

San José State University
Chemistry Department
Chem 132, Introductory Biochemistry, Section 01 (42225), Fall 2019

Course and Contact Information

Instructor:	Anh-Tuyet Tran, Ph.D.
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Office Hours:	M 10:00 – 11:00 am, W 3:00 – 4:00 pm, and F noon – 1:00 pm
Class Days/Time:	Monday and Wednesday 7:30 – 9:10 am
Classroom:	Sweeney Hall 100
Prerequisites:	CHEM 30B or CHEM 8 (with grades of "C" or better; "C-" not accepted).

Course Web Page

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on [Canvas Learning Management System course login website](http://sjsu.instructure.com) at <http://sjsu.instructure.com>. You are responsible for regularly checking with the messaging system to learn of any updates.

Course Description

This is a survey course of biochemistry for majors outside the College of Science. Students learn the structure and function of the major macromolecules of the cell with special emphasis on proteins and human metabolism.

Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to:

CLO#1: Recognize all 20 common amino acids and understand the different levels of protein structure.

CLO#2: Utilize the equations governing enzyme kinetics, and recognize the structure of key enzymes, cofactors including several vitamins.

CLO#3: Know the order of metabolic intermediates and the corresponding enzyme names for the pathways of carbohydrate metabolism, the citric acid cycle, electron transport chain, lipid metabolism, and protein metabolism.

CLO#4: Calculate the number of ATP molecules generated for a given nutrient.

Required Texts/Readings

Textbook

Biochemistry by T.A. Brown, Scion Publishing Ltd., 2017.

Course Requirements and Assignments

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

Final Examination

Final Examination will be cumulative and covered all information discussed in class. There will be no make-up exams or quizzes. Please check for the Final Exam date in the class schedule. For special circumstances, please consult with the instructor at least two weeks ahead of the exam date.

Grading Information

Exams: Three midterms and a comprehensive final exam are weighted 20% each. Scheduled dates for the exams are attached. There will be no make-up exams. Please consult with your instructor for special circumstances.

Online homework: Chapter homework will be posted on Canvas course website and accessible within 10 days from its opening. Please note that there will be NO extension of due date for late submission. For each homework set if you get 85% or over, your score will be raised to 100%.

Class activities. Quizzes and/or other assignments may be given at any time to students present in class only. There will be no make-up for these class activities.

Determination of Grades

Final exam	20%
Midterms	45%
Online homework	20%
Class activities	15%

Letter grades for the full course are based on the following percentage range:

A+ = 100 - 97.0%	A = 96.9 - 93.0%	A- = 92.9 - 90.0%
B+ = 89.9 - 87.0%	B = 86.9 - 83.0%	B- = 82.9 - 80.0%
C+ = 79.9 - 77.0%	C = 76.9 - 73.0%	C- = 72.9 - 70.0%
D+ = 69.9 - 67.0%	D = 66.9 - 63.0%	D- = 62.9 - 60.0%
F = 59.9 - 0%		

Extra Credit: Please note that the instructor will NOT provide extra credit work at the end of the semester for students who are doing poorly. However, bonus points are given to all exams and class activities, including homework.

Study notes: A large amount of cumulative material is covered in this course. It is imperative that you stay up to date, read ahead and review the sections of the text on which the class lectures are based. You should attempt the practice problems and exercises in homework sets as well as in extra credit assignments. They represent a minimum of what you should work on to master the material and to prepare for the exams. Keep in mind that it is not only about getting the right answer, but also about understanding the reasoning behind the solution AND learning to recognize where that reasoning is applicable. Please visit the instructor during office hours if you are having trouble with any of the concepts covered in lecture.

Classroom Protocol

Attendance: Regular attendance to lecture is essential for your success in this course. Please remember that skipping lecture of one class to study for another class is not an acceptable excuse. You signed up for your course load; you are now responsible for fulfilling the obligations that come with that course load.

Safe and Respectful Community: We hope that the classroom and/or laboratory will serve as an environment that will promote learning and the development of new ideas, as well as be a safe and respectful community. Behavior that interferes with the normal academic function in a classroom or lab is unacceptable. Students exhibiting this behavior will be asked to leave the class. Examples of such behavior include

- a) Persistent interruptions or using disrespectful adjectives in response to the comments of others.
- b) The use of obscene or profane language.
- c) Yelling at classmates and/or faculty.
- d) Persistent and disruptive late arrival to or early departure from class without permission.
- e) Physical threats, harassing behavior, or personal insults (even when stated in a joking manner).
- f) Use of personal electronic devices such as pagers, cell phones, PDAs in class, unless it is part of the instructional activity.

The university has a brochure on student conduct that you can view at <http://www.sjsu.edu/studentconduct/docs/ENGLISH%20Brochure.pdf>

Safety/Emergency Information:

If you hear a continuously sounding alarm or are told to evacuate by Emergency Coordinators (colored badge identities), please walk quickly out of the building. If an alarm should occur during an exam or quiz, please attempt to give your instructor the paper. Be sure to take all your personal belongings with you as you may not be immediately allowed to return. Follow instructions of Coordinators. Be quiet so you can hear. Once outside, move away from the building. Do not return to the building unless the Police or Coordinators announce that it is permissible

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/> Make sure to review these policies and resources.

Resources for help

- 1) The instructor.
- 2) *Peer Connections* – Workshops and office hours held by SI Leader: Sarah Butterworth. Besides, Peer Connections provide small group, individual, and drop-in tutoring services for some undergraduate courses; and consultation with mentors is also available on a drop-in or by appointment basis. Visit Peer Connections website at <http://peerconnections.sjsu.edu> for more information.
- 3) *COSAC* – The College of Science Advising Center is located in the second Floor of Duncan Hall, DH 213. They have peer advisors and tutors. Check their schedule.
- 4) *ASPIRE* – Student Services Center – Services are limited to low income, first generation college students or students with disabilities.
- 5) *SJSU Writing Center* – The SJSU Writing Center is located in Clark Hall, Suite 126. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the Writing Center website at <http://www.sjsu.edu/writingcenter>.
- 6) *Counseling Services* - Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling Services website at <http://www.sjsu.edu/counseling>.
- 7) Private tutors – Cost \$\$\$. You might find ads in SAACS and in the hallways where Chemistry courses are taught (basement of Duncan Hall, DH 20) or you can post your ad in that room.
- 8) *Career Center*: <http://www.sjsu.edu/careercenter/>
- 9) *Accessible Education Center*. If you feel that you are unable to keep up with the class even though you have all the prerequisites; if you are spending ample time studying yet you never have time to finish exams and quizzes and/or if this class, for some reason, is testing your abilities to learn, you might consider paying a visit to the Accessible Education Center, ADM 110. They might be able to test you to determine whether you have a learning disability.

Chem 132, Introductory Biochemistry, Fall 2018 Course Schedule

Changes in class schedule would be announced in class at least one week ahead.

Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1	Aug. 19	No class
1	Aug. 21	Orientation Ch.1 Biochemistry in the Modern World
2	Aug. 26	Ch.1 (con.) Ch.2 Cells and Organisms
2	Aug. 28	Ch.2 (con.)
3	Sep. 2	Holiday – No class
3	Sep. 4	Ch.3 Proteins
4	Sep. 9	Ch 3 (con.)
4	Sep. 11	Ch.4 Nucleic Acids
5	Sep. 16	Ch.5 Lipids and Biological Membranes
5	Sep. 18	<u>MIDTERM I</u> (Ch.1 – 4)
6	Sep. 23	Ch. 5 (con.)
6	Sep. 25	Ch.6 Carbohydrates
7	Sep. 30	Ch. 6 (con.)
7	Oct. 2	Ch.7 Enzymes
8	Oct. 7	Ch.7 (con.)
8	Oct. 9	Ch.8 Energy Generation: Glycolysis
9	Oct. 14	Ch.8 (con.)
9	Oct. 16	<u>MIDTERM II</u> (Ch.5 – Ch.8)
10	Oct. 21	Ch.9 Energy Generation: The TCA Cycle and Electron Transport Chain
10	Oct. 23	Ch. 9 (con.)
11	Oct. 28	Ch.9 (con.)
11	Oct. 30	Ch.10 Photosynthesis
12	Nov. 4	Ch. 10 (con.)
12	Nov. 6	Ch.11 Carbohydrate Metabolism
13	Nov. 11	Holiday – No class

Week	Date	Topics, Readings, Assignments, Deadlines
13	Nov. 13	<u>MIDTERM III</u> (Ch.8 – Ch.11)
14	Nov. 18	Ch.11 (con.)
14	Nov. 20	Ch.12 Lipid Metabolism
15	Nov. 25	Ch.12 (con.)
15	Nov. 27	Non-instructional day – No class meeting
16	Dec. 2	Ch.13 Nitrogen Metabolism
16	Dec. 4	Ch. 13 (con.)
17	Dec. 9	Review
Final Exam	Dec. 11	<u>FINAL EXAM 7:15 – 9:30 am, SH 100</u> (All chapters covered).