

Protein Biochemistry (BIOL4800/6800)—Fall 2016

PREREQUISITES: BIOL1108, BIOL3200, CHEM1212 (from new B.S. and B.A. curricula) or permission of the instructor

PROFESSOR: Dr. Theresa Grove
OFFICE: BC 1099
OFFICE HOURS: Monday 8:00-9:00
Tuesday 3:30-4:30
Wednesday 9:00-10:00
By appointment
Email: tjgrove@valdosta.edu

COURSE GOALS AND OBJECTIVES: This class is designed to teach you an overview into the structure and function of proteins with emphasis on properties of amino acids, protein folding, protein-protein and protein-ligand interactions, enzyme kinetics, and enzyme regulation. The laboratory component will introduce you to many techniques that are not only used by researchers who study the structure and function of proteins, but by many other scientists in diverse fields of biology such as physiology, molecular and cell biology, population genetics and microbiology. By the end of the semester you will have:

- Gained knowledge of protein structure and function
- Maintained a comprehensive scientific notebook of techniques and results
- Learned experimental techniques used to study protein structure and function
- Strengthened your ability to critically read and understand scientific literature

These goals support the Department of Biology Education and VSU General Outcomes to:

- 1) Develop and test hypotheses, collect and analyze data, and present the results and conclusions in both written and oral formats used in peer-reviewed journals and at scientific meetings
- 2) Demonstrate an understanding of the cellular basis of life.
- 3) Relate the structure and the function of DNA/RNA to the development of form and function of the organisms.
- 4) Demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices.

TEXTBOOK: Proteins: Concepts in Biochemistry (2016) Paulo Almeida

OTHER READING: The textbook may be supplemented with other handouts.

LECTURE: Tuesday and Thursday 2:00-3:15 p.m.

LAB: Friday 12:00-2:50 p.m. (BC 2070) Bring a notebook, calculator and flash drive.

ATTENDANCE: Attendance in lecture is expected by all students. Attendance in laboratory is mandatory; see lab policy below.

ACCESS TO SLIDES/INFORMATION: Lecture slides will be made available on BlazeView by ~5:00 p.m. the day before lecture. These slides will not have all the information on them; it is the student's responsibility to come to class and take notes. Students are responsible for getting the notes from other students if they miss a lecture. Slides and notes will not be given to students who miss a lecture.

LECTURE CONDUCT:

- Arrive on time.
- Turn off cell phones during class and lab; there is no reason you should be texting or calling anyone.
- Don't talk during lecture; if you don't understand something or didn't hear something ask.

- Unless it's an emergency (and using your cell phone does not constitute an emergency) do not get up in the middle of lecture, leave and come back.
- Do not leave class early unless you have informed me prior to the start of the class or if it's an emergency.
- During exams NOBODY can leave the exam and re-enter the exam room. If a student leaves, their exam will be graded as is; the student will not be allowed to finish the exam.

ACADEMIC CONDUCT: Cheating and plagiarism will not be tolerated and may result in a failing grade for the assignment, exam or the class. The Department of Biology has a plagiarism policy on their website; it is your responsibility to make sure you read it and understand it.

PRIVACY ACT (FERPA): The Family Educational Rights and Privacy Act (FERPA) prohibits the public posting of grades by social security number or in any manner personally identifiable to the individual student. No grades can be given over the telephone or over email because positive identification can't be made.

TITLE IX STATEMENT: "Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, titleix@valdosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463."

ACCESS STATEMENT: "Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farbar Hall. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: access@valdosta.edu."

LAB NOTEBOOK: Students must keep a research notebook. It can be a spiral bound notebook or any other type of composition notebook; binders are not allowed. The notebooks must have a table of contents on the first page. During each lab period you will include the date, purpose of the experiment, protocol you follow (fill in as you go along during lab; you cannot paste lab handouts in your notebook), results, and analysis of results. Notebooks are normally not perfectly neat (no recopying after lab). There is no printer in lab, so everyone should either be prepared to email themselves any spreadsheets or graphs or bring a flash drive with them to lab. Data analysis will occur (usually) in lab; bring a calculator to lab. You will be able to use your notebooks for the lab exams.

LECTURE EXAMS: The dates for the exams are included in the Tentative Class Schedule. Note, that these are TENTATIVE, therefore the professor reserves the right to adjust the dates of the exams. Three exams (excluding the final) will be given throughout the semester. Each exam will be worth 100 points and will consist of a variety of types of questions that will include (but aren't limited to) matching, multiple choice, labeling, fill in the blank, and short answer. During the exam all cell phones must be turned off. Exams will not be handed back.

It is the instructor's prerogative to accept (or not accept) an excuse for a missed exam; therefore, DO NOT MISS EXAMS! Make-up exams are available for students with approved reasons, but these exams will be more challenging than the original exam, and the format may also be different (i.e. an oral exam). Students must contact me via email on the day of the exam for approval (NO PHONE CALLS) and are required to make-up the exam within 2 days of the missed exam, except under extreme circumstances. The professor

reserves the right to not approve a missed exam as well as to require documentation of the reason why the exam is missed. Only students with a University related excuse may take an exam early.

LAB EXAMS: Two lab exams (50 points each) will be given throughout the semester. These exams will test you over the practical side of protein biochemistry and what you did in lab. These will be open notebook (handouts cannot be used).

FINAL: The final will be cumulative and worth 100 points. The date of the final is Wednesday, December 7 (2:45 p.m. -4:15 p.m.). **NO EARLY EXAMS WILL BE GIVEN!**

GRANT PROPOSAL: Graduate Students are required to write a grant proposal examining an aspect of fish physiology following NSF guidelines for a preliminary proposal. I will meet individually with the graduate students to discuss this project. Due November 18.

LAB CONDUCT

- Arrive on time.
- Assignments are collected at the start of lab; they will not be accepted >15minutes late. Emailed assignments will not be accepted.
- You must keep a lab notebook. The notebook will help you study for the practicals AND all lab practicals will be open notebook.
- No eating or drinking during the lab.
- Attendance to lab is mandatory. Excused absences are usually given for medical emergencies and documentation must be provided; the professor determines whether or not an absence is "excused" or not. If a student misses three labs *for any reason* the student cannot earn higher than a D for his/her final grade. Labs cannot be made up outside of scheduled laboratory sessions. Students are responsible for learning all lab content from missed labs.
- Students must take care of lab equipment. Notify the professor if something is not working properly or if something breaks during the course of the lab.
- Labs will be handed out at the start of each lab.
- Cell phones are not allowed to be used in lab with the exception of using them as timers.

ASSESSMENT:	Exams (3 exams; 100 points each)	300 points
	Lab exams (2 exams; 50 points each)	100 points
	Homework and other Assignments	~100 points
	Graduate Student Grant Proposal	100 points
	Total Points = 500 (Graduate Students = 600)	

GRADE SCALE: For all students, grades will be based on the above assessments. The grading scale I will use is:

A	90-100%
B	80-89
C	70-79
D	60-69
F	<60

Exam Dates: September 13, October 4, November 1

Lab Exams: October 14, December 2

Final Exam: December 7 at 2:45-4:45