

# Course Syllabus

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## Welcome to Chemistry 160, Introductory Biochemistry

### Instructor:

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### Posted online lectures:

It is mandatory that you watch all online lectures – you will not be successful in this course without doing so. All online lectures will have buried conceptual quiz questions that you will need to answer and submit. These online lectures have both a soft/suggested deadline, and a hard deadline. My expectation is that you watch each day's lecture before attending class via Zoom so that you can come prepared to ask questions or request re-explanation of concepts. These posted online lectures will not contain practice problems or our case studies (both will be included on quizzes and mini-quizzes). Instead, we will work on these materials during our course time (see below).

### Course time:

5:00-6:15 p.m., Tues. & Thurs. via Zoom. During this time, we will work through cases studies, reiterate important concepts from the corresponding posted lecture, work example problems, field questions from students, etc.

**While attendance at some is optional, you must attend class on groupwork days and on quiz days!** See below for the schedule. My goal is to ensure understanding and confidence with the material. Course time will be recorded and posted, so you should be either attending or watching asynchronously class sessions where attendance is not mandatory. I will also monitor a discussion board for questions if you want to ask a question but are unable to attend, or if you are nervous about asking a question in class (but I really, really, hope you aren't! **I love questions!**)

### Textbooks:

Essential Biochemistry, 4th Edition, C. W. Pratt & K. Cornely (John Wiley & Sons, Inc.)

This textbook is provided via **Immediate Access** (<http://www.shopaztecs.com/immediateaccess>) (<https://www.shopaztecs.com/t-immediateaccess.aspx> (<https://www.shopaztecs.com/t-immediateaccess.aspx>)) for a reduced cost. The Enhanced Ebook includes sample calculation videos, interactive exercises, and animated process diagrams. Some materials provided in a digital format are free through the add/drop date. Your SDSU student account will then be charged a special reduced price for use of the materials for the remainder of the semester unless you opt-out of the content by the add drop date. Please visit [www.shopaztecs.com/immediateaccess](http://www.shopaztecs.com/immediateaccess) (<http://www.shopaztecs.com/immediateaccess>) for additional information about Immediate Access pricing, digital subscription duration, print add-ons, to opt out and to find frequently asked questions. If you opt out of the program, that does **NOT** mean you have dropped the class. If you have any problems with accessing these materials or adding/dropping online access, please email [optout@aztecmail.com](mailto:optout@aztecmail.com) (<mailto:optout@aztecmail.com>)

*Do not contact me as I cannot assist you in this matter.*

## Other required course materials:

- Information will be posted on Canvas, so please check this site regularly. Most lectures will be posted here.
- You will need a non-programmable calculator for quizzes
- Zoom, and access to a microphone/videocam

## Course details:

Prerequisites – One semester of Chemistry 100 (general chemistry) or equivalent; one semester of Chemistry 130 (organic chemistry) or equivalent.

Course description - This course represents first exposure for students of nutrition and related fields to biochemistry and molecular biology, which allow us to explain the diverse and complex processes required for life and what goes awry in disease. This is a thriving area of research, and so I will supplement the assigned text with examples of the types of cutting-edge research and case studies of diseases related to our topics of study, appreciating that our students have particular interests in the areas of medicine and nutrition.

## Schedule at-a-glance:

**Required synchronous class attendance dates (5:00-6:15 p.m. pacific):**

In-class groupwork: 9/3, 9/22, 10/8, 11/17

In-class quizzes: 9/10, 9/29, 10/15, 11/3, 11/24, Final Exam Day TBD

**8/25-9/10: Module 1 (Chapters 1-3)**

3 embedded lecture quizzes (plus one for extra credit!)

3 Mini-quizzes

1 Groupwork

1 Quiz

**9/15-9/29: Module 2 (Chapters 4-5)**

2 embedded lecture quizzes

2 Mini-quizzes

1 Groupwork

1 Quiz

**10/1-10/15: Module 3 (Chapters 6-7)**

3 embedded lecture quizzes

3 Mini-quizzes

1 Groupwork

1 Quiz

**10/20-11/3: Module 4 (Chapters 8-10)**

3 embedded lecture quizzes

3 Mini-quizzes

1 Quiz

**11/5-11/24: Module 5 (Chapters 11-13)**

3 embedded lecture quizzes

3 Mini-quizzes

1 Groupwork

1 Quiz

**12/1-Final exam date: Module 6 (Chapters 14, 15, 19)**

3 embedded lecture quizzes

### 3 Mini-quizzes

### 1 Quiz

## Overall learning goals:

- To understand that life consists of a complex set of chemical processes
- To integrate system-wide the biomolecules that perform and/or are affected by these processes
- To have the tools to evaluate the biological functions at work in health and disease
- To decide that you can help society in evaluating and disseminating accurate scientific information
- To discover that science is an ongoing endeavor; that what we are learning in class is the foundation for laboratory research addressing human disease, environmental issues, technology development, etc.

## Specific learning objectives:

- To know the biological role of biomolecules, understand their building blocks, and apply their chemical characteristics to explain how they are suited for their role
- To understand the structure/function relationship of biomolecules, and use these features to make connections to other classes of biomolecules
- To describe the central dogma, and how this sustains human life, function, and, in some cases, helps lead to disease.
- To apply basic equations to assess energetics, buffering, and enzyme kinetics and inhibition
- To evaluate how class concepts are being used in the lab and in the health fields

## Expectations - I expect you to:

- Help provide a positive and safe space for learning, and contribute to a classroom culture that is multiculturally affirmative. This includes showing respect to your peers and I.
- Read the textbook material before or soon after class. Doing so before the class, or, if you prefer, immediately after, will help you fully engage and stay current.
- Attend lectures and participate in learning. Minimize your own distractions and distracting others by refraining from websurfing and phone usage.
- Seek help during class and ask questions!

## Important course details

**Resources available to students** – Lecture slides and the textbook are the primary resources for this course. Lectures and exams will not fully cover all textbook topics, although a short list of “lecture goals” will be highlighted at the beginning of each lecture to help students focus in studying for exams. Most slides used in online and in-class lectures will be posted in Canvas. Make use of class time to ask questions about material you find confusing before you encounter it on your quizzes. However, I will not go over mini-quiz or online lecture questions until the deadline to submit this material has passed.

**Mini-quizzes** – To help you stay up-to-date with this fast-paced course, 16 mini-quizzes will be administered through Canvas, one for each chapter covered. Each mini-quiz is timed, and will be open for you to take over a 48h window. After 11:59pm of the end date of the window, the mini-quiz will close and answers will no longer be accepted. These questions will focus on calculation-based problems. You will be able to drop your lowest 3 scores. You will have only a single attempt. One optional extra-credit mini-quiz covering the syllabus is provided. Correct answers may ONLY be viewed starting the day after the window for taking the mini-quiz has closed, and ending the day of the module's quiz. You can use notes/text on these mini-quizzes, but you will not have enough time to finish the mini-quiz unless you have prepared to not rely on external materials.

**Embedded online lecture quizzes** – To help you to stay engaged and active in the posted online lectures, there will be quiz questions embedded within the lectures, accessed in Canvas. There will be 20 embedded quizzes, and you will be able to drop the lowest 3. These questions will often focus on conceptual problems.

**Groupwork** – You must attend class synchronously on groupwork day, no exceptions. See the syllabus for the schedule. You will be assigned a group, and I will provide an online lecture that you will need to view before coming to class to make sure you are prepared. I will put you in breakout rooms with your group, and I will be available for questions via zoom chat for the duration of class. At the end of the class period, you will need to peer evaluate each group member for participation, and submit your group work assignment (one submission per group). Late work is not accepted. You will be able to drop your lowest group work grade. You will need to have zoom running for each groupwork day with your video on. Students evaluated by their peers as having failed to satisfactorily participate in group work (<67% or lower from peer review score) will not receive the group's grade. Instead, the student will receive a grade comprised of my and the group's evaluation of this student's work. This means that while the group may receive an A on the assignment, the student attempting to game the system could receive a D or lower. If you must miss groupwork day, you can complete the assignment on your own for credit only if you have previously arranged with me at least one week prior and have a valid excuse with documentation. Otherwise, the missed day will be your dropped score and you will have a 0 for any additional missed groupwork.

**In-class quizzes** – You must attend class synchronously on in-class quiz day, no exceptions. See the syllabus for the schedule. In-class quizzes are essentially exams, just with "lower stakes" in that there are 6 quizzes throughout the semester that in sum make up <1/2 your overall grade. Students will be able to drop their lowest score. No makeup quizzes are given unless previously arranged with me at least two weeks prior and have a valid excuse with documentation; otherwise, this missed day becomes your makeup score and you will have a 0 for any additional missed quizzes. You will need to have zoom running for each in-class quiz day with your video on. Material from online lectures, lecture slides, mini-quizzes, group work, in-class lecture material, and textbook are all fair game for in-class quizzes. You can use notes/text on these quizzes, but you will not have enough time to finish the in-class quiz unless you have prepared to not rely on external materials.

**How to study for this course** – I have taken care to appeal to a wide variety of learning preferences, content delivery type, numerous lower-stake point opportunities, and other mechanisms to help you learn (and learn to love!) critical topics in biochemistry. The time spend outside the course learning and practicing material is as important as time and activities mandated in this syllabus. Biochemistry is a challenging subject with a lot of new material that we cover quickly. You should expect to spend at least 9 hours (3 hours per unit) for this course per week.

**Grading** – The following is the grading scheme, subject to change.

Mini-quizzes: 16 mini-quizzes, 10 points each, drop the lowest 3 (130 points)

Groupwork: 4 groupwork assignments, 35 points each (10 points come from peer participation evaluation), drop the lowest 1 (105 points)

Embedded online lecture quizzes: 20 embedded quizzes, 5 points each, drop the lowest 3 (85 points)

In-class quizzes: 6 in-class quizzes, 50 points each, drop the lowest 1 (250 points)

Extra-credit syllabus quiz: 1 optional quiz (12 points, not included in point total)

Total course points: 570

**Curving** – There currently is no intention to curve this course. I do not solicit opinions on curving from students (so don't waste your time telling me your thoughts, please!)

**Tentative grading scale –**

A =  $\geq 92.5\%$

A- = 89.5-92.4%

B+ = 87.5-89.4%

B = 82.5-87.4%

B- = 79.5-82.4%

C+ = 77.5-79.4%

C = 72.5-77.4%

C- = 69.5-72.4%

D+ = 67.5-69.4%

D = 62.5-67.4%

D- = 59.5-62.4%

F < 59.4%

**Attendance and absences** –If you are going to miss an in-class quiz and/or groupwork day **AND** have a valid excuse, I need to know at least 1 week in advance (with the exception of documented medical or other emergencies to be assessed at my discretion). Alert me via email as well so I have written record of this. You are required to provide a written excuse from the Office of Student Life. **If 1) you do not have a valid excuse and documentation and 2) you did not communicate this absence to me in advance both in person and via email, you will not be able to make up points.** For groupwork, you will have the option of doing the groupwork yourself and submitting it, or averaging the score of your other groupworks and using this score for the missed groupwork. For the quizzes, I will average your other quizzes and use this average for your missed quiz. **There are no make-up quizzes.**








**Students with differing abilities** - If you believe you will need accommodations for this class, it is your responsibility to contact Student Ability Success Center at (619) 594-6473. To avoid any delay in the receipt of your accommodations, you should contact Student Ability Success Center as soon as possible. Please note that accommodations are not retroactive, and that I cannot provide accommodations based upon disability until I have received an accommodation letter from Student Ability Success Center. Your cooperation is appreciated.

**Religious Observances** - By the end of the second week of classes, students should notify the instructors of any planned absences for religious observances. The student and instructor will work together to reasonably accommodate students who have notified in advance of planned absences for religious observances.

**Statement on Cheating and Plagiarism** – Basically, don't cheat! The University adheres to a strict [policy regarding cheating and plagiarism \(http://www.sa.sdsu.edu/srr/conduct1.html\)](http://www.sa.sdsu.edu/srr/conduct1.html) (<http://studentaffairs.sdsu.edu/srr/conduct1.html>). If you cheat, you will receive an F for the course and you will be referred to the University for disciplinary measures. If you have questions on what is plagiarism, please consult the [policy \(http://www.sa.sdsu.edu/srr/conduct1.html\)](http://www.sa.sdsu.edu/srr/conduct1.html) (<http://www.sa.sdsu.edu/srr/conduct1.html>). If you feel overwhelmed, please ask questions during our flipped classroom time. Unauthorized recording or dissemination of virtual course instruction or materials by students, especially with the intent to disrupt normal university operations or facilitate academic dishonesty, is a violation of the Student Conduct Code. This includes posting of exam problems or questions to on-line platforms. Violators may be subject to discipline. Appreciate how cheating can ruin your otherwise bright future.

**Syllabus is Subject to Change** - This syllabus and schedule are subject to change. The modality of this course is subject to change in connection with evolving public health conditions and recommendations. If you are absent from class, it is your responsibility to check on announcements made while you were absent.

# Course Summary:

Date	Details	
Wed Aug 26, 2020	 <a href="https://sdsu.instructure.com/courses/33299/assignments/32624">Extra credit syllabus quiz</a> <a href="https://sdsu.instructure.com/courses/33299/assignments/32624">https://sdsu.instructure.com/courses/33299/assignments/32624</a>	due by 11:59pm
Fri Aug 28, 2020	 <a href="https://sdsu.instructure.com/courses/33299/assignments/28716">Chapter 1 Mini-Quiz</a> <a href="https://sdsu.instructure.com/courses/33299/assignments/28716">https://sdsu.instructure.com/courses/33299/assignments/28716</a>	due by 11:59pm
Wed Sep 2, 2020	 <a href="https://sdsu.instructure.com/courses/33299/assignments/29916">Chapter 2 Mini-Quiz</a> <a href="https://sdsu.instructure.com/courses/33299/assignments/29916">https://sdsu.instructure.com/courses/33299/assignments/29916</a>	due by 11:59pm
Thu Sep 3, 2020	 <a href="https://sdsu.instructure.com/courses/33299/assignments/34389">Groupwork #1: DNA technology Assignment</a> <a href="https://sdsu.instructure.com/courses/33299/assignments/34389">https://sdsu.instructure.com/courses/33299/assignments/34389</a>	due by 7pm
	 <a href="#">Chapter 3 media!</a>	to do: 11:59pm
	 <a href="#">Chapter 1 media!</a>	to do: 11:59pm
Fri Sep 4, 2020	 <a href="https://sdsu.instructure.com/courses/33299/assignments/29918">Chapter 3 Mini-Quiz</a> <a href="https://sdsu.instructure.com/courses/33299/assignments/29918">https://sdsu.instructure.com/courses/33299/assignments/29918</a>	due by 11:59pm