BIOL585: Cell Biology Workshop Spring 2019

**Website: Blackboard**

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

**Contact: Email: ggrant1@gmu.edu Office Hours: By Appointment only.**

**Students must use their MasonLive email account to receive important University information, including messages related to this class. See http://masonlive.gmu.edu for more information.**

**Schedule Lectures: Mondays Feb 25th and March 4th 1:30-4:10pm Discovery Hall Rm 223**

**STUDENT MUST BRING THEIR LAPTOPS TO THESE LECTURES**

**Lab: Monday-Friday March 11th – 15th, 9am -6pm Discovery Hall Rm 223**

**General University Catalog: http://catalog.gmu.edu/**

**University Policies: http://universitypolicy.gmu.edu/**

**EXAMS: Friday March 15th at 1:30pm – 4pm laboratory based exam 45%**

**Lab report (45%) and lab notebook (10%) due Sunday April 28th Midnight VIA Blackboard Assignments**

**Rationale:** This class will introduce you to research design, the techniques and practice of Mammalian Cell/Tissue Culture and molecular biological techniques which are used in translational research and genomic studies. We will be designing a research plan to answer a very specific scientific question using the tools and techniques we will have at hand: Genomics and QPCR, Cell Culture, Microscopy (Light and Fluorescence), Toxicology, Western Blotting.

**Learning objectives and Goals:** This approach will aid students in addressing and analyzing a scientific question, determining how best to design a research plan centered on this question, how to back up their plan with the literature, and how to put the methodology at hand to work answering the question.

**Schedule:** **This class will consist of 2 pre lectures February 25th and March 4th at 1:30 on Mondays Rm 223 Discovery Hall. These lectures will be in the form of open discussion, and your laptops will be ESSENTIAL. These lectures are followed by a full week of 9am to 6pm laboratory exercise March 11th – 15th.**

A LABORATORY MANUAL IS AVAILABLE ON LINE HOWEVER YOU WILL BE DESIGNING YOUR OWN LABORATORY MANUAL IN LECTURE 1 AND 2 TO ACCOMPLISH THE EXPERIMENTS WE WANT TO CARRY OUT TO ANSWER OR SCIENTIFIC QUESTIONS.

**Grading and Exams:**

1. **There will be one laboratory/lecture based exam on Friday March 17th which will account for 45% of your grade.**
2. **The final items you will be graded on account for 55% of your grade and are;**
3. Your **laboratory notebook (10%)** in which you will keep a running account of your days in the lab – the keeping of a detail accurate lab notebook is essential to laboratory practice. In this note book you will detail your experiments AND your results. THIS NOTEBOOK IS NOT TO LEAVE THE LAB DURING THE WEEK OF CLASS - *ask me why.*
4. A written complete laboratory report **(45%)** detailing your results and analysis of the data collected over the week. This report is to be written **in the style of a primary research paper**. It must include
   1. A title with authors
   2. Abstract
   3. Introduction – which addresses the question we asked and your approach – this section must include citations that both introduces the topic and substantiates your approach.
   4. Materials and Methods – in the format of an article (check papers), - not directly from the manual.
   5. Results – must include **ALL** results graphed analyzed (statistics) and detailed.
   6. Discussion and concluding paragraph.
   7. REFERENCES – At least 10.

**Academic Integrity**

**THE HONOR CODE IS STRICTLY ENFORCED IN THIS CLASS.**

The integrity of the University community is affected by the individual choices made by each of us. GMU has an Honor Code with clear guidelines regarding academic integrity. Three fundamental and rather simple principles to follow at all times are that: (1) all work submitted be your own; (2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about the ground rules on a particular assignment, ask for clarification. No grade is important enough to justify academic misconduct. Plagiarism means using the exact words, opinions, or factual information from another person without giving the person credit. Writers give credit through accepted documentation styles, such as parenthetical citation, footnotes, or endnotes. Paraphrased material must also be cited, using MLA or APA format. A simple listing of books or articles is not sufficient. Plagiarism is the equivalent of intellectual robbery and cannot be tolerated in the academic setting. If you have any doubts about what constitutes plagiarism, please see me.

**Disability Accommodations**

If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474, http://ods.gmu.edu. All academic accommodations must be arranged through the ODS