

Semester: Fall
Class Day/Time: Thursdays 2:00-5:00

Year: 2013
Class Location: Room 116.1

Instructor of Record: Dr. Vijay Boggaram

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Office Hours: TBA

Coordinator: Amanda Leverett

Course Description: Designed for students desiring research projects directed by UTHCT faculty, to provide an orientation into the research laboratory workplace, to master fundamental laboratory techniques, to develop skills in planning a laboratory project and to present their work in both an oral and written context.

Prerequisite: As per program entry

Co-requisite: None

Goals of Course & Course Objectives:

Course Objectives:

1. To develop an understanding of basic laboratory workings, rules and expectations.
2. To prepare the student to enter the laboratory with a level of independence.
3. To enable the student to use his/her knowledge and demonstration of laboratory operations to ease their way into beginning a successful research project.
4. To expose the student to a minimum of four different research labs to enable the student to choose a laboratory in which to conduct their thesis project.
5. To expose the student to both student and faculty research seminars so as to enhance their own professional presentation ability.

Student Learning Outcomes (Course Competencies):

1. The student will demonstrate a thorough understanding of research laboratory concepts and practices.
2. The student will complete rotations in a minimum of four different research laboratories and be able to describe and summarize the research being performed in each.
3. The student will be able to think independently, as well as thoughtfully critique and discuss various research topics.

Course Assessment/Methods of Evaluation:

Students understanding will be evaluated for both oral and written components.

Assignments: May consist of in class or homework assignments. Late assignments will be docked 10 points per day for each day that the assignment is not turned in past the due date.

Post-Seminar Discussions: Students will be subjectively evaluated for their understanding of each seminar presentation based on their answers to oral questions and their ability to interact intellectually with the material presented.

Seminar Attendance: Students are required to attend all seminars during the semester. All seminars for which they are responsible will be announced in class at least the week before the presentation.

Laboratory Rotations: Students are required to rotate through at least four UTHSCT research labs and to shadow researchers within those labs for at least one full day. After each rotation, the student's understanding of that lab will be evaluated based on subjective post-rotation interviews and discussions and must demonstrate the student's ability to describe the area of research and to explain the techniques and equipment used in each lab.

Final Exam: Cumulative exam covers any and all materials covered in this course.

Linked Program Learning Outcomes:

The student learning outcomes listed above address the following Biotechnology Program PLOs:

- PLO-1. The student will demonstrate English communication skills in both oral and written forms.
- PLO-4. The student will demonstrate independent and critical thinking skills integrated with the ability to utilize multiple informational resources.

Textbook:

At the Bench – A Laboratory Navigator by Kathy Barker; Cold Spring Harbor Laboratory Press (ISBN 0-87969-708-3).

Course Content:

Lectures:

1. Introduction
2. General Lab Organization and Procedures
3. Laboratory Setup and Equipment
4. Getting Started and Staying Organized
5. How to Set Up an Experiment
6. Laboratory Notebooks

Weeks 7 – 12 are devoted to rotations in different laboratories, with the final lecture being devoted to discussion of rotations.

Date	Activity in Class	Other Requirements	Reading Assignments	Assignments Due
8/29	Introduction, Safety	Seminar	Ch1	
9/5	Radiation Training, Discussion	Seminar	Ch1	Safety Assignment, Seminar Notes
9/12	Personnel Scavenger Hunt, Discussion	Seminar	Ch2	Radiation Assignment, Seminar Notes
9/19	Library Tour, Discussion	Seminar	Ch2	Seminar Notes
9/26	Vivarium Tour, Discussion	Seminar	Ch3	Library Assignment, Seminar Notes
10/3	Lab Ethics, Picking a Lab, Discussion	Seminar	Ch3	Vivarium Assignment, Seminar Notes
10/10	Professors Presentations, Discussion	Seminar	Ch4	Pub Med Assignment, Seminar Notes
10/17	Professors Presentations, Discussion	Seminar	Ch4	Chapter 4 Quiz, Seminar Notes
10/24	Professors Presentations, Discussion	Seminar	Ch5	
10/31	Professors Presentations, Discussion	Seminar	Ch5	Lab Notebook Assignment, Seminar Notes
11/7	Professors Presentations, Discussion	Seminar	Ch6	
11/14	Rotation Discussions	Seminar	Ch6	
11/21	Rotation Discussions	Seminar		Research Picks Submitted
11/28	Thanksgiving Holiday			
12/5	Review for Final Exam			Final Exam Due 12/12
12/12	FINAL EXAM DUE			

Other Class Policies:**Attendance:**

Regular or punctual attendance is expected. If a student misses a class or lab, the student is responsible for obtaining any information distributed during those times. Make-ups are possible only under certain instances (labs cannot be made up). Arrangements for any make-ups and/or missed labs should be discussed directly with the instructor for that day's class.

Participation:

Student participation is required for the successful completion of this course. If a student decides not to participate in class, the professor may reserve the right to give an F in the course.

Academic Honesty:

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

Cheating

Dishonesty of any kind involving examinations, assignments, alteration of records, wrongful possession of examinations, and unpermitted submission of duplicate papers for multiple classes or unauthorized use of keys to examinations is considered cheating. Cheating includes but is not limited to:

- Using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class.
- Falsifying or inventing any information, including citations, on an assigned exercise.
- Helping or attempting to help another in an act of cheating or plagiarism.

Plagiarism

Plagiarism is presenting the words or ideas of another person as if they were your own. Materials, even ideas, borrowed from others necessitate full and complete acknowledgment of the original authors. Offering the work of another as one's own is plagiarism and is unacceptable in the academic community. A lack of adequate recognition constitutes plagiarism, whether it utilizes a few sentences, whole paragraphs, articles, books, audio-visual materials, or even the writing of a fellow student. In addition, the presentation of material gathered, assembled or formatted by others as one's own is also plagiarism. Because the university takes such misconduct very seriously, the student is urged to carefully read university policies on Misconduct in Research and Other Scholarly Activity 05.00. Examples of plagiarism are:

- Submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another.
- Submitting a work that has been purchased or otherwise obtained from an Internet source or another source.
- Incorporating the words or ideas of an author into one's paper without giving the author due credit.

Adding/Dropping:

The official deadline for adding and dropping courses is as published in the academic calendar and Graduate Bulletin (typically the day before Census Day). However, students are strongly encouraged to meet with their graduate advisor or the Program Coordinator prior to adding/dropping courses. Movement into and out of classes after the 4th class day requires approval of the Program Director. Students can drop until mid-semester without a WP or WF. Drops after mid-semester require approval of the Dean. Each student is responsible for their own enrollment status with the university.

Disability Accommodations:

UTHSCT abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, which mandate reasonable accommodations be provided for students with documented disabilities. If you have a disability and may require some type of instructional and/or examination accommodations, please contact me early in the semester so that I can provide or facilitate provision of accommodations you may need. If you have not already done so, you will need to register with the Student Services Office (located on the UT Tyler Campus). You may call 903-566-7079 for more information.