San José State University
Chemistry Department
Chem 132L, Intro Biochem. Lab, Sections 1 & 2, Spring 2015

Course and Contact Information

Instructor: Anh-Tuyet Tran, Ph.D.
Office Location: DH605
Telephone: (408) 924-5292
Email: anh-tuyet.tran@sjsu.edu
Office Hours: MW 2:30 – 4:00 pm, or by appointments
Class Days/Time: Friday 9:00 am – 12:00 noon, or 12:30 – 15:20 pm
Classroom: DH 611
Prerequisites: Past completion of: General or Inorganic (Chem 30A, or Chem 1A); Organic Chemistry (Chem 30B, or Chem 8 with Chem 9); Biochemistry (Chem 132, or Chem 135).

Faculty Web Page and MYSJSU Messaging
Course materials such as syllabus, handouts, notes, assignment instructions, etc. may be found by logging on to Canvas at https://sjsu.instructure.com/courses. You are responsible for regularly checking with the messaging system through MySJSU to learn 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.

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

SLO#1: Become familiar with different volumetric measurements and use laboratory pipettors correctly.
SLO#2: Perform some enzyme assays.
SLO#3: Learn bioseparation techniques.
SLO#4: Use a spectrometer.
SLO#5: Keep an organized lab notebook, and write clear and concise lab reports.
Required Texts/Readings

Textbook

Other equipment / material requirements
- Scientific lab notebook with carbon copy of each page
- Non-programmable scientific calculator

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at http://www.sjsu.edu senate/docs/S12-3.pdf.

Safety quiz (10 points): This will be given during the second lab period and you must pass it to remain in Chem 132L course. Please read the safety section of the SJSU Catalog under Chemistry Department.

Formal Lab Reports: A typed lab report must be submitted for each experiment. The general lab report format will be discussed in the second class meeting. You should proofread your lab reports before submitting them, as your writing will be assessed for grammar, clarity, conciseness, and coherence.

Please check the Schedule of Experiments for due dates. Except for the final lab report (20 points), each of the other lab report is 10 points. Late reports will be marked down as follows: 1-7 days late (-2), more than one week (-3), more than two weeks (-4), more than three weeks (-5). Specific details for each report will be given in class.

Lab Quizzes: Three quizzes will be given and quiz dates are on the Schedule of Experiments. Quiz 1 and 2 are 15 points each; final quiz 30 points. There is no exam during finals week, but the last report is due on the scheduled date of the final exam.

Lab Notebook 15 points are decided by the instructor based on the following qualities: overall lab notebook organization, and completion of data and results. The general lab notebook format will be discussed in the second class meeting.

Lab Evaluation 15 points are decided by the instructor based on the following student qualities: lab attendance and punctuality, lab techniques, experiment planning and performance, attention to safety rules, effort and utilization of time, lockers and lab bench housekeeping, and mental alertness.

NOTE that University policy F69-24 at http://www.sjsu.edu senate/docs/F69-24.pdf states that “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

Grading Policy

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Reports</td>
<td>110</td>
</tr>
<tr>
<td>Lab Quizzes</td>
<td>60</td>
</tr>
<tr>
<td>Safety Quiz</td>
<td>10</td>
</tr>
<tr>
<td>Lab Notebook</td>
<td>15</td>
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<tr>
<td>Lab Evaluation</td>
<td>15</td>
</tr>
</tbody>
</table>
Total 210 points

Letter grades for the full course are based on the following percentage range:
A (≥ 90%), B (89 – 80%), C (79 – 70%), D (69 – 60%), F (<59%)

Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See University Policy F13-1 at http://www.sjsu.edu/senate/docs/F13-1.pdf for more details.

Classroom Protocol

Regular attendance is essential for your success in this course. Please remember that skipping one class to study for another class is not an acceptable excuse. As you sign up for your course load, you are responsible for fulfilling the obligations that come with that course load.

You are expected to read and plan for each lab experiment BEFORE coming to lab. In most experiments, you will work individually or in small groups. Please note in particular the following safety instructions: "Failure to comply with proper procedures and prescribed safety cautions shall subject the student to disciplinary action.

1. Any student who engages in unauthorized experiments or who seriously disregards safety, thereby endangering self or others, shall be withdrawn immediately from the class with a grade of F.
2. Any student who shows persistent disregard for safety may have his/her grade lowered, and may risk being withdrawn with a final grade of F."

Once finishing the experiment in the lab, you should write up your lab reports on your own, even though you share experimental data and discuss the results with your lab partner. Copying other student’s work is considered cheating and can get you zero point for this lab report.

Further details on each experiment, if any, will be posted in Canvas. Please visit the instructor during office hours if you have trouble with any of the concepts presented in the lab.

If you must miss a lab experiment for any special circumstance including illnesses, please notify the instructor as soon as possible. Only one (01) lab absence is excused, and could be made up on the lab make-up day. (Note: You should arrange with the instructor at least one week before that day, so that she could order the reagents and other materials required for the experiment you wish to make up). Unexcused absences will receive a grade of zero on the formal lab report corresponding to the missed experiment.

University Policies

General Expectations, Rights and Responsibilities of the Student

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU’s policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See University Policy S90–5 at http://www.sjsu.edu/senate/docs/S90-5.pdf. More detailed information on a variety of related topics is available in the SJSU catalog, at http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.
Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, http://www.sjsu.edu senate/docs/S12-7.pdf, requires students to obtain instructor’s permission to record the course and the following items to be included in the syllabus:

- “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”
  - It is suggested that the greensheet include the instructor’s process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
  - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.
- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

Academic Integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at http://www.sjsu.edu senate/docs/S07-2.pdf requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sjsu.edu/studentconduct/.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/aec to establish a record of their disability.

Student Technology Resources

Computer labs for student use are available in the Academic Success Center at http://www.sjsu.edu/at/asc located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the
Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

**SJSU Peer Connections**

Peer Connections, a campus-wide resource for mentoring and tutoring, strives to inspire students to develop their potential as independent learners while they learn to successfully navigate through their university experience. You are encouraged to take advantage of their services which include course-content based tutoring, enhanced study and time management skills, more effective critical thinking strategies, decision making and problem-solving abilities, and campus resource referrals.

In addition to offering small group, individual, and drop-in tutoring for a number of undergraduate courses, consultation with mentors is available on a drop-in or by appointment basis. Workshops are offered on a wide variety of topics including preparing for the Writing Skills Test (WST), improving your learning and memory, alleviating procrastination, surviving your first semester at SJSU, and other related topics. A computer lab and study space are also available for student use in Room 600 of Student Services Center (SSC).

Peer Connections is located in three locations: SSC, Room 600 (10th Street Garage on the corner of 10th and San Fernando Street), at the 1st floor entrance of Clark Hall, and in the Living Learning Center (LLC) in Campus Village Housing Building B. Visit [Peer Connections website](http://peerconnections.sjsu.edu) for more information.

**SJSU Writing Center**

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. 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](http://www.sjsu.edu/writingcenter). For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook. (Note: You need to have a QR Reader to scan this code.)

**SJSU Counseling Services**

The SJSU Counseling Services is located on the corner of 7th Street and San Fernando Street, in Room 201, Administration Building. 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](http://www.sjsu.edu/counseling).
# Chem 132L, Spring 2015, Course Schedule

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

## Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
<th>Lab Report Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/23</td>
<td>Check-in and safety discussion&lt;br&gt;Expt. 1: Weights, Measurements, and Moisture Content</td>
<td>(none)</td>
</tr>
<tr>
<td>2</td>
<td>1/30</td>
<td>Expt. 1 (cont.)&lt;br&gt;Discussion on lab reports/notebook&lt;br&gt;Safety Quiz</td>
<td>(none)</td>
</tr>
<tr>
<td>3</td>
<td>2/06</td>
<td>Expt. 2: Acid/Base Titration</td>
<td>Expt. 1</td>
</tr>
<tr>
<td>4</td>
<td>2/13</td>
<td>Expt. 3: Buffers and pH</td>
<td>Expt. 2</td>
</tr>
<tr>
<td>5</td>
<td>2/20</td>
<td>Expt. 4: Paper Chromatography of Amino Acids&lt;br&gt;<strong>Quiz #1 (Exp. 1 – 3)</strong></td>
<td>Expt. 3</td>
</tr>
<tr>
<td>6</td>
<td>2/27</td>
<td>Expt. 4 (cont.)&lt;br&gt;Expt. 5: Transamination</td>
<td>(none)</td>
</tr>
<tr>
<td>7</td>
<td>3/06</td>
<td>Expt. 5 (cont.)</td>
<td>Expt. 4</td>
</tr>
<tr>
<td>8</td>
<td>3/13</td>
<td>Expt. 5: (cont.)&lt;br&gt;<strong>Lab Make-up</strong></td>
<td>(none)</td>
</tr>
<tr>
<td>9</td>
<td>3/20</td>
<td>Expt. 6: Photometry</td>
<td>Expt. 5</td>
</tr>
<tr>
<td>10</td>
<td>3/27</td>
<td><strong>Spring Break</strong></td>
<td>(none)</td>
</tr>
<tr>
<td>11</td>
<td>4/03</td>
<td>Expt. 7: Vitamin C Determination</td>
<td>Expt. 6</td>
</tr>
<tr>
<td>12</td>
<td>4/10</td>
<td>Expt. 8: Bradford Protein Assays&lt;br&gt;<strong>Quiz #2 (Expt. 4 – 7)</strong></td>
<td>Expt. 7</td>
</tr>
<tr>
<td>13</td>
<td>4/17</td>
<td>Expt. 9: Activity of Pepsin</td>
<td>Expt. 8</td>
</tr>
<tr>
<td>14</td>
<td>4/24</td>
<td>Expt. 10A: Preparation of DNA from Food Samples</td>
<td>Expt. 9</td>
</tr>
<tr>
<td>15</td>
<td>5/01</td>
<td>Expt. 10B: Detection of GMOs using PCR</td>
<td>(none)</td>
</tr>
<tr>
<td>16</td>
<td>5/08</td>
<td>Check off notebooks&lt;br&gt;Locker check-out</td>
<td>(none)</td>
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<tr>
<td></td>
<td></td>
<td><strong>Final Quiz (All experiments)</strong></td>
<td></td>
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<tr>
<td>Final Exam</td>
<td>5/18</td>
<td>Final Lab Report (20 pts), due at Noon</td>
<td>Expt. 10</td>
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