

Chemistry 3610

Inorganic Chemistry

Lecturer

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CLB 412b

Office Hours: M, period 3 and 4, F period 4.

Teaching Assistants

Sudarsan VenkatRamani: sud.venkatramani@chem.ufl.edu

CLB 414

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CLB 414

Office Hours: Tuesday: Periods 2 and 3

Friday: Periods 8 and 9

Lecture Hours

M, W, F Period 5

Textbook

Miessler, G. L. and Tarr, D. A., *Inorganic Chemistry 4th Ed.*

Helpful Text

Shriver, Atkins, *Inorganic Chemistry, any edition.*

Cotton, Wilkinson, Gaus, *Advanced Inorganic Chemistry*

Cotton, *Chemical Applications of Group Theory*

Grading

Exams (best **2** out of **3** exams)

Final Exam (~50% new material: ~50% cumulative)

Problem Sets (**10**)

Exam 1, 2, and 3 (1 drop)	200
Problem Sets 10	100
<u>Final Exam</u>	<u>150</u>
Total	450

450-394 A, 393-371 A-, 370-354 B+, 353-336 B, 335-319 B-, 318-302 C+,
301-284 C, 283-267 C-, 266-249 D+, 248-232 D, 231-215 D-, 214-0 E

Explanation for best **2** out of **3**: Often unavoidable life events occur during exam time. Since there are no makeup exams, you will be permitted to drop your lowest score (not the final). If you do poorly on one exam and then later in the semester you miss an exam, the missed exam will be dropped (no exceptions).

****Note: you have two weeks to request a re-grade of an exam or problem set.**** After two weeks the score will be final. Warning: we photocopy exams and problems sets and will check with the copy prior to re-grading.

To review the current UF grade point equivalencies go to:
<http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

Examinations

Exams, In-Class: Wednesday, February 5th, Monday March 10th, and Friday April 4th.
The last lecture will be Monday April 21st, a review session will be held Wednesday April 23rd.
Final Exam: Friday May 2nd, in class 10:00 am – 12:00 pm.

Missed Exams

No make-up exams will be provided. Arrangements will be made for students that have official UF travel conflicts. Notification and documentation must be provided one week in advance (no exceptions).

Sakai Postings:

Class website: <http://lss.at.ufl.edu>
Exam and quiz scores, exam and quiz answers and solutions will be posted along with your gradebook, class announcements, and other pertinent information for the course.
Do not email the instructor and TAs within Sakai. Use the email listed above on this syllabus. All registered students will automatically have access to Sakai using their Gatorlink ID.

Accommodation for Students with Disabilities Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

Lecture

Chemistry 3610 will survey modern inorganic/organometallic concepts of bonding, reactivity, and physical properties.

Problem Sets

Problem sets will be assigned at intervals of approximately one week. Problem Sets are due at the beginning of class. Problem sets handed in immediately after class but on the same day will be assigned a grade of M (5 pts). Problem sets handed in after the due date will not be graded (0 pts) Solutions will be provided.

Grading: Problem sets will be graded as follows
Satisfactory: S (10 pts)
Marginal: M (5 pts)
Unsatisfactory: U (0 pts)

Satisfactory (S) problems were attempted and there is an obvious understanding of the material demonstrated. (i.e. just attempting a question is not satisfactory)

Marginal (M) grade will be assigned for sloppy work, not attempting a problem, if a significant portion is incorrect.

Unsatisfactory (U) majority of the problem sets is incorrect.

Class Attendance

Class attendance is mandatory since some discussion may diverge from the text.

Honesty Policy

All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to

Course Policies

EXAM POLICY: Three progress exams and a cumulative final examination will be administered. Your lowest progress exam score (NOT the final exam) will be excluded from final grade calculation. Each exam will consist of long answer style questions. This course is conceptually cumulative. For example, material covered in the first week of class can be required to rationalize problems for each of the exams. Students may not use graphing or programmable calculators on exams. You may use scientific calculators with exponent capability. No other device may be used as a calculator (cell phones, iPods, etc.). No spare calculators will be available for use during exams, nor will spare batteries. Conflict exams may be offered to students with another assembly exam at the same time in a course with a higher number than ours, or to students with well-documented, UF-approved reasons (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>). Such exams are offered in advance of the scheduled exam. It is your responsibility to identify yourself as requiring such accommodation at least one full week prior to the exam. If you fail to do so, you may not be accommodated and the missed exam will be dropped. **There are no make-up exams in general chemistry at University of Florida.** Please refer to the official General Chemistry Exam Absence Policy available in e-Learning. be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

UF Policies:

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES: Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who

must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive; therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT:

Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <http://www.dso.ufl.edu/students.php>.

NETIQUETTE: COMMUNICATION COURTESY: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats.

Other Information:

Honor Code: <http://www.chem.ufl.edu/~itl/honor.html>

Disabilities: <http://www.chem.ufl.edu/~itl/disabilities.html>

Counseling: <http://www.chem.ufl.edu/~itl/counseling.html>

Disclaimer:

The above course information is tentative and subject to change. The instructor reserves the right to make corrections, additions, and/or deletions as the semester progresses. Syllabus corrections will be announced as they occur.

UF Counseling Services

Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- University Counseling Center, 301 Peabody Hall, 392-1575, Personal and Career Counseling.
- SHCC mental Health, Student Health Care Center, 392-1171, Personal and Counseling.
- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
- Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

Chemistry 3610: Inorganic Chemistry

Course Information

		Chapter
Section I.	Atomic Structure a) Schrödinger Equation and Solutions b) Electron Configuration c) Periodic Trends	2
Section II.	Molecular Structure and Symmetry a) Lewis Structure b) VSEPR	3
Section III.	Symmetry Expanded a) Symmetry Elements and Operations b) Point Groups c) Character Tables d) Reducible and Irreducible Representations	4
Section IV.	Molecular Orbitals a) Hybridization b) Complications c) Diatomics, Heterodiatomics d) Acid-Base Reactions (MO Predictions)	5, 6
Section VI.	Transition Metal Coordination Compounds a) Coordination Number & Geometries	9
Section VII.	Electronic Spectra of Complexes a) Ligand field Theory b) Low Symmetry c) Metal-Metal Bonds	10, 11
Section VIII.	Substitution Processes a) Lability b) Dissociative & Interchange c) Associative & Interchange	12
Section V.	Solid State Structure a) Crystal Structures b) Defects c) Band Structure	7