N. Melody Esfandiari, PhD
Lecture: TuTh 6:00-7:15 pm, DH410
Office: Duncan Hall 01
Email: mn_esfandiari@yahoo.com
Office Hours: TuTh 3:30-5:00 pm

**Prerequisites:**
Chem 130A or consent of instructor.

**Books and Resources:**
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*No Text book is required* for this course. If you would like to have a reference book, the following book is a good option:


Course Reserves: Some of the required reading material for this course is taken from published journal articles. The articles will be available to registered students as pdf files through the SJSU Library’s Course Reserve website:

http://www.sjlibrary.org/services/reserves/index.htm

Copies of the course syllabus, problem sets, and other class materials will be posted using Canvas (http://sjsu.instructure.com). Log on to Canvas regularly and have messages from Canvas forwarded to your preferred email address.

**Course Overview:**
Chemistry 273 is designed to introduce you to metal ions found in biological systems and their mechanism to facilitate critical functions. You will gain an understanding of metal ion transport and storage within cells, following a brief overview of spectroscopy methods commonly used to study metal centers in biological systems. The intent of this course is to also familiarize you with recent developments that utilize key metal ions for medical purposes.

Few tips to help improve your chances for doing well in CHEM 237:
1. Attend all the lectures.
2. Do the class projects in a timely manner.
3. Ask questions and come to office hours regularly; don’t wait until right before the exam or the term paper.
4. Come and see me immediately if you are not doing well or feel lost.
**Exam Schedule:**
Exams are not open to notes or other resources. No extra time or makeup exams will be given. Exam dates are *tentative*, but mostly likely will not change.

- **Mid-Term 1:** Oct 24th
- **Final Exam:** Dec 12th

The Final Exam is scheduled for Thursday, December 12, 2013 from 17:15 to 19:30, and will be comprehensive for the entire semester.

**Grading:**
The grading scheme is *tentative*, but most likely will not change. There may be opportunities for extra credit throughout the semester as the instructor sees fit.

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<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Midterm exam</td>
<td>100</td>
</tr>
<tr>
<td>Literature paper</td>
<td>50</td>
</tr>
<tr>
<td>Oral presentation</td>
<td>100</td>
</tr>
<tr>
<td>Term Paper</td>
<td>100</td>
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<tr>
<td>Final Exam</td>
<td>100</td>
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**Total:** 450 points

Grades will be assigned on a "+/-" system. The course grades will be assigned according to the following ranges: 90-100% “A” range, 80-89% “B” range, 70-79% “C” range, 60-69% “D” range, 59% and below “F” range. *Grades are assigned based on these ranges; no "curves" will be used.*

**Literature Paper:**
The literature paper will present a discussion on a research problem in the field of bioinorganic chemistry. A current journal article from the “inorganic-biochemistry” literature will be chosen (must be approved by the instructor). The paper will then entail a short summary of the article followed by a critical discussion on the selected problem. Details for writing the lit paper will be discussed in class. The literature paper is due on Nov. 14th.

**Term Paper:**
The term paper will discuss the structure and function of a given metalloprotein. Details for writing the term paper will be discussed in class. Writing expectations and grading criteria will be issued to each student in the form of a table near the beginning of the semester. The term paper is due on Dec 5th.

**Oral Presentation:**
The oral presentation will elaborate on the term paper, and it is intended for students to teach the class about their metalloprotein. The length of the oral presentation should be 15 minutes with 5 minutes for questions and class discussion. Each presentation will be critiqued by one or more classmates in addition to the instructor. The oral presentations will be held in the last three weeks of the semester.
Course Learning Objectives:

• To recognize the importance of inorganic molecules in supporting organic biological systems.
• To learn about how metal ions function as catalytic and structural centers in biological systems.
• To learn about the metal ion transport and storage within cells and how any malfunction can result in various diseases.
• To gain insight into cutting edge developments that utilize metal ions for medical purposes.
• To learn methods, including spectroscopy techniques, used to study metal ions in biological systems.
• To develop the skill to critically read primary literature, and to interpret experimental observations.
• To develop an appreciation for the structure and function of metal ions in the biological systems and how chemists aim to mimic them.

Program Learning Objective

• To demonstrate an advanced understanding of selected topics in chemistry.
• To demonstrate information literacy skills for acquiring knowledge of chemistry, both as a student and as a life-long learner.
• To demonstrate an understanding of experimentation, observation and data analysis, and their application to defined questions in chemistry.
• To demonstrate a familiarity with available instrumentation for conducting specific scientific research.
• To communicate effectively, verbally and written, for the purposes of conveying chemical information to both professional scientists and to the public

Academic Integrity:

No form of cheating, plagiarism, or other form of unfair advantage will be tolerated. All of your work on the exams must be your own work, with no help from others. Unless otherwise approved by the instructor, no source of information (including written, electronic, recorded, etc.) may be used during an exam. An infraction will result in "0" points for that exam or a grade of "F" for the course. The "SJSU Policy on Academic Dishonesty" will be used as the guideline should any problems arise. The policy on academic integrity can be found at: http://www2.sjsu.edu/senate/S04-12.htm

Academic integrity statement (from the Office of Student Conduct and Ethical Development):

"Your own commitment to learning, as evidenced by your enrollment at San José State University, and the University's Academic Integrity Policy 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 policy on academic integrity can be found at http://sa.sjsu.edu/student_conduct.

Students Requiring Special Accommodation:

Any student with a pre-existing condition requiring an accommodation (which has been documented by the Disability Resource Center) should make this need known to the instructor during the first two weeks of classes, along with documentation from the DRC. Every effort will be made to accommodate your needs, but it is your responsibility to alert me of your situation by the second week of classes.

Emergencies and Building Evacuations:

If you hear a continuously sounding alarm, or are told to evacuate the building by an Emergency Coordinator, walk quickly to the nearest exit (out the door and turn left to exit the Science Building). Take your personal belongings as you may not be allowed to return. Follow the instructions of the Emergency Coordinators. Be quiet so you can hear instructions. Once outside, move away from the building. Do not return to the building unless the Police or the Emergency Coordinator announce that this is permissible.

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 requesting
accommodations must register with DRC to establish a record of their disability.

**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

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.