

# BIOL 585 Eukaryotic Cell Biology Workshop

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**Website:** Blackboard

**Instructor:** Geraldine Grant PhD      Office: 207 Discovery Hall, Manassas

**Contact:** Email: [ggrant1@gmu.edu](mailto:ggrant1@gmu.edu)      Office Hours: By Appointment only.

**Schedule:**      **Lecture:**      Two scheduled lectures

**Labs:**      A full week of laboratory exercises M-F 9am -6pm

## **Exam/Assignments:**

Final laboratory based exam 45%

Lab notebook (10%) and full report (45%) due either in the drop box at the security desk Discovery Hall, or via blackboard or emailed directly to Dr. Grant at [ggrant1@gmu.edu](mailto:ggrant1@gmu.edu).

**THE HONOR CODE IS STRICTLY ENFORCED.**

## **Objective:**

This class will introduce you to the techniques and practice of Mammalian Cell/Tissue Culture and Biotechnology. You will be exposed to the routine tissue culture and molecular biology techniques which are synonymous with current laboratory practices.

**The laboratory Manual** is available on blackboard. You **MUST** download, read and **REWRITE** this manual in your own works prior to class. This will ensure that each member of class is familiar with the day's experiments and that you understand each day's work. IF you turn up with the online manual and NOT your own version, points will be removed from your final grade.

**Schedule:** See Below

**Lectures:** Two lectures

**Lab:** A full week of 9am to 6pm laboratory exercises

**Assessments:**

**FINAL EXAM.** This exam will account for 45% of your grade. This exam will be a laboratory/lecture based

**REPORTS:**

1. Your laboratory notebook will account for 10% of your grade. In this notebook you will keep a DETAILED running account of your days in the lab – the keeping of a detail accurate lab notebook is essential to laboratory practice. In this notebook you will detail your experiments AND your results.
2. A written lab report which is to be written in the style of a Biomed Central journal article (Abstract, Intro, Materials and Methods, Results, Discussion Conclusion and References). This report will detail your analysis of the data collected over the week. This report will account for the final 45% of your grade.

**NOTE:**

There will be NO makeup exam offered and attendance is mandatory for both labs and lecture.

Late assessment material will result in a loss of 5 percentage points per 24 hour period or part there off.

Lab coats (CLEAN) are required. It is recommended that each individual bring their own lab coat.

**SAFETY:**

All students must have attended both Laboratory Safety and BSL2 training prior to class. To find a training class follow the link to EHS training [http://ehs.gmu.edu/training\\_all.html](http://ehs.gmu.edu/training_all.html)

Example of a Lab Schedule

	Monday 9th	Tuesday 10th	Wednesday 11th	Thursday 12th	Friday 13th
9am	Lecture 1	Start Transfection	Wash western blot, add 2# AB	Lecture 2	Develop toxicity assay
10am		Make toxicity assay drug dilutions and add to plate	Start Primary Culture		Collect all data; Tox test, real time, transfection protein analysis etc
11am	Trypsinize cells and count	Western Blot Load PAGE Gel	2ndry washes and visualize western blot	H and E of cells AND visualize transfection	
12pm	Set up 96 well plate and 60mm dishes				
1pm	Lunch	Lunch	Lunch	Lunch	Lunch
2pm	Extract RNA and Protein	Stop PAGE gel and transfer, block for 1 hour	Set up Primary cells	ICC for EMT E Cadherin And Actin	Exam 3-6pm
3pm	Quantify RNA and Protein	Add 1# Ab	QPCR		
4pm					
5pm	Make cDNA	Stop transfection			
6pm					