MDACC Email Address: jswain@mdanderson.org Jennifer Mitchell, MS, DVM, DACLAM Institution: MDACC Email Address: jmitchell2@mdanderson.org Erica Moore, DVM, DACLAM Institution: MDACC Email Address: ejmoore@mdanderson.org Susanne Lin, DVM, PhD, DACVP Institution: MDACC Email Address: slin7@mdanderson.org						

Course Co-Director/s: Name and Degree: Jennifer Mitchell, MS, DVM, DACLAM Title: Associate Professor Department: Veterinary Medicine and Surgery Institution: MDACC Email Address: jmitchell2@mdanderson.org Teaching Assistant: N/A	5. Rajneesh Pathania, DVM, PhD, DACLAM Institution: MDACC Email Address: rpathania@mdanderson.org 6. James A. Bankson, PhD Institution: MDACC Email Address: jbankson@mdanderson.org 7. Aria Vaishnavi, PhD Institution: MDACC Email Address: avaishnavi1@mdanderson.org 8. Fabian Delerue, PhD Institution: MDACC Email Address: fdelerue@mdanderson.org 9. William Norton, DVM Institution: MDACC Email Address: wnorton@mdanderson.org 10. Carolyn Malinowski Institution: MDACC Email Address: cmalinowski@mdanderson.org 11. Kerri Schadler, PhD Institution: MDACC Email Address: klschadl@mdanderson.org
Course description: This workshop is intended as an introduction for students who have initially joined a laboratory and plan to work with mice as a research model. Through both lecture and laboratory practicals, students will become familiar with regulations, procedures, and basic knowledge of working with laboratory mice. Lecture topics will include genetics, regulations, colony management, imaging and necropsy. Laboratory practicals will include basic handling and restraint, injections, tissue and blood collection, and aseptic surgical principles.	

Textbook/Supplemental Reading Materials

- AALAS Learning Library (aalaslearninglibrary.org)

Course Objective/s:

Upon successful completion of this course, students will have a basic and practical understanding of using the laboratory mouse in an academic research setting

Specific Learning Objectives:

1. Regulations guiding to use of the laboratory mouse in academia (i.e. IACUC, federal regulatory bodies).
2. Origins and uses of the mouse in cancer biology research.
3. Mouse colony management and health.
4. Basic handling of laboratory mice and common procedures (e.g. injections, blood collection).
5. Postmortem tissue collection and processing.

Student responsibilities and expectations:

Students enrolled in this course will be expected to perform the following activities:

1. Be punctual and attend all lectures and laboratory practicals.
2. Complete independent study/online learning (AALAS Learning Library coursework) prior to laboratory/practicals. There are 6 modules that will take approximately 9.5 hours to review, in total.
3. Present on a topic relevant to coursework at the end of the course.

Note: It is also recommended that students be listed as a “manipulator” on an approved IACUC protocol at their home institution (MDACC or UTH). Shadowing experienced members of their laboratory to observe and participate in mouse experiments utilizing the practical skills they are learning during the course is also recommended when possible.

Grading System: Pass/Fail**Student Assessment and Grading Criteria :**

Percentage	Description
Participation and/or Attendance (100 %)	Students are expected to attend all lectures and practicals.

CLASS SCHEDULE – Summer 2026

Day/Date	Duration (Hour (s) taught by the lecturer)	Lecture Topic	Lecturer/s
6/1/2026	1	Regulations/Guidelines Governing Animal Research	Jennifer Mitchell
6/3/2026	1	Mouse Genetics and Transgenics	Fabien DeLerue
6/3/2026	2	Genetically Engineered Mouse Facility/ Metabolic Facility	Fabien DeLerue/Jack Hashem
6/8/2026	1	Mouse Colony Management	Jody Swain
6/10/26	1	Working Well with the IACUC	Carolyn Malinowski
6/10/2026	2	Basic mouse handling and restraint; Subcutaneous and Intraperitoneal Injections	Swain/Mitchell/TA

6/15/2026	1	Principles of Rodent Behavioral Testing in Mice	Keri Schadler
6/15/2026	2	Rodent Identification Methods (ear tagging, tattoo, ear notch/punch, microchip) and Genotyping	Swain/Mitchell/TA
6/17/2026	1	Introduction/History of the Mouse in Cancer Biology Research	Aria Vaishnavi
6/17/2026	2	Basic mouse handling and restraint; Oral gavage, submandibular bleed, IV injections	Swain/Mitchell/TA
6/22/2026	1	Principles of Rodent Surgery/Analgesia & the Impact of Pain/Distress on Research Outcomes	Erica Moore
6/22/2026	2	Rodent Blood collection and Injections (IV, facial, saphenous, cardiac)	Swain/Mitchell/TA
6/24/2026	1	Small Animal Imaging in Cancer Biology Research	Bankson
6/24/2026	2	Anesthesia, Aseptic Technique	Swain/Mitchell
6/29/2026	1	Basic Rodent Health Conditions	Jody Swain
6/29/2026	2	Wound clips and Euthanasia	Swain/Mitchell
7/1/2026	1	Gross Anatomy of the Mouse and Tissue Collection	Susanne Lin
7/1/2026	4	Rodent Necropsy	Susanne Lin/TA
7/6/2026	1	Reproducibility in Mouse Studies: Environmental and Experimental Factors Impacting Mouse Data	Rajneesh Pathania
7/6/2026	2	Small Animal Imaging Facility	TBD
7/8/2026	1	Current Hot Topics	William Norton
7/8/2026	2	Make up Lab Session	Swain/Mitchell/TA
7/13/2026	1	Student Topic Presentations	Fowlkes/Swain/Mitchell
7/13/2026	2	Make up Lab Session	Swain/Mitchell/TA
7/15/2026	1	Student Topic Presentations	Fowlkes/Swain/Mitchell

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