BIOL 2996-501: Undergraduate Research I

Class Meets: Monday, 1:30-2:30 PM (Beginning: 8-19-19 – Ending: 12-2-19). In HS 110.
Instructor: Victor French
My Office: LRC 125
My Phone: 925-8568
Office Hours: Monday 3:00-4:00 PM, Thursday 8:00-9:00 AM, or by appointment

COURSE DESCRIPTION:

Undergraduate Research is designed to provide select undergraduate students an authentic research experience in a STEM discipline. Students must be selected for participation by a UNM-V faculty member who will serve as their research advisor during the project. Over the course of two contiguous semesters, students will be expected to conduct basic research on a topic which will be decided in conjunction with their research advisor.

LEARNING OBJECTIVES:

1. STEM students will develop an increased familiarity with laboratory work and will be able to more quickly become independent in that environment.
2. STEM students will spend at least two hours per week conducting basic research. The goal of student's research is the accumulation of sufficient data to develop a professional quality poster presentation on their topic the following semester. Research will be conducted with the guidance and assistance of the student's STEM advisor and myself.

REQUIRED MATERIALS:

1. Lab Project Notebook (strongly suggested)
2. Lab Coat & Chemical Goggles
3. UNM email account

COURSE POLICIES

GRADING:

1. **Lab Reports (80%)-** Given sufficient class time and unless otherwise indicated, assignments will be worked on during class, finished at home and turned in the following week. Assigments will be graded and returned to you as soon as possible. A PowerPoint slide presentation will be uploaded to blackboard learn each week. It is strongly suggested that students refer to the slides, videos and notes contained in the power point presentations when answering lab report questions. Please write in detailed, concise sentences where appropriate.

   During some classes during the semester, we will focus on practicing lab protocols and techniques. During these sessions there will be no lecture component. It is essential that during

these weeks, students familiarize themselves with any protocols that I provide. Protocols will be provided during the previous week.

2. **Participation (10%)-** Class participation is critical to the success of individual students and to the class in general. The more you put into something the more you will get out of it. Sharing ideas and asking relevant questions are important skills in science which can best be acquired through practice. Students generally have much to share with the class. We will all learn from each other if we are open minded, appreciative and understanding of our classmates. Participation includes being actively engaged in class activities, consideration for others and being prepared for class.

3. **Attendance (10%)-** Attendance is necessary for you to participate in class as well as to fully understand and benefit from the material covered. I will initial a roster to document your attendance. Attendance means getting to class on time, remaining for the entire class period and participating in all class learning activities. After 2 absences, you will be dropped from the course unless otherwise notified.

A final letter grade will be assigned at the end of the course based upon the percentile score earned by the student.

Percentile Score	**Letter Grade**
98-100	A+
93-97.99	A
90-92.99	A-
87-89.99	B+
83-86.99	B
80-82.99	B-
77-79.99	C+
73-76.99	C
70-72.99	C-
67-69.99	D+
63-66.99	D
60-62.99	D-
Below 60	F

LAB ATTENDANCE:

1. Tardiness or failure to show up for a lab appointment with your research advisor will result in the forfeiture of attendance and participation points for that week. Changes to your agreed upon lab dates/times are discouraged.

2. If you have a scheduled meeting with myself or your research advisor and you need to change that meeting time, you must do so by emailing whomever you are meeting with at least 12 hours in advance.
3. You may work beyond your scheduled lab time with the instructor's permission.
4. You must be accompanied by myself, or your research advisor when working in the research lab.

ASSIGNMENTS:

1. No late assignments will be accepted! If any unforeseen circumstances arise, contact your instructor ASAP. Lab topics will not be repeated to accommodate individual students.
2. You are required to spend at least two hours per week working on your research project outside of class. This includes background research, data collection, data analysis and a final poster and/or oral presentation that will be presented at the end of the Undergraduate Research II class.

ELECTRONIC DEVICE USAGE:

As a courtesy to the class, please turn off your cell phones or other electronic devices.

ACADEMIC INTEGRITY:

Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. Here is the link to the UNM Academic Dishonesty Policy:

https://policy.unm.edu/regents-policies/section-4/4-8.html. The policy states:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic Dishonesty is defined as:

"Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

DISRUPTIVE BEHAVIOR:

Disruptive behavior will not be tolerated and can lead to being dropped from the course at the instructor's discretion. No "guests" will be allowed unless they are explicitly invited to attend the class by the instructor.

STUDENTS WITH DISABILITIES:

If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodations. I will then discuss the accommodations with you to determine the best

learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Jeanne Lujan, the coordinator for Equal Access Services at 925-8910 or jmlujan@unm.edu.

EQUAL OPPORTUNITY AND NON-DISCRIMINATION:

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see page 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html.

PROPOSED PLAN OF STUDY:

Course Week*	***Lab Exercise***
1) 8-19-19	Orientation
2) 8-26-19	Lab Notebook
3) 9-2-19	**Labor Day Holiday**
4) 9-9-19	Library Visit
5) 9-16-19	DNA Barcoding Overview
6) 9-23-19	Organism Selection for DNA Barcoding
7) 9-30-19	DNA Extraction (Barcoding, Part I)
8) 10-7-19	Making Solutions
9) 10-14-19	PCR (Barcoding, Part II)
10) 10-21-19	Pipetting
11) 10-28-19	DNA Quantification (Part III)
12) 11-4-19	Scientific Method / Experimental Design
13) 11-11-19	Guest Speaker
14) 11-18-19	Guest Speaker
15) 11-25-19	Microscopy
16) 12-2-19	DNA Sequence Analysis (Barcoding, Part IV)

- ***DATES AND TOPICS ARE SUBJECT TO REVISION AT THE DISCRETION OF THE INSTRUCTOR.***

- ***STUDENTS WILL BE HELD RESPONSIBLE FOR THE MOST CURRENT VERSION OF THIS DOCUMENT WHICH WILL ALWAYS BE POSTED IN BLACKBOARD LEARN.***