

BIOT 5140**Emerging Techniques****Credit Hours: 1****Semester:** Fall**Year:** 2014**Class Day/Time:** TBA**Class Location:** TBA**Instructor of Record:** Dr. Torry Tucker

Professor

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Office Hours: Mon-Fri, 1-2 p.m. Appointments for meetings outside of office hours can be scheduled. I will reply to e-mail messages and return phone calls weekdays before 10:00 a.m. and again after 4:00 p.m.

Course Description: Independent study and presentation of an emerging technique or technology in the field of biotechnology.

Prerequisite: As per program entry.**Co-requisite:** None**Goals of Course & Course Objectives:**

1. To develop skills in researching and evaluating techniques used in research.
2. To develop skills in finding and understanding pertinent scientific information.
3. To develop skills in technical writing.
4. To develop skills in preparing and giving oral presentations.

Student Learning Outcomes (Course Competencies):

1. The student will be able to investigate new technologies and techniques and evaluate their usefulness.
2. The student will present the current topic in biotechnology.
3. The student will demonstrate the ability to find and process scientific information.
4. The student will demonstrate the ability to communication scientific information in both written and oral formats.

Course Assessment/Methods of Evaluation:

1. Selection of technique 10%
2. List of potential sources 10%
3. Preliminary paper 10%
4. Outline of final paper 10%
5. Slides and presentation outline 10%
6. Final paper 25%
7. Oral presentation 25%

Any grade below B is unacceptable for graduate school and may be considered an academic deficit. Any grade below D is failing.

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.
- PLO-5. The student will explain the principles, mechanisms and interrelatedness of both in vivo and in vitro biochemical, molecular biological and genetic processes.

Course Content:

<u>Date</u>	<u>Activity</u>	<u>Assignments Due</u>
Week 1	Introduction to course Sources for selecting technique	
Week 2	Individual meetings to present Technique selected	Selection of technique
Week 3	Format for Preliminary paper Format for final paper	
Week 4	Guide for oral presentations	Preliminary paper
Week 5		
Week 6		Outline of final paper
Week 7	Individual meetings if required	
Week 8	Individual meetings if required	
Week 9	Individual meetings if required	
Week 10		Presentation outline/slides
Week 11	Individual meetings if required	
Week 12		Presentations
Week 13		Presentations
Week 14		Papers due

Summary of Assignments

1. *Selection of Technique* – select a technique that is newly emerging or gaining use in research labs. Both Biotechniques and Nature Methods are good places to start looking at potential topics. Bring to your meeting with the instructor a 1 paragraph description of the technique and a list of 3 potential sources. Be prepared to discuss your technique including what it is used for and how it is performed, why you selected this technique, and the benefits of this technique compared to current techniques or what problems/questions this technique addresses that can't currently be addressed.
2. *Preliminary paper* – a 2 or 3 page paper summarizing the following: 1) what the technique is used for; 2) the advantages and disadvantages of this technique compared to current methods to address the same questions; 3) a brief description of how the technique is performed; 4) list of references used
3. *Outline of final paper*. An outline of the final paper including sources used
4. *Outline of oral presentation and slides*. Prepare an outline of the oral presentation you will give to your fellow students. Also turn in a copy of the slides so they can be

distributed

5. *Presentation* – a 45 minute oral presentation followed by a 10 minute question period. Presentation should include the following information: 1) a brief description of the technique; 2) what the technique is used for; 3) how this technique compares to current techniques used to address the same questions; 4) specialized equipment or reagents required for the technique including cost to get technique up and running in the lab; 5) a description of how the technique is performed from beginning to end; 6) advantages and disadvantages of the technique; 7) recommendation – would you implement the use of this technique and justification for your recommendation
6. *Paper* – Should include all information in your presentation and a list of references used

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.