



Course	CHEM 3341, Inorganic Chemistry
Professor	Dr. Sheel Dodani
Term	Fall 2016
Meetings	MWF 10:00-10:50 AM, MC 2.410

Professor's Contact Information

Office Phone	972-883-7283
Other Phone	N/A
Office Location	Bioengineering Science Building (BSB)
Email Address	sheel.dodani@utdallas.edu
Office Hours	Wednesdays 11:30 AM – 12:30 PM, Thursdays 4 PM – 5 PM BSB 11.302
Other Information	Please contact me for appointments outside of office hours

General Course Information

Pre-requisites, Co-requisites, & other restrictions	Chem 2323 and Chem 2325
Course Description	Survey of inorganic chemistry with emphasis on the modern concepts and theories of inorganic chemistry including electronic and geometric structure of inorganic compounds. Topics address contemporary physical and descriptive inorganic chemistry.
Learning Outcomes	<p>Objectives</p> <p>The goal of this course is to provide students with a thorough foundation in atomic structure, periodicity, bonding and symmetry with subsequent extension of these basic principles to acid/base, solid state and coordination chemistry. Students will develop an understanding of the elements and the ability to predict the structures, certain properties and reactivities of a range of representative ionic and covalent compounds.</p> <p>Expected Learning Outcomes</p> <p>Upon successful completion of this course, students will therefore:</p> <ol style="list-style-type: none">1. Be able to explain atomic structure and bonding using currently accepted theories.2. Be able to use group theory to describe molecular orbital diagrams and molecular properties.3. Be able to integrate knowledge of atomic structure with the structure and properties of ionic and molecular compounds.4. Be able to explain the history, bonding and properties of representative main group elements, coordination and organometallic compounds
Required Texts & Materials	<p><i>Inorganic Chemistry, 5th Edition</i> by Gary L. Miessler, Paul J. Fischer and Donald A. Tarr</p> <p><i>Molecular Symmetry and Group Theory, 2nd Edition</i> by Alan Vincent</p>
Suggested Texts, Readings, & Materials	<p><i>Inorganic Chemistry, 5th Edition Student Solutions manual</i> by Gary L. Miessler, Paul J. Fischer and Donald A. Tarr</p> <p>https://elearning.utdallas.edu will be used</p>

Assignments & Academic Calendar

Class Period	Day	Date	Topic	Chapter
1	Mon	Aug 22	Introduction	1
2	Wed	Aug 24	Atomic Structure	2
3	Fri	Aug 26	Atomic Structure	2
4	Mon	Aug 29	Atomic Structure	2
5	Wed	Aug 31	Atomic Structure	2
6	Fri	Sept 2	Simple Bonding Theory	3
	Mon	Sept 5	Labor Day	
7	Wed	Sept 7	Simple Bonding Theory	3
8	Fri	Sept 9	Simple Bonding Theory	3
9	Mon	Sept 12	Exam #1	
10	Wed	Sept 14	Symmetry and Group Theory	4
11	Fri	Sept 16	Symmetry and Group Theory	4
12	Mon	Sept 19	Symmetry and Group Theory	4
13	Wed	Sept 21	Symmetry and Group Theory	4
14	Fri	Sept 23	Symmetry and Group Theory	4
15	Mon	Sept 26	Symmetry and Group Theory	4
16	Wed	Sept 28	Molecular Orbitals	5
17	Fri	Sept 30	Molecular Orbitals	5
18	Mon	Oct 3	Molecular Orbitals	5
19	Wed	Oct 5	Molecular Orbitals	5
20	Fri	Oct 7	Molecular Orbitals	5
21	Mon	Oct 10	Exam #2	
22	Wed	Oct 12	The Crystalline Solid State	7
23	Fri	Oct 14	The Crystalline Solid State	7
24	Mon	Oct 17	The Crystalline Solid State	7
25	Wed	Oct 19	The Crystalline Solid State	7
26	Fri	Oct 21	Coordination Chemistry 1: Structures and Isomers	9
27	Mon	Oct 24	Coordination Chemistry 1: Structures and Isomers	9
28	Wed	Oct 26	Coordination Chemistry 1: Structures and Isomers	9
29	Fri	Oct 28	Coordination Chemistry 1: Structures and Isomers	9
30	Mon	Oct 31	Exam #3	
31	Wed	Nov 2	Coordination Chemistry II: Bonding	10
32	Fri	Nov 4	Coordination Chemistry II: Bonding	10
33	Mon	Nov 7	Coordination Chemistry II: Bonding	10
34	Wed	Nov 9	Coordination Chemistry II: Bonding	10
35	Fri	Nov 11	Coordination Chemistry IV: Reactions and Mechanisms	12
36	Mon	Nov 14	Coordination Chemistry IV: Reactions and Mechanisms	12
37	Wed	Nov 16	Coordination Chemistry IV: Reactions and Mechanisms	12
38	Fri	Nov 18	Coordination Chemistry IV: Reactions and Mechanisms	12
		Nov 21-26	Thanksgiving Holiday	
39	Mon	Nov 28	Organometallic Chemistry	13
40	Wed	Nov 30	Organometallic Chemistry	13

41	Fri	Dec 2	Organometallic Chemistry	13
42	Mon	Dec 5	Exam 4	
43	Wed	Dec 7	Review day	
	Fri	Dec 9	11:00 AM-1:45 PM JO 3.516	

Course Policies

Grading (credit) Criteria	<p>Course Evaluation: (i) Quizzes 15% (ii) Midterm Exams (4 x 15%) 60% (iii) Final Exam 25%</p> <p>(i) <i>Quizzes</i>: In most cases, quizzes will be announced one lecture in advance and may be in the form of individual exercises, group activities or take-home problems. There will be no makeup quizzes given (you will receive a "zero" for any quiz you miss). Your one lowest quiz grade will be dropped.</p> <p>(ii) <i>Midterm exams</i>: ALL 4 MIDTERM EXAMS MUST BE TAKEN, at the scheduled time and on the scheduled day. If you have an acceptable, documented reason for missing an exam (e.g., documented illness, participation in UTD sponsored event, etc.), you will be allowed to replace the missed exam with your score on the final. Otherwise, you will receive a "zero" for that exam. You may arrive late for an exam up until the first student finishes and leaves (only penalty being that you will have proportionally less time to finish the exam). After this grace period you will not be allowed to take the exam and will receive a score of "zero".</p> <p>(iii) <i>Final Exam</i>: The final exam must be taken, will be comprehensive and cannot be replaced by any other grade, so don't miss it. The final exam will replace your lowest regular exam if it is a higher grade. No makeup final will be given.</p>
Make-up Exams	No makeup exams will be given.
Extra Credit	There is no extra credit.
Late Work	No late work will be accepted.
Special Assignments	Supplemental problems will be assigned from each chapter and additional assignments will be given on https://elearning.utdallas.edu
Class Attendance	Your attendance and class participation will have an impact on your final grade. Taking an active role in your learning will help you perform better.
Comet Creed	<p><i>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:</i></p> <p><i>"As a Comet, I pledge honesty, integrity, and service in all that I do."</i></p>
UT Dallas Syllabus Policies and Procedures	<p>The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.</p> <p>Please go to http://go.utdallas.edu/syllabus-policies for these policies.</p>

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