CHEMISTRY 131A
BIOCHEMISTRY LABORATORY (Code 46372)

Dr. Peter Nemes
Office: DH 608 (924-4967; email: peter.nemes@sjsu.edu)
Office Hours: MW 1300-1500, (DH 608)
Please make an appointment if you would like to see me at times other than those posted.

CLASS MEETING TIME AND FINAL EXAM TIME:
TR 1430-1720 DH 609 Final: Mon. Dec. 16, 1445-1700

REQUIRED MATERIALS:
1. Research laboratory notebook with duplicate pages.
2. Scientific calculator capable of performing linear regression.

PREREQUISITES:
Chem 113A (with a grade of C or better), Chem 130A is a corequisite.

COURSE DESCRIPTION:
This is a laboratory course focusing on the development of intermediate laboratory skills in modern biochemistry using the context of experiments examining biologically relevant molecules. These skills will comprise technique, the observation, recording, and evaluation of data acquired in the course of laboratory work, and the reporting of experimental results. This is a capstone course. A capstone experience requires students to integrate concepts, principles and methodology learned in previous courses of the major subject. This course is designed to foster skills in proper laboratory practice and record keeping, the use of biochemical instrumentation, the design and execution of experiments based on biochemical literature, the proper interpretation of experimental results, and the effective communication of the results through written and oral reports.

COURSE AND PROGRAM LEARNING OBJECTIVES
Chemistry 131A covers Program Learning Objectives #s.5, 6, 7 and 10:
Chemistry Program Learning Objectives

The Course Learning Objectives for Chem 131A are as follows:
Students will learn how to carry out independent experimental work in a laboratory setting while investigating a research problem, utilize appropriate instrumentation and techniques to accomplish this and communicate the results of the work in the form of a clearly written journal article.

DROPPING AND ADDING
Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc.

Instructions for adding or dropping a class are available at:
http://my.sjsu.edu/students/student_tutorials/index.html.

The deadlines for adding or dropping a class are available at http://www.sjsu.edu/registrar/calendar/2132/index.html.
Information about late drops is available at:
http://www.sjsu.edu/aars/policies/latedrops/

Students should be aware of the current deadlines and penalties for adding and dropping classes.

LABORATORY NOTEBOOKS:
It is imperative that all experimental data is recorded in the laboratory notebook and that this information is kept up to date. Never depend on your memory to record such data; you will probably forget it if it is not written down. Notebook entries should be clear and concise. Entries should be neat enough (and annotated when necessary) so that the experimental notes and data can be read and understood by others. If any data are rejected for some reason, neatly cross out the entry with a single line and enter a brief explanation beside it. Don’t obliterate what has been written down! Never discard or tear out a notebook page. Your notebook will be graded on these criteria. The duplicate pages of your notebook will be handed in periodically for evaluation. (Note that professional labs typically use duplicate or triplicate copy notebooks.)
The notebook does not have to look like a final report. Do not use scratch paper for experimental notes and data with the intention of neatly transferring such into your notebook at a later time. It is quite acceptable to cross out information (with a single line) and rewrite it. In professional settings the notebook is the primary document verifying intellectual property. Establishing good notebook habits will prepare you for your career.

LABORATORY REPORTS:
Laboratory reports will be required for all experiments. These are to be completed outside of the laboratory period. The required content of each will be explained in class. Although some of the experimental work will be performed in pairs, all analysis of data and its interpretation must be your own. Each summary/report must be typd and include figures and tables as necessary. (Calculations, when included, may be written by hand.) The due dates for submission of specific reports will be provided in class with ample time for preparation. Failure to submit a report by a specified deadline will automatically lower the grade by 5% of the maximum for each laboratory period it is late. Reports are due at the beginning of the laboratory period on the due date. Reports submitted on the due date but later than the beginning of class are considered late. Details regarding report format will be provided later.

EXAMS:
There will be one midterm and a final exam (see Tentative Schedule for dates). Each of the exams will cover theory, experimental protocol and data analysis associated with the experiments. It is expected that all students will take the midterm and the final; make-up exams will not be given. If a student misses an exam due to an excusable absence, suitable arrangements will have to be made with the instructor. (Medical excuses must be documented by a physician.) The final exam must be taken in order to pass the course.

ACADEMIC INTEGRITY
Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the University’s Academic Integrity Policy requires you to be honest in all your academic course work.
Faculty is required to report all infractions to the Office of Student Conduct and Ethical Development. The policy on academic integrity can be found at http://sa.sjsu.edu/student_conduct. “Your own commitment to learning (as evidenced by your enrollment at San Jose State University) and the University’s integrity policy require 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.” Instances of dishonesty will not be tolerated. Cheating and/or plagiarism will result in a failing grade and sanctions by the University. Note that plagiarism is defined as representing the work of another as one’s own without giving appropriate credit, regardless of how that work was obtained, and/or submitting it to fulfill academic requirements.

COURSE GRADE:
Each exam will contribute 100 points (a total of 40%) toward the grade. The reports associated with the experiments will contribute an additional 200 points (40%). The quality of the notebook, instructor evaluation, and work on assignments comprises the remaining 100 points (20%) of the total. (Instructor evaluation is based on technique, organization, comprehension of experiments, preparation, involvement in class discussion, attention to laboratory safety and proper disposal of waste, etc.)

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 me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability.

You are responsible for understanding the policies and procedures about add/drops, academic renewal, withdrawal, etc. Make sure that you are familiar with all of the administrative policies/deadlines that pertain to this course as outlined in the SJSU Catalog. Note that according to the Chemistry Department Drop Policy, only documented medical or similar emergencies constitute a valid reason for dropping a course after the end of the administratively designated drop period.

UNIVERSITY, COLLEGE AND DEPARTMENT POLICIES

Students in this course are expected to be familiar with and follow various policies developed by the University and the Chemistry Department. The important policies are:

- **Academic Integrity**
- **Campus Policy in Compliance with the Americans with Disabilities Act**
- **Emergencies and Evacuations**
- **Chemical Safety**
- **Expected Workload**

LABORATORY SAFETY
You should read the safety section of the SJSU Catalog under Chemistry Department (page 121 in the 2006/08 catalog). Note in particular: “Failure to comply with proper procedures and prescribed safety cautions shall subject the student to disciplinary action. 1) Any student engages in unauthorized experimentation, or who seriously disregards safety, thereby endangering self and 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.”
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