

**Biochemistry- Proteins**  
**CHEM 3811-1**  
**Winter 2017**

Instructor: Erich G. Chapman, PhD  
Office: Seeley G. Mudd, Room 103  
Phone: 303.871.3681  
Email: erich.chapman@du.edu

**Class Schedule:** 9:00am-9:50am- Mon, Wed, Fri  
Detailed Schedule Included Below  
Boettcher Center Room 103

**Office Hours:** Tuesday afternoon 2:00-3:00pm  
Wednesday afternoon 3:00-4:00pm  
or by appointment as needed  
*\*it's a good idea to send me an email in advance to confirm an appointment*

**Textbook:** Lehninger Principles of Biochemistry, Seventh Edition  
ISBN-10: 1-4641-2611-9  
*\*the 6<sup>th</sup> edition is also acceptable and I will suggest homework problem numbers for both editions*

**Homework:** Homework problems will be suggested occasionally. These assignments will not be graded. However, it is highly recommended to work through the problems as similar ones may appear in the exams.

**Exams:** There will be two 1-hour midterm exams during the quarter, plus a 2-hour cumulative final exam. Each exam is worth 100 points. Exam questions will be a combination of multiple choice and short answer, calculation based problems.

If you miss a 1-hour midterm exam, then your final exam will be counted twice and replace the missed midterm exam. With one exception, there will be no makeup exams. The only exception to the no-makeup policy will be for members of a university team or group, e.g. athletic team or music group scheduled to be away from campus at the time of the exam. You must inform your instructor of this prior to the exam and make arrangements at that time for a makeup exam.

**Quizzes:** There will be 7 quizzes. Each Quiz will cover the material of the preceding week(s) and be worth 20 points.

**Group Assignments:** There will be 2 in-class group assignments. These assignments are worth 30 points each.

<b>Grading Summary:</b>	midterm exams	200 points
	final exam	100 points
	quizzes	140 points
	group assignments	60 points
	total	500 points

CHEM 3811-1 Winter 2017  
Tentative Schedule (subject to revision)

<u>Date</u>		<u>Topics Covered</u>	<u>Assessment</u>	<u>Reading Chapter</u>
1/4	Wed	Biochemistry Foundations 1		1
1/6	Fri	Biochemistry Foundations 2		1
1/9	Mon	Water: Weak Interactions and Solvation		2
1/11	Wed	Water: Weak Acids and Bases	Quiz 1	2
1/13	Fri	Amino Acids		3
1/16	Mon	<i>*no class</i>		
1/18	Wed	Protein Primary Structure	Quiz 2	3
1/20	Fri	Protein Purification		3
1/23	Mon	Protein Sequencing and Synthesis		3
1/25	Wed	Overview of Protein Structure	Quiz 3	4
1/27	Fri	Secondary Structure		4
1/30	Mon	Tertiary Structure		4
2/1	Wed	<b>Exam 1</b>		
2/3	Fri	Tertiary Structure/ Quarternary Structure		4
2/6	Mon	Protein Denaturation and Folding		4
2/8	Wed	Assisted Protein Folding	Quiz 4	4
2/10	Fri	Assisted Protein Folding and Degradation		4
2/13	Mon	Protein Dynamics, Misfolding and Disease		4
2/15	Wed	Protein Function: Myoglobin	Quiz 5	5
2/17	Fri	Protein Function: Hemoglobin		5
2/20	Mon	Protein Folding: Immune System		5
2/22	Wed	Protein Function: Actin, Myosin	Quiz 6	5
2/24	Fri	How Enzymes Work		6
2/27	Mon	<b>Exam 2</b>		
3/1	Wed	Enzyme Kinetics 1		6
3/3	Fri	Enzyme Kinetics 2		6
3/6	Mon	Enzymatic Reactions 1	Quiz 7	6
3/8	Wed	Enzymatic Reactions 2		6
3/10	Fri	Regulatory Enzymes		6
3/13	Mon	Review Session		
3/16	Thur	<b>Comprehensive Final Exam</b> 8am-9:50am		

**Course Website:** <https://canvas.du.edu/courses/41152>

I'll use Canvas to supplement in-class instruction. Initially, a copy of this syllabus will be posted there. In the future student grades on quizzes, exams, and group projects will be posted as they accumulate. As the term progresses I may also post additional materials such as primary scientific literature and answer keys to the quizzes and exams. I will make in-class announcements when I do make such postings.

Quizzes and Exams will be administered in class. Scored quizzes and exams will be returned the following class period. I will retain electronic copies of your quizzes and exams for record-keeping purposes. I will post numerical scores online in Canvas.

### **Additional Policies:**

#### **Diversity and Inclusion Statement:**

Inside and outside of this classroom I expect everyone to respect one another and help foster a positive learning environment. I will do my best to create an open and inquisitive classroom and would appreciate your help in doing so. If specific issues arise please let me know immediately in person or by email. We can work together to help resolve and correct them.

A copy of the Chancellor's Statement on Diversity, Equity and Inclusive Excellence can be found at: <http://www.du.edu/chancellor/vision/diversitystatement.html>

Additional resources addressing Diversity and Inclusion can be found on the Office of Diversity and Inclusion's website at: <http://www.du.edu/diversity-inclusion/index.html>

#### **DU Honor Code:**

All members of the University of Denver are expected to uphold the values of *Integrity*, *Respect*, and *Responsibility*. These values embody the standards of conduct for students, faculty, staff, and administrators as members of the University community.

Our institutional values are defined as:

*Integrity*: acting in an honest and ethical manner;

*Respect*: honoring differences in people, ideas, and opinions;

*Responsibility*: accepting ownership for one's own conduct.

A complete explanation of University's policies and procedures regarding student conduct can be found at: <http://www.du.edu/studentlife/studentconduct/media/documents/honorcode.pdf>

#### **Title IX Statement:**

The University prohibits discrimination on the basis of sex, including sexual misconduct, in its educational programs and activities. The University is committed to complying with Title IX of the Education Amendment Act of 1972 and ensuring that the University's education programs and activities are operated in a manner consistent with applicable federal law, regulations, and provisions.

Further information concerning DU's Title IX policies can be found at: <http://www.du.edu/equalopportunity/policies/index.html>

## **Students with Disabilities/Medical Issues:**

University of Denver complies with the American with Disabilities Act and Section 504 of the Rehabilitation Act. Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs and what we can do jointly to accommodate them. If you qualify for academic accommodations because of a disability or medical issue please submit a Faculty Letter to me from Disability Services Program (DSP) in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities/medical issues. Please contact the Disability Services Program located on the 4th floor of Ruffatto Hall; 1999 E. Evans Ave., to coordinate reasonable accommodations for students with documented disabilities/medical issues. 303.871/2278/7432/ 2455. Information is also available on line at <http://www.du.edu/disability/dsp>; see the Handbook for Students with Disabilities.

There are other resources available on campus to help students with their learning and study needs. The Learning Effectiveness Program (LEP), a fee based program that offers support services to DU students with LD and/or ADHD, which provides academic counseling, tutoring and other specialist services (<http://www.du.edu/disability/lep>, 4th floor of Ruffatto Hall, 303.871.2372). The Writing Center supports and promotes effective student writing helping with all kinds of writing projects: class assignments, personal writing, professional writing, and multimedia projects. They serve any student affiliated with the University and invite students in all classes, at all levels of writing ability, and at any stage of the writing process to visit us. To Schedule an Appointment: <http://myweb.du.edu>, Student & Financial Aid tab, Writing Center, 303.871.7456. They are located in the AAC and offer evening and weekend hours. The Career Center partners with faculty, staff, senior administration and employers, to help students and alumni make informed decisions about work and life. They offer self assessment, career and educational options, self marketing strategies and real world experiences and can be contacted at <http://www.du.edu/studentlife/career>, 303.871.2150 and are located in the basement of the Driscoll Center. The Math and Science Help Center is also in the AAC and offer evening and weekend hours..

## **Religious Accommodations:**

University policy grants students excused absences from class or other organized activities for observance of religious holy days, unless the accommodation would create an undue hardship. Faculty are asked to be responsive to requests when students contact them IN ADVANCE to request such an excused absence. Students are responsible for completing assignments given during their absence, but should be given an opportunity to make up work missed because of religious observance.

Once a student has registered for a class, the student is expected to examine the course syllabus for potential conflicts with holy days and to notify the instructor by the end of the first week of classes of any conflicts that may require an absence (including any required additional preparation/travel time). The student is also expected to remind the faculty member in advance of the missed class, and to make arrangements in advance (with the faculty member) to make up any missed work or in-class material within a reasonable amount of time.