

Advanced Inorganic Chemistry (CHEM 4745/8745)
Spring 2019 Syllabus

Instructor: Connie Lu
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Office Hours: in Smith 326
T R, 4 – 5 pm
or by appointment

Class Time/Location: T R 11:15 am – 1:15 pm
Smith 121

Credits: 4 (Chem 8745)
3 (Chem 4745)

Course Description: The course covers modern research topics in inorganic chemistry, selected from the following general areas: (1) coordination chemistry and bonding theory, (2) spectroscopy and physical methods, and (3) small-molecule activation.

Critical reading of scientific papers will be emphasized in this course. Besides gaining knowledge from the scientific literature, students will strengthen their skills in scientific writing, oral presentation, and web-based presentation.

Recommended Text: *Physical Methods in Bioinorganic Chemistry*
edited by Lawrence Que, Jr. (University Science Books, 2000)
paperback, new ~\$85 (available in Course Reserves, Walter Library, basement)
(The text is a resource for a detailed understanding of the physical methods that are commonly employed in inorganic chemistry.)

Course Website: <https://canvas.umn.edu/courses/105458>

Grading:

	<i>Due Dates</i>	<i>Points</i>
Short Quizzes	in class	200
Discussion	in class	100
Midterm Project	March 14	100
Final Oral Presentation	April 16 – May 7	100
Final Written Presentation	May 17	200
Total		700

Quizzes: Quizzes will be given throughout the semester. The questions are based on the assigned literature/text reading. The quizzes will be announced in advance.

Discussion: The assigned readings will be analyzed during class through an open discussion. The *quality* of the discussion will be weighed.

Exam: There are no exams in this course.

Midterm Project: Students will develop a research proposal (~5 pages, single-spaced with figures) that fits into a unifying theme selected by the instructor. This project requires students to research the topic, read the literature, analyze/interpret the information, and develop a research plan with a hypothesis and specific aims/objectives. Students will also present their research proposal to the class in a 15-minute presentation.

Final Oral and Written Presentations: At the end of the semester, students will present to the class a 30-minute seminar on any topic that fits in the general theme of “Modern Inorganic Chemistry.” A final paper on the topic (~10 pages, single-spaced with figures) will be due on May 17. The objective is to investigate a current problem and/or research area in inorganic chemistry through a *focused* literature search and analysis. In this exercise, you will assess/interpret published data, apply concepts, and even predict future directions in the field. Part of the grade will be based on the presentation of your gained knowledge in a clear, understandable manner in both written and oral forms. There will be a participation grade for the audience.

Class Policies

- Make-up Quizzes:** Make-up quizzes will be granted *only* for strong reasons, such as illness with a doctor’s note, a death in the family, military service, etc.
- Grading Disputes:** To dispute a grade, you must submit a written request within 48 hours of receiving the assignment/exam grade. In the written request, you should state and justify specific reasons for why you think your answer is acceptable or a higher grade is deserved.
- Cheating:** Cheating is any form of intellectual dishonesty or misrepresentation of one's knowledge. *Plagiarism*, a form of cheating, consists of representing someone else's work as one's own. Ignorance of what constitutes plagiarism shall not be considered a valid defense. If students are uncertain as to what constitutes plagiarism for a particular assignment, they should consult the instructor for clarification. A faculty member may impose penalties for plagiarism and cheating ranging from a grade reduction on an assignment or an exam to failure in the course. A faculty member may also report incidences to the college’s Scholastic Conduct Committee.
- Incomplete Policy:** The policy of the Chemistry Department is that a student may request an Incomplete grade only when (a) he or she has a University sanctioned excuse for missing the final exam and (b) he or she is passing the course based on all other graded components. Circumstances that could lead to an incomplete grade include major medical illnesses and reporting for military service. If given, an incomplete status would be accompanied by a written contract between the student and instructor delineating the terms for completing the course and a timeframe for its completion by the student.
- Accommodations:** The University of Minnesota views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. See <https://diversity.umn.edu/disability/> or email drc@umn.edu.
- If you have, or think you have, a disability in any area such as, mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office on your campus (UM Twin Cities - 612.626.1333) to arrange a confidential discussion regarding equitable access and reasonable accommodations.
 - If you are registered with the DRC and have a disability accommodation letter dated for this semester or this year, please contact your instructor early in the semester to review how the accommodations will be applied in the course.
- Student Mental Health:** As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>

From the Department of Chemistry Diversity and Inclusion Committee:

Collaboration among people of all cultures and backgrounds enhances our experiences and contributes to excellence in teaching, learning, and research. We strive for a climate that celebrates our differences and strengthens our department by embracing and working to increase diversity, equity, and inclusion.

For more information about our departmental efforts and upcoming activities: <http://z.umn.edu/ChemDiversity>

For a list of diversity related resources: <http://z.umn.edu/DiversityandInclusionResources>