

**Biochemistry I (CHEM 4320)**  
**Syllabus, CRNs: 10665, 14243, 20255**  
**Fall 2019**

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**Instructor**

Dr. Tori Dunlap  
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**Class Meeting Time**

MWF 10:00 am – 10:50 am  
Laney-Manion Hall 104

**Office Hours**

MWF 9 -10 am, 11 – 11:30 am  
Appointments are also available

**Text**

Biochemistry 7th Edition, J.M. Berg, J.L. Tymoczko, and L. Stryer. (2012)

**Course Description and Objective**

Biochemistry is an intensive study of the major classes of biomolecules including their structures, chemical properties, biological functions, and integration into human biochemistry. The objective of this course is for students to have a thorough understanding of proteins, carbohydrates, lipids, and human metabolism.

**Course Prerequisites**

Grades of C or better in CHEM 3411 and BIOL 1440 are required for this course. You WILL be expected to remember and use material covered in these courses. The topics you are expected to have knowledge of include, but are not limited to: atomic structure, bonding, intermolecular forces, acid/base chemistry, organic functional groups and their properties, thermodynamics, equilibrium, cellular structure, and basic human anatomy.

**How to be successful in this course**

1. **Attend lecture.** Those students who attend lecture regularly are the most likely to succeed. Many of the topics I cover will not be presented in the book. You are responsible for the material covered in class and the reading assignments. Attending class is highly recommended.
2. **Study time.** I recommend you devote about three hours of study time per lecture. I recommend you identify two or three other classmates to study with, asking questions, and using the textbook questions as a guide.
3. **Biochemistry requires practice and critical thinking skills.** Biochemistry is a field that requires you to practice and think. You have already learned the chemical concepts that will be applied in this course. Biochemistry requires you to know those concepts well enough to extend them to biological systems. **You must be able to reason with the concepts you learn.**
4. **Ask questions.** If you do not understand the concepts I have presented in lecture, ask. Chemistry is a science in which one concept is built on another. If you do not understand a chemical concept, it is not going to get easier as the semester progresses. Please do not be embarrassed, there is no such thing as a stupid question. Stupidity lies in not asking. Please feel free to stop me in lecture with a question or, if you would prefer, stop by my office during office hours and ask.
5. **Be an interactive learner.** Ask questions and participate in class discussions. This is an excellent way to understand the material and hopefully you find many of the topics we cover are applicable to your life.

## What do I expect you to learn for exams?

You must learn the material presented and be able to apply it to biological problems. **Memorization is necessary but not sufficient to earn an A.** Test questions will require you to apply your knowledge; as a result, test questions will require you to give your reasoning and will not be in the same format every time. I highly recommend that you identify a few other students to study with: work problems from the text, search for questions on the internet, and try to invent questions to ask each other. Only after you feel that you thoroughly know and understand the information should you attempt to do an old exam that I post on google classroom. Treat the old exams as if they were the actual exam.

### Grading

1 Half Exam	= 50 points
3 Exams, 100 points each	= 300 points
<u>5 Case Studies, 30 points each</u>	<u>= 150 points</u>
Total points	= 500 points

### Grading Scale

A: 90%
B: 80%
C: 70%
D: 60%
F: 50% and below

### Case Studies

Case studies are scenarios derived from research studies, medical cases, or a combination of the two where you must interpret data, **utilize outside sources (the internet and primary literature)**, and problem solve. Each case study gives you relevant information and series of questions to answer. The studies are designed to further your understanding of material covered in class, expand into biochemical topics not covered in class, and exercise your critical thinking skills. The case studies are a valuable tool in helping you prepare for exams.

### Missed Exams

A missed exam will be made up at my discretion. If you miss an exam for a **valid and significant reason**, and you contact me either through email or phone **before** the scheduled exam, then we can discuss the possibilities of a make-up exam. If you contact me after the exam, no make-up will be given. I strongly suggest that you make every effort to attend exams. Tardiness to an exam is discouraged.

### Attendance and Class Participation Policy

Attendance will be taken. Poor class attendance will be considered in determination of final grade at the critical areas. You are advised to attend all lectures since material presented in class will supplement the text and be included in quizzes and exams. Students who miss class are responsible for the material presented in class and class announcements. You may always come to me with specific questions about missed material, but I will not provide a make-up lecture for you.

## Lecture Schedule

**\*This is a tentative schedule. All dates and contents are subject to change.**

Week of	Topic	Chapters	Important Dates
Aug 26	Water, Acid/Base	2, 3.1-3.3	
Sept 2	<b>Labor Day: No Class Sept 2</b> Proteins	4, 6-10	<b>Sept 6:</b> Case Study 1 Due
Sept 9	Proteins <b>Half Exam: Sept 13</b>	"	<b>Sept 13: Half Exam</b>
Sept 16	Proteins	"	
Sept 23	Proteins	"	
Sept 30	Enzymes	13-15	<b>Sept 30:</b> Case Study 2 Due
Oct 7	<b>Exam 1: Oct 7</b> Enzymes	"	<b>Oct 7: Exam 1</b>
Oct 14	Enzymes <b>Fall Break: No Class Oct. 18</b>	"	
Oct 21	Carbohydrates <b>No class Oct. 25</b>	11	<b>Oct 23:</b> Case Study 3 Due
Oct 28	Carbohydrates Intro to Metabolism	" 3.4, 16	
Nov 4	Carbohydrate Metabolism <b>No class Nov. 6</b> <b>Exam 2: Nov. 8</b>	17, 18, 23.1	<b>Nov 8: Exam 2</b>
Nov 11	Carbohydrate Metabolism	"	
Nov 18	Citric Acid Cycle Oxidative Phosphorylation Lipids and Membranes	21, 22 12, 20	<b>Nov 20:</b> Case Study 4 Due
Nov 25	Lipids and Membranes <b>Thanksgiving Break: No class</b> <b>Nov 27 and 29</b>	"	
Dec 2	Lipid Metabolism Integration of Metabolism	25 27	<b>Dec 2:</b> Case Study 5 Due
Dec 9	<b>Exam 3 (Final Exam)</b>		<b>Mon. Dec. 9<sup>th</sup> 8-10am</b>

## University Academic Policies

<b>Academic Integrity</b>	The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on February 10, 2010, and published in the <i>Student Handbook</i> . Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy.
<b>Disabilities Statement</b>	The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the UCA Disability Resource Center, 450-3613.
<b>Building Emergency Plan</b>	An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available at <a href="http://uca.edu/mysafety/bep/">http://uca.edu/mysafety/bep/</a> . Every student should be familiar with emergency procedures for any campus building in which he/she spends time for classes or other purposes.
<b>Title IX Disclosure</b>	If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member (as it relates to "student-on-student" or "employee-on-student"), the faculty member cannot maintain complete confidentiality and is required to report the act and may be required to reveal the names of the parties involved. Any allegations made by a student may or may not trigger an investigation. Each situation differs, and the obligation to conduct an investigation will depend on the specific set of circumstances. The determination to conduct an investigation will be made by the Title IX Coordinator. For further information, please visit: <a href="https://uca.edu/titleix">https://uca.edu/titleix</a> . <i>*Disclosure of sexual misconduct by a third party who is not a student and/or employee is also required if the misconduct occurs when the third party is a participant in a university-sponsored program, event, or activity</i>
<b>Student Handbook Policies</b>	You are encouraged to familiarize yourself with student policies described in the student handbook. In particular, carefully read and understand those policies pertaining to academic issues and sexual harassment.
<b>Course Evaluations</b>	Evaluations are kept completely confidential. Your thoughtful feedback is highly valued and cannot negatively or positively affect your course grade. Over the years this information has changed and improved the instruction of this course. Student evaluations of a course and its professor are a crucial element in helping faculty achieve excellence in the classroom and the institution in demonstrating that students are gaining knowledge. Students may evaluate courses they are taking starting on the Monday of the thirteenth week of instruction through the end of finals week by logging in to myUCA and clicking on the Course Evaluations Task.



2017-18 Student handbook



Laney Manion Hall  
Building emergency plan