



UT Tyler

SCHOOL OF MEDICINE

BIOT 6331

Thesis Research

Credit Hours: 1 – 3

Semester: Persistent

Year: Persistent

Class Day/Time: TBA

Class Location: TBA

Instructor of Record: Varies

Professor

Office: TBA

Office Phone: TBA

E-Mail: TBA

Office Hours: TBA

Course Description: Research supporting thesis project. Only three semester hours will count toward the degree. A grade is not assigned until the student graduates.

Prerequisite: BIOT 5331, 5332, and approved thesis proposal.

Co-requisite: None

Goals of Course & Course Objectives:

Research in chosen thesis lab.

Course Objectives:

1. Completion of thesis project.
2. Presentation of thesis findings.

Student Learning Outcomes (Course Competencies):

1. The student will demonstrate the ability to conduct and complete an independent research project.
2. The student will explain and discuss the experiments performed, both informally and formally at lab meetings and at a research seminar.
3. The student will demonstrate the ability to maintain a lab notebook describing the experiments performed.

Subject-specific Skills:

As per techniques performed in chosen lab and required for thesis research.

Course Assessment/Methods of Evaluation:

Varies by instructor. Student understanding will be evaluated with a mechanism appropriate to the material and specific content. Students who successfully complete Thesis Research will demonstrate the ability to conduct independent research at the Master's level and be prepared for Research Writing (BIOT 6332). Assessment will be as below unless otherwise indicated by the instructor of record.

Attendance:	30%
Notebook/record keeping	30%
Designing and performing experiments, Data analysis and interpretation, Trouble shooting	40%

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-2. The student will demonstrate mastery of basic and advanced biotechnology methods
- PLO-3. The student will demonstrate the ability to safely operate basic and advanced laboratory equipment, analytic devices and computers.
- PLO-4. The student will demonstrate independent and critical thinking skills integrated with the ability to utilize multiple informational resources.
- PLO-5. The student will explain the principles, mechanisms and interrelatedness of both in vivo and in vitro biochemical, molecular biological and genetic processes.

Textbook: Largely primary literature. Reading material varies by instructor and topic.

Course Content: Biomedical research (varies by instructor and topic), maintaining a lab notebook, presenting & discussing research findings as assigned.

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.

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.

Program:	Master of Science in Biotechnology
Degree:	MS
Department:	Cellular and Molecular Biology
School:	Medical Biological Sciences
Course:	BIOT6331/6332 – Thesis Research and Thesis Writing

Area	Marketable Skill*
TASKS	Maintain accurate laboratory records and data.
	Design molecular or cellular laboratory experiments, oversee their execution, and interpret results.
	Perform laboratory procedures following protocols.
TECHNOLOGY SKILLS	Analytical or scientific software; Graphics or photo imaging software - GraphPad, ImageJ, Adobe; Office suite software - Microsoft Office
SKILLS	Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
	Writing — Communicating effectively in writing as appropriate for the needs of the audience.
	Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.
	Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
ABILITIES	Written Comprehension — The ability to read and understand information and ideas presented in writing.
	Written Expression — The ability to communicate information and ideas in writing so others will understand.
	Oral Comprehension — The ability to listen to and understand information and ideas presented through spoken words and sentences.
	Oral Expression — The ability to communicate information and ideas in speaking so others will understand.
	Inductive Reasoning — The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
WORK ACTIVITIES	Documenting/Recording Information — Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.
	Getting Information — Observing, receiving, and otherwise obtaining information from all relevant sources.
	Processing Information — Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.
	Updating and Using Relevant Knowledge — Keeping up-to-date technically and applying new knowledge to your job.
	Analyzing Data or Information — Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.

WORK CONTEXT	Wear Common Protective or Safety Equipment such as Safety Shoes, Glasses, Gloves, Hearing Protection, or PPE.
	Importance of Being Exact or Accurate

*All marketable skills listed for this course and program were drawn from the Knowledge, Skills, and Abilities identified by the US Department of Labor and Statistics for “Biological Technicians” and “Molecular and Cellular Biologists” as published on O*Net Online (www.onetonline.org)