



Course Syllabus

Inorganic Chemistry I (CHEM 3341) – Fall 2025

Course Information

<i>Course Prefix, Number, Section</i>	CHEM 3341.001
<i>Course Title</i>	Inorganic Chemistry I (aka Survey of Inorganic Chemistry)
<i>Term</i>	Fall 2025
<i>Meeting Days & Times</i>	Monday/Wednesday/Friday, 9:00 am – 9:50 am
<i>Location</i>	Naveen Jindal School of Management, JSOM 2.902

Professor Contact Information

<i>Name</i>	Mario Wriedt
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<i>Office hours</i>	By appointment via Teams or in-person

Course Pre-requisites, Co-requisites, and/or Other Restrictions

CHEM 2323 and CHEM 2325 or instructor consent required.

Course Description

This lecture-based course introduces undergraduate students to the foundational principles, terminology, and analytical tools of inorganic chemistry. Emphasis is placed on developing a conceptual understanding of structure, bonding, reactivity, and periodic trends across the elements. Students will learn to apply inorganic chemistry concepts within the broader context of chemical sciences and interdisciplinary fields such as materials science, environmental chemistry, and bioinorganic chemistry.

Student Learning Objectives/Outcomes

Upon completing this course, students will be able to:

1. **Identify** key concepts, terminology, and classifications within inorganic chemistry, including periodic trends, bonding theories, and coordination chemistry.
2. **Apply** fundamental principles of inorganic chemistry to analyze chemical structures, predict reactivity, and solve problems related to molecular symmetry, acid-base behavior, and redox processes.
3. **Explain** the theoretical foundations and experimental techniques used in inorganic chemistry, including crystal field theory, ligand field theory, and spectroscopic methods.
4. **Interpret** structural data from techniques such as X-ray diffraction and use it to understand structure–property relationships in inorganic compounds.
5. **Evaluate** the role of inorganic chemistry in interdisciplinary contexts such as materials science, catalysis, environmental chemistry, and bioinorganic systems.
6. **Communicate** scientific findings effectively through exams/quizzes, oral presentations, and collaborative discussions.
7. **Demonstrate** critical thinking and scientific reasoning in the design and assessment of inorganic experiments and data.

Required Textbooks and Materials

Inorganic Chemistry, 4th edition by Housecroft and Sharpe, published by Pearson Education Limited, ISBN 978-0273742753.

Suggested Course Materials

Students are encouraged to review articles recommended during the class.

Assignments & Academic Calendar

Units discussed in class:

1. Basic concepts of atoms
2. Basic concepts of molecules
3. Molecular symmetry
4. Structures and energetics of metallic and ionic solids
5. Coordination chemistry
6. Magnetochemistry
7. Experimental techniques including X-ray diffraction and thermal analytical
8. Student presentations by assignment (Topics include selected elements of the periodic table, see separate handout for detailed presentation requirements)

Grading Policy

There will be three closed-book exams (each worth 20%) and three pre-announced 15-minute quizzes (each worth 5%), collectively contributing 75% of the final grade. No books, notes, calculators, cell phones, or other forms of assistance are permitted during these assessments. In addition, each student will deliver one in-class presentation on a pre-assigned topic, accounting for 20% of the final grade; this presentation is expected to demonstrate in-depth knowledge, and detailed expectations will be provided in a separate handout. The remaining 5% of the grade is based on class attendance and active participation. Final grades will be assigned according to the following scale: A+ (100–95), A (95–90), A– (90–87), B+ (87–84), B (84–80), B– (80–77), C+ (77–74), C (74–70), C– (70–67), D (67–60), and F (60–0).

Course & Instructor Policies

<i>Make-up exams</i>	There will be no make-up exams except for documented circumstances.
<i>Late Work</i>	No late work will be accepted except for documented circumstances.
<i>Special Assignments</i>	In-class student presentations will be assigned during class.

Class Materials

The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course; however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class or uploaded to other online environments except to implement an approved AccessAbility Resource Center accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Class Attendance and Participation

Regular class attendance and participation is expected. Considering the sustained pace of the course, an important element in making this course a rewarding and meaningful experience for the students is their willingness to read the recommended textbook and additional material suggested in class. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your attendance and participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures. Class attendance and participation is documented by the faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the AccessAbility Resource Center has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved AccessAbility Resource Center accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Note that the instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources

The information contained in the following link lists the University's academic support resources for all students.

Please see <http://go.utdallas.edu/academic-support-resources>.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please review the catalog sections regarding the [credit/no credit](#) or [pass/fail](#) grading option and withdrawal from class.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.