2. I can get notes sent to you and arrange for you to make up any group work.

If you have COVID symptoms, a positive COVID test, or are exposed to someone who tests positive for COVID, do not come to campus. Email me and I will send you a follow up email with the appropriate protocols to follow. I will do my best to make accommodations so that your progress and grade are not negatively affected should this occur.

There may be other reasons why you may need to miss class or an assignment at some point in the semester. If this is the case, please contact me ahead of class time and with as much of a heads up as possible and we can discuss the situation. The more heads up you can give me, especially with regards to missing exams or assignment deadlines, the better. Even if you cannot give me a heads up, reach out. I will do my best to be accommodating.

# Course Goals

The goal of this course is to provide an introduction to inorganic chemistry, specifically regarding periodic trends, bonding theory, molecular symmetry, atomic and molecular orbitals, and coordination compounds.

# Course Learning Outcomes (CLOs)

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

CLO 1: Predict and classify the structures of various inorganic complexes.

CLO 2: Predict the properties of various inorganic complexes and use this prediction to distinguish between molecules.

CLO 3: Discuss and employ atomic structure and bonding models, including molecular orbitals, to interpret experimental and spectroscopic evidence.

CLO 4: Apply concepts and models of symmetry, structure, and bonding to other areas in chemistry such as organic and biochemistry, and to use these concepts to more deeply examine many aspects of biology, forensic science, materials science, and environmental science.

These CLOs are connected to several of the Department of Chemistry's Program Learning Objectives (PLOs), which are listed below.

Upon successful completion of this program,

PLO 1.1: Students will be able to identify, formulate, and solve a range of chemistry problems (fundamental to complex) through application of mathematical, scientific, and chemical principles.

PLO 1.2: Students will be able to recognize, relate, and/or apply chemistry terms and concepts to propose and solve interdisciplinary and multidisciplinary real world problems.

PLO 3.1: Students will be able to explore, critique, and reflect on how chemistry relates to society, culture, and issues of equity and ethics that shape their scientific beliefs and identities.

PLO 3.2: Students will be able to identify as scientists within the scientific community through constructing peer reviews, engaging in collaborations, and participating in mentorship.

# Course Materials

## Inorganic Chemistry (textbook)

Gary L. Miessler, Paul J. Fischer, and Donald A. Tarr
Pearson
5th Edition
ISBN-13: 9780137518425

Pearson website
you can rent for $10.99/month, or purchase for $229.32

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because this text is expensive, I am in the process of transitioning to a free textbook option. The site is still under construction so it's not a complete text, but you can find some useful readings at the following website: https://chem.libretexts.org/Bookshelves/Inorganic_Chemistry/Map%3A_Inorganic_Chemistry_(Miessler_Fischer_Tarr) (https://chem.libretexts.org/Bookshelves/Inorganic_Chemistry/Map%3A_Inorganic_Chemistry_(Miessler_Fischer_Tarr)).

## Model Kit (highly recommended)

A model kit can be a great help in this course, especially early on. Look for one with atoms that can bind to 1-6 other atoms or groups. I have some small kits I can loan out for the semester if you do not have one.

## Library Liaison

You should have a student library account with the King Library that allows you access the library electronic databases. If you plan to access the library services from off-campus, you may need to obtain a password and/or proxy to do so. Check the Library website for information. The reference Librarian for Chemistry is Anne Marie Engelsen and her email is annemarie.engelsen@sjsu.edu.

# Course Requirements and Assignments

Graded work will include in-class group quizzes (14 quizzes, 15 points each, 210 points), in-class worksheets (14 worksheets, 10 points each, 140 points), take-home problems (13 THPs, 20 points each, 260 points), two midterm exams (100 points each, 200 points), and one comprehensive final exam (200 points), which all contribute to the course learning outcomes. There are also some tiny assignments in the start here module (10 points) and a course survey (10 points). In total, this comes to 1030 points, but the class will be graded out of 1000 points, which means that there are 30 extra credit points already built into the class.

Dates for the exams are in the Course Schedule below. All relevant dates are also posted to Canvas.

Success in this course is based on the expectation that students 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, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

## Weekly Workflow

| Weekday | Activity |
|---|---|
| before Monday's class | Watch the lecture video and read the discussion prompt |
| Monday's class | Discussion prompt with neighbor, lecture/discussion altogether, then start Group Quiz (last 10-15 |
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| When | Topic | Notes |
| --- | --- | --- |
| W 12/6/23 | Last day of classes | Review and course wrap-up |
| W 12/13/23 | Cumulative | at 7:15 - 9:30 am in our usual classroom (sorry it's so early; I have no control over this!) |