

MOLECULAR CELL BIOLOGY LABORATORY

BIOL 3115

Fall 2018

LAB INSTRUCTOR

Dr. German Rosas-Acosta

Email: grosas3@utep.edu

LAB TEACHING ASSISTANTS

Diana Gonzalez

Monday

- 8:00am-10:20am
- 1:30pm-4:20pm

Michelle Sanchez

Tuesday and Wednesday

- T: 1:30pm-4:20pm
- W: 8:00am-10:50am

Paulina Villanueva

Wednesday and Thursday

- W: 1:30pm-4:20pm
- T: 1:30pm-4:20pm

Juan Carlos Silva

Friday and Saturday

- F: 1:30pm-4:20pm
- S: 9:30am-12:20pm

LAB COORDINATOR

Dr. Jennifer Apodaca

Japodaca15@utep.edu

LAB DESCRIPTION

- This lab is designed to teach you a few fundamental techniques of cellular biology. However, rather than conduct a series of “cookie-cutter” experiments each week, you will conduct this lab as a semester-long research project as a research team. Each team will undertake the design and execution of experiments (under guidance) to address a novel question in biomedical research.

LAB GOALS

- To ***participate*** in the scientific process by
 - ***writing*** a background research proposal
 - ***conduct*** reproducible experimental assays
 - ***evaluate and analyze*** experimental data

- To articulate your findings in the form of a written and oral presentations

LAB POLICIES

- **MISSING LAB:** Attendance is required. You **CANNOT** attend another lab section. If you will be out-of-town due to attending a conference or because you are on a UTEP sports team or will be on a school interview, let your TA know, provide evidence to this effect, and arrangements will be made. No other excuses will be accepted.
- **MAKE-UPS:** All submissions are due on the date when indicated (refer to the "Lab Schedule") at the beginning of lab as a hard copy; electronic copies WILL NOT be accepted; assignments left in the Biology Office WILL NOT be accepted; Reports submitted at the end of lab session WILL NOT be accepted; submissions on any date after the due date WILL NOT be accepted. Moreover, unless pre-approved, make-ups for quizzes, for lab sessions, or for Experiment Progress Reports WILL NOT be provided. If you know you will not be attending lab due to a pre-scheduled activity (such as a conference or school interview), you must receive permission to submit your assignment at an alternate date and time from your TA at least 1 week BEFORE the actual class is missed. Arrangements can then be made with your TA for when the assignment is to be submitted and for when the Quiz is to be taken.
- **CIVILITY STATEMENT:** All cell phones and tablets must be turned off or placed on silent mode. DO NOT answer phones while in class! Laptops are allowed in class as a resource for class material only; they CANNOT be used for other activities other than those related to class.
- **ACADEMIC DISHONESTY:** It is the policy of the University of Texas at El Paso that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. For further information, please refer to UTEP's Handbook of Operating Procedures, Chapter 1: Student Conduct and Discipline (<http://admin.utep.edu/Default.aspx?PageContentID=2084&tabid=30292>).
- **PLAGIARISM:** Plagiarism is considered a form of Academic Dishonesty and WILL NOT be tolerated in any form. Please also see Plagiarism and Scholastic Integrity webpage, at UTEP's Library: <http://libraryweb.utep.edu/research/plagiarism.php>
- **ADA ACCESSIBILITY:** Students who need an accessible classroom or access to adjustable tables or chairs, should register no later than the last week in September for Spring Semester, or by the first week in April for Summer and Fall Semester with the Center for Accommodations and Support Services (CASS) (<http://sa.utep.edu/cass/>). CASS is located in Union East 106, phone 915-747-5148, email cass@utep.edu. If a student has or suspects he/she has a disability and needs an accommodation, he/she should contact the CASS.
- **MILITARY STATEMENT:** If you are a military student, including the National Reserves, with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact the instructor by phone and/or email at the earliest convenience.

GRADING POLICIES

- Your grade will be based on the following components:
 - **1 Background Report**
 - **5 Quizzes**
 - **4 Experiment Progress Reports**
 - **1 Team Oral Presentation**
 - **Lab Conduct, Performance, Attendance, and Participation**
- **Teams:** Your lab section will be divided into teams – 4 members to a team – NO LESS, NO MORE. As a team, you will meet every week during the scheduled lab time. The purpose of this lab is for you to actually conduct a research project throughout the semester.
- **Background Research Report:** The semester-long research project that your team will conduct specifically addresses cancer: what factors might contribute to the induction of cancer (proliferating cells) and what agents might be used to prevent cancer (slow down or prevent hyper-proliferation of cells). As a team, you will select a chemical reagent to test and a cell line on which to test it on. This component of the lab will be written up as a Background Research Report - a report is submitted by every member of your team (a Background Report from EACH STUDENT). You can work on the proposal together, but each student must submit an original document. Components of the Background Research Report are detailed in the Lab Manual.
- **Quizzes:** A total of 5 quizzes will be provided at the beginning of EACH lab session in which experiments assays are to be conducted. The quizzes will cover material related to the experimental assay that is to be conducted that day (information as to topic provided in the schedule). This is being done to ensure you have read the related material prior to coming to lab in preparation for the lab's activities.
- **Lab Progress Reports:** A total of 4 Lab Reports will be required. The purpose of the Reports is to help you gain additional training in the presentation and interpretation of data. All experimental assays must be repeated a minimum of two times but ideally three. Believable data must be reproducible, so experiments must be repeated. Therefore, rather than turning in a lab report for every week, each student will be submitting a report upon completion of the repeated experiments. A more detailed description of the Lab Progress Reports is provided in the Lab Manual. A team can work together on an Experimental Progress Report, but EACH STUDENT must turn one in (and it must not be identical to other team members).
- **Team Oral Presentation:** A summary of ALL of your findings must be provided as an oral presentation at the end of the semester. One lab session has been set aside to discuss your findings and to determine what conclusions can be drawn from the data. Details are provided in the Lab Manual. Note that this is the only assignment that is to be submitted as a team (one presentation per team).

- **Conduct, Performance, Participation and Attendance:** These elements will be assessed by your TA and the Lab Coordinator. If any misconduct or lack of performance is observed, points will be deducted from your grade. Poor conduct/performance includes not following lab safety requirements, goofing off in lab, not coming to lab prepared, not contributing to the team experiments, wearing inappropriate attire, etc. This list is not comprehensive. Skipping or missing a lab will also result in a deduction of points as will coming into lab late. The number of points to be deducted will be appropriate for the infraction. Lastly, you will also be observed for how engaged you are with your team. Points will be deducted from those to be awarded that session if you are not participating in that day's activities.
- **Final:** A comprehensive Final will be administered the last day of labs. It will cover the various aspects of working in a tissue culture lab and information regarding the 5 procedures/assays conducted throughout the semester.
- **Your experiments will be conducted in the MCB HHMI CELL LAB.** This is a dedicated lab for MCB students to perform research. This opportunity is a privilege not a right – your tuition and/or lab fees DOES NOT contribute to this facility! Thus, conduct yourselves in a respectful manner. As with any research lab, your instructor, TA, and the Lab Coordinator all have the right to throw you out of the teaching lab should you demonstrate disregard for proper use of laboratory facilities or if you demonstrate a lack of respect for your fellow students, TA, or the Lab Coordinator.

Molecular Cell Biology Teaching Laboratory

Background Report	100 points
Weekly Quizzes	100 points (5 quizzes/20 points)
Progress Reports	100 points (4 reports/25 points)
Lab Final	100 points
Team Presentation	100 points

500 points Total

- **Extra Credit:** Extra credit opportunities or activities WILL NOT be provided.
- **Final Grading:** I will round final grades at the end of the semester – so, an 89.6% is an "A" – but an 89.2% is a "B". I will not *push* a percentile grade to improve a letter grade; for example, a 79.2% WILL NOT be pushed to a "B" – so don't even bother asking.

Grades are not based on a curve. Everyone will receive a grade that is reflective of the effort put into the course, the knowledge learned during the course, and the skills acquired during the course. **You EARN your grade; the lab instructor nor the TA's give you a grade.**

QUIZZES AND EXPERIMENT PROGRESS REPORTS

Quizzes:

- 1 = General Lab Safety/ Pipetting and standard curve
- 2 = Live/Dead assay
- 3 = Cytotoxicity
- 4 = Cell migration
- 5 = Cell cycle

Experiment Progress Reports:

- 1 = Pipetting and standard curve
- 2 = Live/Dead assay
- 3 = Cytotoxicity
- 4 = Cell migration
- 5 = Cell cycle

Week	DATE	LAB EXERCISE	TO BE SUBMITTED
1	Sep 10 – Sep 15	Introduction / Lab safety Experiment One: Protein Titration Curve	Report to TA the cell line and compound your team is going to test for your project
	Sep 14	Quiz 1: Lab safety /Protein Titration Curve	Due on Sep 21 st
	Sep 16	Quiz 2: Live/ Dead assay	Due on Sep 16 th before midnight
2	Sep 17 – Sep 22	Experiment two: Live/ Dead assay	Background report due Virtual Lab Cell Culture training (upload print screen or bring your certificate in class)
3	Sep 24 – Sep 29	Experiment two: Live/ Dead assay (repeat)	
	Sep 30	Quiz 3: Cytotoxicity	Due on Sep 30 th before midnight
4	Oct 1 – Oct 6	Experiment three: Cytotoxicity	Report #1: Live/ Dead assay
5	Oct 8 – Oct 13	Experiment three: Cytotoxicity (repeat)	
	Oct 14	Quiz 4: Cell migration	
6	Oct 15 – Oct 20	Experiment Four: Cell migration	Report #2: Cytotoxicity
7	Oct 22 – Oct 27	Experiment Four: Cell migration (repeat)	
	Oct 28	Quiz 5: Cell cycle	Due on Oct 28 th before midnight
8	Oct 29 - Nov 3	Experiment Five: Cell cycle	Report #3: Cell migration
9	Nov 5 - Nov 10	Experiment Five: Cell cycle (repeat)	
10	Nov 12 – Nov 17	Lab Final Exam	Report #4: Cell cycle
11	Nov 19 – Nov 24	No Lab on this week (power point preparation)	
12	Nov 26 – Dec 1	Final Presentations	