

# THE UNIVERSITY OF TEXAS AT EL PASO COLLEGE OF SCIENCE

## DEPARTMENT OF BIOLOGICAL SCIENCES

CRN 15811

**Course #:** BIOL 1107

**Course Title:** LABORATORY COURSE – Antagonizing that GPCR

**Term:** Fall 2021

**Meetings & Location:** T/Th 11-12:20 / Biology Building 412

**Prerequisite Courses:** BIOL 1305 or BIOL 1306/1108 (can be taken concurrently)

**Instructor:** Mr. Angel Torres and Dr. Charlotte M. Vines

**Office Location:** Biosciences 4.126 (Torres) and Biosciences 4.124 (Vines)

**Contact Info:** [atorres61@utep.edu](mailto:atorres61@utep.edu) / [cvines@utep.edu](mailto:cvines@utep.edu)

**Office Hours:** By Appointment, Office 4.126

**Textbook(s), Materials Required:** Lab handouts (Qiaexpressionist), Lab notebook, Calculator

### **Course Objectives, Activities and Assignments:**

In this course, we will attempt to generate, purify, analyze and use protein antagonists. Evaluation will be based on your performance in the laboratory and/or your notebook. Your notebook will be evaluated based on the completeness of your notebook and completion of quizzes during the class. You will be expected to generate an electronic notebook in PDF format. Each notebook must contain a **table of contents** (pages 1 and 2 of the notebook) and **completeness of experiments** (**Date of study, purpose of study, hypothesis being tested, approach to test the hypothesis/experiments, results (include scanned data), discussion of what you will do with the results**). You will be graded on neatness, accuracy, proper spelling/English and completeness of the entries. You are expected to purchase and wear a laboratory coat, and eye protection to each class. In addition, you are expected to wear closed-toe shoes, and legs must be fully covered with pants (**no holes in your pants please!**). Dresses, shorts and skirts will not be allowed. **If you are not dressed appropriately you will not be allowed to participate that day in lab and your absence will unexcused. No exceptions!**

### **Assessment of Course Objectives:**

Student grades will be based on the weekly online lab quizzes (20%), notebooks (45%), and final presentation (15%), as well as attendance (20%- if you are online your attendance grade will consist of your presence during the beginning of each class, attendance during mandatory online lectures and any other online class activity). A 10-

minute quiz will be administered at the beginning of certain labs. **Attendance is mandatory. For each lab missed you will lose 10% of your attendance grade. These grades cannot be made up.** Notebooks will be deducted 10% for each day the notebook is late. At the end of the semester each student will give a 20-minute (15-minute presentation/5 minutes for questions) PowerPoint presentation on the work that they have completed during the semester.

**Course Schedule (Subject to change): See Table**

**Make-up Policy:** There will be **NO MAKEUP QUIZZES, once the quiz is over it will no longer be accessible on Blackboard.** If you miss a quiz you will receive the score of **ZERO.**

**Grade Disputes:** UNDER EXTENUATING CIRCUMSTANCES, AT THE DISCRETION OF MR. TORRES STUDENTS WILL BE ALLOWED TO MAKE UP A QUIZ. THIS QUIZ MUST BE MADE UP, DURING OFFICE HOURS, WITHIN ONE WEEK OF THE MISSED QUIZ. Students who fail to take a quiz without prior approval from Mr. Torres will earn a score of zero for the quiz.

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**Attendance Policy:** 20% of your grade will be derived from attendance. Being late, will lead to point deductions.

**Academic Integrity Policy:** The UTEP academic integrity policy will be strictly enforced during exams. Any student failing to adhere to the policy will be disciplined.

**Civility Statement:** During the quizzes, all cell phones should be turned off. If you are online, you will be expected to take the quiz on a Respondus Lockdown browser. Students with disruptive behavior will be asked to leave the class. If you are tardy and miss the quizzes there will be no makeup quiz.

**Letters grade for this class will be assigned as follows:**

A 100-90%

B 80-89%

C 70-79%

D 60-69%

F 0-59%

**Academic Integrity:** The UTEP academic integrity policy will be strictly enforced during exams. **Students are expected to be above reproach in all scholastic activities.** Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the university. "Scholastic dishonesty includes but is not limited to making up data, cheating, plagiarism, collusion, and 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

student, any act designed to give unfair advantage to a student or the attempt to commit such acts.” Regent’s Rules and Regulations, Part One, Chapter VI, Section 3.2, Subdivision 3.22. Since scholastic dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. Per UTEP Dean of Student Affairs (<http://studentaffairs.utep.edu/Default.aspx?tabid=4386>) “It is an official policy of university that all suspected cases or acts of alleged scholastic dishonesty must be referred to the Dean of Students for investigation and appropriate disposition. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, and the submission

**Examples of “cheating” include:**

- Copying from the homework, in-class work or exam paper of another student, engaging in written, oral, or any other means of communication with another student during an exam or homework assignment, or giving aid to or seeking aid from another student during a test.
- Possession and/or use during an exam or home test of materials which are not authorized by the person giving the test, such as class notes, books, or specifically designed “crib notes”.
- Using, obtaining, or attempting to obtain by any means the whole or any part of non- administered test, test key, homework solution, or computer program; using a test that has been administered in prior classes or semesters but which will be used again either in whole or in part without permission of the instructor; or accessing a test bank without instructor permission.
- Collaborating with or seeking aid from another student for an assignment without authority.
- Substituting for another person, or permitting another person to substitute for one's self, to take a test.
- Falsifying research data, laboratory reports, and/or other records or academic work offered for credit.

**“Plagiarism”** means the appropriation, buying, receiving as a gift, or obtaining by any means another's work and the unacknowledged submission or incorporation of it in one's own academic work offered for credit, or using work in a paper or assignment for which the student had received credit in another course without direct permission of all involved instructors. NOTE: This includes cutting-and-pasting and photocopying from on-line and other material.

**“Collusion”** means the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on scholastic dishonesty.

**Disability Statement:**

If a student has or suspects she/he has a disability and needs an accommodation, he/she should contact the Disabled Student Services Office (DSSO) at 747-5148,

dss@utep.edu, cass@utep.edu or go to Room 106 Union East Building. For additional information please visit the CASS website at [www.sa.utep.edu/cass](http://www.sa.utep.edu/cass). The student is responsible for presenting to the instructor any DSS accommodation letters and instructions.

**Military Statement:**

If you are in the military, with the potential of being called up for military service and/or training during the course of the semester, you are encouraged to contact Dr. Vines as soon as possible

<b>Fall 2021 Dates</b>	<b>Subject to change</b>	<b>Due Dates</b>
<b>Week 1</b> 08/30 and 09/02	<ul style="list-style-type: none"> <li>Syllabus and Rules</li> <li>Information on BB</li> <li>Basic Laboratory Safety</li> <li>Introduction to scientific concepts of our class</li> </ul>	How to work with a pipette
<b>Week 2</b> 09/07 and 09/09	Concepts in Microbiology <ul style="list-style-type: none"> <li>Preparation of Buffers and transformation of Bacteria</li> <li>DH5a vs. BL21 DE3 pSUMO-8.83</li> </ul>	Quiz 1
<b>Week 3</b> 09/14 and 09/16	Protein expression system Bacteria <ul style="list-style-type: none"> <li>Isolation of DNA from Bacteria Culture (Miniprep)</li> </ul>	Presentation CCR7 Research
<b>Week 4</b> 09/21 and 09/23	Restriction digestion analysis and DNA agarose gel electrophoresis <ul style="list-style-type: none"> <li>Plasmid digestion and agarose DNA gels</li> <li>Transformation BL21 DE3</li> </ul>	Quiz 2 / Lab Notebook due
<b>Week 5</b> 09/28 and 09/30	Bacterial growth curves and IPTG induction <ul style="list-style-type: none"> <li>Induction of over night culture with IPTG</li> </ul> Buffers and Calculation of Concentrations	
<b>Week 6</b> 10/05 and 10/07	Protein Visualization SDS - Page <ul style="list-style-type: none"> <li>SDS Page / Coomassie</li> </ul>	Quiz 3 / Lab Notebook due
<b>Week 7</b> 10/12 and 10/14	<ul style="list-style-type: none"> <li>SDS Page</li> <li>What is a Western blot</li> </ul>	Literature Presentation

	<ul style="list-style-type: none"> <li>Western blot</li> </ul>	
<b>Week 8</b> 10/19 and 10/21	<ul style="list-style-type: none"> <li>Developing WB</li> </ul>	Quiz 4 / Lab Notebook due
<b>Week 9</b> 10/26 and 10/28	Protein Isolation Protocols in the Literature	
<b>DROP DEADLINE</b> 10/29	Fall Drop/Withdrawal Deadline	Note: Student-initiated drops are permitted after this date, but student is not guaranteed a grade of W. The faculty member of record will issue a grade of either W or F.
<b>Week 10</b> 11/02 and 11/04	<ul style="list-style-type: none"> <li>Protein Isolation from O/N culture</li> </ul>	Quiz 5 / Lab Notebook due
<b>Week 11</b> 11/09 and 11/11	<ul style="list-style-type: none"> <li>Analysis of Isolated Proteins</li> </ul>	Literature Presentation
		Quiz 6 / Lab Notebook due
<b>Week 12-13</b> 11/16 and 11/23	TBD	
<b>Week 14</b> 11/30-12/02	PowerPoint presentations	