BIOT 5310  Fundamentals of Biomedical Research  Credit Hours: 3

Semester: Fall  Year: 2018

Class Day/Time:  Tuesday 9 - 12  Class Location:  Room 116.1

Instructor of Record:  Dr. Amy Tvinereim  Coordinator:  Kimberly Tutt
Office:  BMR Lab B3
Office Phone:  903-877-5189
E-Mail:  Amy.tvinereim@uthct.edu
Office Hours:  Mondays and Fridays 8:00-9:00 AM

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:

Objectives (Learning Outcomes):
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 expose the student to both student and faculty research seminars so as to enhance their own professional presentation ability.

Student Learning Outcomes (Course Competencies):
Knowledge & Understanding:
Students understanding will be evaluated with both oral and written components. Students who successfully complete Fundamentals of Biomedical Research will demonstrate:
• A thorough understanding of laboratory concepts and practices.
• The ability to think independently and defend and discuss their ideas.

Course Assessment/Methods of Evaluation:
Assignments: Consists of in class and homework assignments (15%).

Participation: Consists of attendance and participation in discussions (10%)

Laboratory Rotations: Students are required to rotate through at least four research labs for two weeks in each lab. During rotation students are required to shadow researchers and perform experiments under the guidance of the Principal Investigator of the lab. After each rotation, the student will submit a written report, of the studies performed, according to the lab report template (60%). Students can take fifth lab rotation, and the fifth rotation report is not required. But, if the students submit the fifth rotation report, the best four report scores will be counted for the final grade.

Final Exam: Cumulative exam covers any and all materials covered in this course (15%).

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:

Course Content:

Lectures:

1. Introduction
2. Scientific Writing I
3. Scientific Writing II
4. Radiation and Chemical Safety
5. Biomedical Literature Search
6. Animal Experimentation and Recombinant DNA Research
7. Scientific Integrity
8. Compliance

Reading Assignments:


Laboratory Rotations:

Minimum of four rotations. Each rotation is for two weeks.

Class Policies:

Attendance:
Students are expected to attend all classes. Students will be allowed to miss 1 class without penalty. Additional absences will be handled as follows:

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<thead>
<tr>
<th>Absences</th>
<th>Penalty</th>
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<tbody>
<tr>
<td>2</td>
<td>Lose 10% of overall grade in class</td>
</tr>
<tr>
<td>3</td>
<td>Lose 15% of overall grade in class</td>
</tr>
<tr>
<td>4</td>
<td>Lose 20% of overall grade in class</td>
</tr>
<tr>
<td>5+</td>
<td>Student will have to remediate the course</td>
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</tbody>
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Students will be considered absent if they arrive more than 15 minutes after the start of class.

Emergencies
In the event of an emergency or sickness, the student MUST contact their PI and/or the Program Coordinator (Kim Tutt) by phone or email THE DAY OF the expected absence. Failure to do so will result in the absence being counted as 2 absences, resulting in a 10% decrease in the class grade.

Assignments
Students are expected to turn in assignments on time. Late assignments will be handled as follows:
1 day late 5% deducted from overall assignment grade
2 - 3 days late 10% deducted from overall assignment grade
4 - 7 days late 20% deducted from overall assignment grade
7+ days late 30% deducted from overall assignment grade

**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 his/her 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.