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 the Graduate School's 504 Coordinator, Dr. Natalie Sirisaengtaksin. 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 2025** Course Number and Course Title: **GS04 1011: Workshop for Experimental Training in Mouse Cancer Biology** Credit Hour: **1** Meeting Location: **UTHH-MD Anderson Cancer Center** 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.) 10 **Audit Permitted: Yes** **Classes Begin: June 9, 2025** **Classes End: July 14, 2025** Final Exam Week: **N/A**

Class Meeting Schedule

Day	Time
Monday	**10:15 – 11:15 am; 1:00-5:00 pm**
Wednesday	**10:15 – 11:15 am; 1:00-5:00 pm**

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-Directors:

Name and Degree: **Jody Swain, DVM, DACLAM**

Title: **Associate Professor**

Department: Veterinary Medicine and Surgery

Institution: MDACC

Instructors

1. **Jody Swain, DVM, DACLAM**
   Institution: **MDACC**
   Email Address: jswain@mdanderson.org
2. **Jennifer Mitchell, MS, DVM, DACLAM**
   Institution: **MDACC**
   Email Address: jmitchell2@mdanderson.org
3. **Erica Moore, DVM, DACLAM**
   Institution: **MDACC**
   Email Address: ejmoore@mdanderson.org
4. **Susanne Lin, DVM, PhD, DACVP**
   Institution: **MDACC**
   Email Address: slin7@mdanderson.org

Email Address: jswain@mdanderson.org

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: TBD

TBD
Name and Email Address

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. **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 laborary 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 approdixmately 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 exeriments 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 2025

Day/Date	Duration (Hour (s) taught by the lecturer)	Lecture Topic	Lecturer/s
6/9/2025	1	Introduction/History of the Mouse in Cancer Biology Research	Aria Vaishnavi
6/9/2025	2	North Campus Facility/Metabolic Facility	TBD
6/11/2025	1	Mouse Genetics and Transgenics	Fabien DeLerue
6/11/2025	2	Genetically Engineered Mouse Facility	Fabien DeLerue
6/16/2025	1	Principles of Rodent Behavioral Testing in Mice	Keri Schadler
6/16/2025	4	Basic mouse handling and restraint; Subcutaneous and Intraperitoneal Injections	Swain/Mitchell/TA
6/18/2025	1	Regulations/Guidelines Governing Animal Research	Jennifer Mitchell
6/18/2025	4	Basic mouse handling and restraint; Oral gavage, submandibular bleed, IV injections	Swain/Mitchell/TA
6/23/2025	1	Principles of Rodent Surgery/Analgesia & the Impact of Pain/Distress on Research Outcomes	Erica Moore
6/23/2025	4	Rodent Identification Methods (ear tagging, tattoo, ear notch/punch, microchip) and Genotyping	Swain/Mitchell/TA
6/25/2025	1	Reproducibility in Mouse Studies: Environmental and Experimental Factors Impacting Mouse Data	Rajneesh Pathania
6/25/2025	4	Rodent Blood collection and Injections (IV, retroorbital, saphenous)	Swain/Mitchell/TA
6/30/2025	1	Basic Rodent Health Conditions/Mouse Colony Management	Jody Swain
6/30/2025	4	Anesthesia, Aseptic Technique, Surgery Training and Basic Surger. Wound clip repair Euthanasia, Cardiac Stick	Swain/Mitchell
7/2/2025	1	Gross Anatomy of the Mouse and Tissue Collection	Susanne Lin
7/2/2025	4	Rodent Necropsy	Susanne Lin/TA

7/7/2025	**1**	**Small Animal Imaging in Cancer Biology Research**	**Bankson**
7/7/2025	**2**	**Small Animal Imaging Facility**	**TBD**
7/9/2025	**1**	**Current Hot Topics**	**TBD**
7/9/2025	**4**	**Clinical Rodent Skills Lab (Open/student's choice)**	**Swain/Mitchell/TA**
7/14/2025	**1**	**Student Topic Presentations**	**Fowlkes/Swain/Mitchell**
7/14/2025	**2**	**Student Topic Presentations**	**Fowlkes/Swain/Mitchell**

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