Introductory Biochemistry Laboratory
Chem 132L, Spring 2014

Instructor
Name: Alberto A. Rascón, Jr., Ph.D.
Office (location, phone): DH 612, (408) 924-4969
E-mail: alberto.rascon@sjsu.edu (preferred means of contact)
Office hours: Th 13:00 – 15:00 (or by appointment)

Course Information
Lab (day, time, location): F, 9:00 – 12:00, DH 611
Prerequisites: Past completion of Inorganic (Chem 30A or Chem 1A) AND
Organic Chemistry (Chem 30B or Chem 8 with Chem 9).
Past completion or current enrollment in Chem 132.

Required Course Materials
Textbook: Chem 132L Lab Manual (purchased from SAACS, DH 20)
Lab Notebook: Scientific lab notebook with carbon copy of each page
Calculator: Non-programmable scientific calculator
Graph papers: Engineering graph papers, typical page with minimum 10 lines/inch

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.

Student Learning Outcomes for Chem 132L:
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.

Grading Criteria:
Lab Reports 110 points
Lab Quizzes 60 points
Safety Quiz 10 points
Lab Notebook 15 points
Lab Evaluation 15 points

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%)
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. Check the Schedule of Experiments for due dates. 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. There is no exam during finals week, but the last report is due on the scheduled date of the final exam.

Lab Notebook points are decided by the instructor based on the following qualities: overall lab notebook organization, completion of data and results.

Lab Evaluation points are decided by the instructor based on the following student qualities: lab technique, organization, attention to safety, preparation for class, and mental alertness.

Absence Policy:
If you must miss a lab experiment for any special circumstance including illness, 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.

Misconduct:
Cheating and plagiarism are not tolerated on any class assignment or exam. Cheating is the act of obtaining or attempting to obtain credit for academic work through the use of dishonest, deceptive or fraudulent means. Examples of cheating include copying from someone else’s lab reports, consulting with others during exams or quizzes, using materials such as notes during exams or quizzes, using published information without citing references. Any form of cheating is a serious violation of SJSU’s Academic Integrity Policy (see below). A student caught cheating will receive a zero score and may be subject to further administrative sanctions, including probation, suspension, or expulsion.

Academic Integrity:
Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the University’s Academic Integrity Policy require you to be honest in all your academic course work. Faculties are required to report all infractions to the Office of Judicial Affairs. The policy on academic integrity may be found at…

http://www2.sjsu.edu/senate/S04-12.pdf

The SJSU shared value of respect requires mutually respectful behavior on the part of all. Information on SJSU shared values may be found at…

http://www2.sjsu.edu/senate/SS-S05-7.pdf

Disabilities Act:
If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with the instructor as soon as possible. Presidential Directive 97-03 requires that students with disabilities register with the Disability Resource Center to establish a record of their disability. Information may be found at…

http://www.drc.sjsu.edu/
Laboratory Safety/Emergency Information:
You should read the safety section of the SJSU Catalog under the Chemistry Department. Note in particular: “Failure to comply with proper procedures and prescribed safety cautions shall subject the student to disciplinary action. 1) Any student who engages in unauthorized experimentation 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.”

NOTE: A safety quiz will be given during the second day of class and must be passed with a grade of 80% or better. The quiz will be based on the SJSU Chemistry Department Safety Rules found at the following website: [http://www.sjsu.edu/chemistry/docs/Safety_Sheet_IIC.pdf](http://www.sjsu.edu/chemistry/docs/Safety_Sheet_IIC.pdf). Signed Safety slips (found at the end of the PDF) shall be returned on the second day of class.

If you hear a continuously sounding alarm, or are told to evacuate by Emergency Coordinators (colored badge identities), please walk quickly to the nearest stairway (end of each hall). 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.

Lockers:
Laboratory lockers are assigned on the first day of class. It is the student’s responsibility to check the (red) inventory card and verify that all the stated supplies are present in their locker. Students must pay for any glassware broken during the semester. Failure to check out lockers on the last day of class is subject to a **$50 fine.**
<table>
<thead>
<tr>
<th>Week /Date</th>
<th>Experiment/Activity</th>
<th>Lab Report Due</th>
</tr>
</thead>
</table>
| 1 - Jan 24| Check-in and safety discussion
Expt. 1: Weights, Measurements, and Moisture Content                                       | (none)         |
| 2 - Jan 31| Expt. 1 (Part 2), Discussion on lab reports/notebook
Safety Quiz                                                      | (none)         |
| 3 - Feb 07| Expt. 2: Acid/Base Titration                                                        | Expt. 1        |
| 4 - Feb 14| Expt. 3: pH and Buffers                                                             | Expt. 2        |
| 5 - Feb 21| Expt. 4: Paper Chromatography of Amino Acids, and Quiz #1                           | Expt. 3        |
| 6 - Feb 28| Expt. 5: Transamination (Part 1)                                                    | (none)         |
| 7 - Mar 07| Expt. 5: (Part 2)                                                                   | Expt. 4        |
| 8 - Mar 14| Expt. 5: (Part 3) and Lab Make-up                                                   | (none)         |
| 9 - Mar 21| Expt. 6: Photometry                                                                 | Expt. 5        |
| 10 - Mar 28| Spring Break                                                                      | (none)         |
| 11 - Apr 04| Expt. 7: Determination of Vitamin C Content                                         | Expt. 6        |
| 12 - Apr 11| Expt. 8: Bradford Protein Assay, and Quiz #2                                        | Expt. 7        |
| 13 - Apr 18| Expt. 9: Activity of Pepsin                                                         | Expt. 8        |
| 14 - Apr 25| Expt. 10A: Preparation of DNA from Food Samples                                     | Expt. 9        |
| 15 - May 02| Expt. 10B: Detection of GMOs using PCR                                              | (none)         |
| 16 - May 09| Final Quiz (30 pts), check off notebooks, check-out                                 | (none)         |
| 17 - May 16| Final Lab Report (20 pts), 7:15 – 9:30 AM                                            | Expt. 10       |