

San José State University
Chemistry Department
Chem 132L, Intro. Biochem. Lab, Spring 2021

Course and Contact Information

Instructor:	Anh-Tuyet Tran, Ph.D.
Email:	anh-tuyet.tran@sjsu.edu
Office Hours:	M 10:00 – 11:00 am, W 3:00 – 4:00 pm, and F noon – 1:00 pm
Class Days/Time:	Friday 9:00 – 11:50 am
Classroom:	DH 611 and/or online
Prerequisites:	CHEM 030B or CHEM 008, and CHEM 132

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 laboratory course of biochemistry associated with chemistry of foods and nutrition, cellular metabolism, biomacromolecules, vitamins and the structure of carbohydrates, lipids, proteins and nucleic acids.

Course Learning Outcomes (CLO)

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

- CLO#1:** Become familiar with different volumetric measurements and use laboratory micropipettors correctly.
- CLO#2:** Perform some enzyme assays.
- CLO#3:** Learn bio-separation techniques.
- CLO#4:** Use a spectrometer.
- CLO#5:** Organize and write clear and concise lab reports.

Course Requirements

- Course activities will take place in our course Canvas site, using the following tools: Zoom, Youtube videos, Labster's simulations, Inbox, Discussion Board, and Announcements. Note: Please access Canvas using Chrome for optimal functionality. You will need a laptop or desktop computer with a camera and a reliable access to internet. While the Canvas app for phones can be used for course communication and some basic tasks, you must have access to a computer for completing most coursework. Please note that iPad, iPhone, or Tablets are incapable of running the assigned Labster's simulations. More details are in Resources section.
- You should get into the habit of shutting down and restarting your computer/device at least once a week, even once a day, to optimize performance.

Grading Information

Lab Quizzes (40%): There are three quizzes with their due dates shown on the Schedule of Experiments. In addition to these three quizzes, a Safety Quiz will be given during the second lab period. Please read the safety section of the SJSU Catalog under Chemistry Department and complete Labster Exp. 1 to prepare for Safety Quiz.

Final Examination or Evaluation: Final Evaluation will be based on Final Quiz and a term paper. There is no exam during finals week, but the term paper will be due on the scheduled date of the final exam. Please check their due dates in the class schedule. There will be no make-up quizzes. Please consult with your instructor for special circumstances

Formal Lab Reports (20%): A typed lab report must be submitted for each experiment. The general lab report format will be discussed at the beginning of the course. You should proofread your lab reports before submitting them, as your writing will be assessed for grammar, clarity, conciseness, and coherence.

Labster's Simulations (20%): You complete the assigned virtual experiments on Canvas. at your own pace and time, but make sure they are done prior to their due dates.

Worksheets & Term Paper (20%): No lab reports are required for Labster simulations. Instead, a worksheet or a term paper will be due along with each of these Labster simulations.

Discussion forum & Attendance (extra credit): It will be opened along with the modules for you to build a supportive learning community. You will earn one point for each entry in the discussion forum, and the sum of these points and the attendance points will be converted into three possible extra credit points toward your lab quiz. I would like to be explicit about the requirements for the quality of the discussion posts. Our class will be democratic and participatory in its approach. For the discussion board to be constructive and productive, you are required to reference the readings and craft discussion responses that are thoughtful and authentic. The amount you write is less important than the quality of what you write. In other words, repeating what someone has already said as your reply to the prompt or in response to their post is NOT acceptable. It is, however, acceptable to repeat what someone has said and then to agree with it, disagree with it, challenge it, expand on it, etc. In any of these cases, each of your responses will require your own original thought. If you agree/disagree with/challenge/expand on a co-learner's response, PLEASE EXPLAIN WHY. Simply saying, 'I agree/disagree with/challenge/expand on what X or Y said,' without explaining why, is not acceptable and will not earn you any extra credit point.

Determination of Grades

Lab Quizzes	40%
Lab Reports	20%
Labster's Simulations	20%
Worksheets & Term paper	20%
<u>Total</u>	<u>100%</u>

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%		

Penalty for Late and/or Re-Submission: Please check the Schedule of Experiments for lab report and assignment due dates. Late reports and assignments will be marked down as follows: 1-7 days late (-10%), more

than one week (-20%), more than two weeks (-30%), more than three weeks (-40%). Specific details for each lab assignment will be given in class. You may resubmit your work to improve the score within one week after it is graded and returned. Please note 10% will be taken off from the re-submitted work so it can get maximum 90% of the possible points.

Extra credit work will NOT be provided at the end of the semester for students who are doing poorly. But bonus points will be given throughout the quizzes and to any well-written lab reports, as well as to your participation in the discussion board and in the Zoom meetings.

Classroom Protocol

- I expect you to check our course Canvas site, at least twice a week, Monday through Friday. I will communicate with the whole class and with you individually using Inbox and Announcements.
- I am limited or unavailable on weekends, unless for urgent matters. If you have any questions or concerns about the course, feel free to send me a message in Canvas or email me. Please expect 24 hours turn-around time.
- You should try your best to attend class during our regular class time (Fridays 9:00am – 11:50am) using the ZOOM meeting platform. You will get one extra credit point for your presence in each of the lecture meetings. You are expected to read and plan for each lab experiment BEFORE joining the class meeting.
- You must obtain permission in advance to record and/or download any course materials. Such permission allows the recordings to be used for your private study purposes only. You will not be permitted to share any class materials with someone who isn't enrolled in the class or without permission. The recordings are protected by instructor's copyright.
- Please visit my office hours if you are having trouble with any of the concepts covered in class.
- I understand that factors beyond your control can interfere with your ability to participate. Please let me know if any issues arise, so we can figure out a plan to make sure you succeed in the course.
- As this is a one-unit lab course, you should plan to spend about 1 - 2 hours a week interfacing with me and/or classmates in our class meetings. Other modes of interface time might be posting to and responding to others' posts on the discussion board and attending my office hours.
- You should plan to spend about 2 - 3 hours a week performing the experiments, reviewing the class materials and writing the lab reports. Success in this course is based on the expectation that you 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.
- Online science courses require that you acquire important skills such as self-discipline, time management, computer knowledge, and excellent math and language skills. Assessments of math and writing skills are particularly important in science courses to determine if you can handle the course requirements. It is also important to assess online skills. One of the good tools to determine readiness for an online course is the Online Learning Questionnaire: <http://tutorials.istudy.psu.edu/learningonline/learningonline2.html>

Zoom Classroom Etiquette

- For each class session, you should do your best to open simultaneously Zoom and Canvas (split screen on your computer). We will use both online platforms during our class sessions.
- Try to log online to our class meeting from a quiet, distraction-free environment. We have little time together; let's try to maximize it!
- Keep your Audio on mute until you want to speak. We must work together to limit background noise.
- Enable Video so we can see each other as much like in a face-to-face classroom as possible. Especially in exam time, it is required that you take the exam under lockdown browser while logging in Zoom with the video ON in a second device.
- When you want to speak, use the "Raise Hand" feature (on the bottom left of the Participants window). Be sure to unmute yourself to talk.
- Use the Chat box (on the bottom of the Zoom window) to make a point or ask a question. Remember that Chat is public, and may be recorded, and archived.
- Have a plan for taking notes (paper and pencil, digital notepad, Word/Pages doc). Please note that recordings of our Zoom class sessions will not be saved and posted – unless an incident happens and needs to be documented. So, you should try to capture your thoughts and questions in the moment.

Statement on Safe and Respectful Community:

We hope that the classroom and 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>

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](#) at <http://www.sjsu.edu/gup/syllabusinfo/> Make sure to review these policies and resources.

Resources for Help

1) The instructor. Please feel free to send me a message in Canvas or email me if you have any questions or concerns about the course.

2) Student Computer Services Loans: Please note that your computer should meet the following Labster's requirements. If you need to check out a laptop computer for your studies, please visit this site: <https://library.sjsu.edu/student-computing-services/student-computing-services>

- **Processor:** Dual core 2 GHz or higher
- **Memory:** 4 GB or more
- **Graphic card:** Intel HD 3000 / GeForce 6800 GT / Radeon X700 or higher
- **OS:** Latest version of Windows (64-bit) or Mac OS or ChromeOS
- **Supported browsers:** Latest version of [Firefox](#) and [Chrome](#)
- A **stable** internet Connection

Requirements for Chromebook: Look especially for the amount of memory (**minimum 4GB SDRAM**) and processor speed (**minimum dual-core 2 GHz CPU**).

3) For technical support, please contact eCampus: <https://www.sjsu.edu/ecampus/>

4) *SJSU CARES* provides a wide range of services to students having food and housing insecurity. Check for more information at: <https://www.sjsu.edu/sjsucares/>

5) *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) *Student Health Center*: 408-924-6122 or <https://www.sjsu.edu/studenthealth/>

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) *Career Center*: <http://www.sjsu.edu/careercenter/>

8) *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 132L, Spring 2021, Course Schedule

Schedule is subject to change and will be announced in class at least one week ahead.

Week	Date	Experiment / Activity	Lab Report Due
1	Jan. 29	Orientation Safety rules Sim. 1 Lab Safety (Labster)	(none)
2	Feb. 05	Discussion on Lab Report Format & Data Analysis Expt. 1 Measurements <u>Safety Quiz</u>	<i>Sim. 1</i> (none)
3	Feb. 12	Expt. 2: Acid/Base Titration	<i>Report</i> <i>Expt. 1</i>
4	Feb. 19	Expt. 3: Buffers and pH	<i>Report</i> <i>Expt. 2</i>
5	Feb. 26	Expt. 4: Paper/Thin-Layer Chromatography	<i>Report</i> <i>Expt. 3</i>
6	Mar. 05	Expt. 5: Transamination (Part 1) and <u>Quiz #1</u>	<i>Report</i> <i>Expt. 4</i>
7	Mar. 12	Expt. 5: Transamination (Part 2 & 3)	(none)
8	Mar. 19	Sim. 2: Photometry and Enzyme Kinetics (Labster) Worksheet 1: Photometry	<i>Report</i> <i>Expt. 5</i>
9	Mar. 26	Sim. 2: (cont'd)	<i>Sim. 2</i> <i>WS 1</i>
10	Apr. 02	<u>SPRING BREAK</u>	(none)
11	Apr. 09	Expt. 6: Vitamin C Determination	(none)
12	Apr. 16	Sim.3: Pipetting, GMO, and Bradford's Assay (Labster) Worksheet 2: Pipetting & Bradford's Assay	<i>Report</i> <i>Expt. 6</i>
13	Apr. 23	Sim. 3: (cont'd) <u>Quiz #2</u>	<i>Sim. 3</i> <i>WS 2</i>
14	Apr. 30	Sim. 4: Polymerase Chain Reactions (Labster) Term paper: PCR Applications	(none)
15	May. 07	Sim. 4: (cont'd)	<i>Sim. 4</i>
16	May. 14	<u>Final Quiz</u>	(none)
	Wednesday	<u>Term paper due 7:15 - 9:30 am</u>	<i>Term paper</i>

Final Exam	May. 19		
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