

# Cell Biology Lab Syllabus

**Instructor:** Megan Miller

**Email:** [mmiller26@leomail.tamuc.edu](mailto:mmiller26@leomail.tamuc.edu)

**Office:** Science Building Room 353

**Office Hours:** Tuesday 10:00am – 11:00am and Wednesday 9:00am to 10:00 or by appointment

**Course Time:** Mondays at 1:00 to 3:50 or 4:00 to 6:50 in room 324 in the Science Building

## Course Objectives:

This laboratory course is designed to familiarize you with techniques used in cell biology. By the end of the semester you should be familiar with: cell identification, cell culture, cell and organellar staining, enzyme kinetics, protein measurement, and SDS-PAGE.

## Laboratory and Safety Conduct:

*Failure to comply with safety conduct will result in immediate expulsion from lab for the day and a zero will be given for the day's assignments.*

1. Food and drinks are NOT allowed in the lab
2. Closed toed shoes that completely cover the foot must be worn at all times in lab. (Ballet flats or similar shoes that expose the top of the foot are not allowed)
3. Long jeans or pants must be worn. Shorts and capris are not allowed.
4. Long hair must be tied back and kept away from flame
5. Latex or Vinyl gloves must be worn while conducting experiments or handling reagents or organisms
6. Spills or broken glass must be reported immediately
7. Biological wastes must be disposed of correctly. (Micropipette tips in the red boxes, pipette tips in the cream cylinders, culture dishes, test tubes, etc. in the biological waste/glass container boxes)
8. Avoid breathing in or tasting chemicals – never pipette by mouth
9. No unauthorized experiments are allowed
10. Culture tubes are to be placed in a rack, never on the counter
11. Cell phones should be placed on silent or be turned off
12. Disruptive behavior will result in expulsion from lab
13. Remember to use caution when handling glassware or sharp tools.
14. At the start of each lab the bench top must be wiped off with disinfectant.

15. You must wash your hands after working with organisms and before you leave the laboratory.

**Policies and Procedures:**

1. Attendance is MANDATORY and will be taken every day. Makeup labs will only be arranged in the event of an EXCUSED absence (as defined by the Student's Guidebook/Undergrad Catalog). An unexcused absence will result in a zero for attendance and any assignments completed that day.
2. Students may only attend the lab session they have registered for unless previously discussed and approved by their instructor BEFORE the lab session starts.
3. Students must be on time for lab. You will not be given extra time on an assignment if you are late.
4. A quiz will be taken at the start of every lab over the previous' lab's material. These quizzes will be started promptly at the beginning of class and you will be allowed 10 minutes to complete the quiz. If you arrive late you will not be given extra time to work on the quiz.
5. Before leaving lab each day you must: (groups who do not complete these tasks before leaving will lose point from that day's attendance)
  - a. Wash and clean all glassware and workbenches, making sure to remove any ink with alcohol
  - b. Put away all materials and glassware in their proper place
  - c. Throw away any paper towels, kim wipes, etc. you have used.
  - d. Place all materials for disposal in the appropriate containers.
  - e. Clean all bench tops with disinfectant.

**Grading:**

Attendance: 10%

Quizzes: 20%

Lab Reports (2 total) : 20%

Midterm-25%

Final-25%

**Obligatory Statements:**

Plagiarism is a criminal activity. You must cite all sources of information. Copying of material, whether, whether parts of sentences, whole sentences, paragraphs, or entire articles, will result in a grade of zero

for your essay and can result in further disciplinary action.

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (see Student's Guide Handbook, Policies and Procedures, Conduct.)

The American with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have disability requiring accommodations please contact: Office of Student Disability Resources and Services, Texas A&M University-Commerce, Gee Library, Room 132, phone (903) 886-5150 or (903) 886-5835, fax (903) 468-8148, [StudentDisabilityServices@tamu-commerce.edu](mailto:StudentDisabilityServices@tamu-commerce.edu).

## **Lab Schedule**

Each week a quiz will be given at the beginning of each lab covering the material presented from the previous lab.

**Week 1:** First week- Safety Contracts, Syllabus Overview

**Week 2:** Cell Culturing, Aseptic technique

**Week 3:** Cell counting and splitting plates

**Week 4:** Cell Staining

**Week 5:** Histology slide examination

**Week 6: MIDTERM - *Lab report due over labs 3,4 and 5***

**Week 7:** Enzyme Analysis (Starch & Amylase)

**Week 8:** Cell harvesting & Cell lysis

**Week 9:** Bradford Assay

**Week 10:** SDS-PAGE – *Lab report due over Bradford Assay and Enzyme Analysis*

**Week 11:** Transfection

**Week 12:** Finish transfection / Immunofluorescence Microscopy

**Week 13: Final Exam**