

**Lecturers****Adam S. Veige**, CLB 412b email through canvas course site**Office Hours****Adam S. Veige**  
T, Th Period 7**Lecture Hours**

All sections are face-to-face instruction.

T, Th Periods 5-6 (75 min) in Flint 109

**Textbook**Miessler, G. L., Fischer, P. J., and Tarr, D. A. *Inorganic Chemistry 5th Ed.* (or MFT)**Supplementary Text**(textbooks are available on reserve at Marston)  
Atkins, P., *et al.* *Shriver & Atkins' Inorganic Chemistry*, 5th Ed. 2010 (QD151.5.S57 2010)  
Bowser, J. R. *Inorganic Chemistry*, 1993 (QD151.5.B68)  
Primary articles as noted on Canvas**Honor Pledge**

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies behaviors that are in violation of this code and the possible sanctions. Click [here](#) to read the Conduct Code. If you have any questions or concerns, please consult with the instructor or TAs in this class.

**In-class Recording**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

**Course Learning Objectives**

Chemistry 6620 will survey modern inorganic/organometallic concepts of bonding, reactivity, and physical properties. Students will:

- 1) Understand the composition of atoms
- 2) Gain a working knowledge of symmetry and group theory

- 3) Apply group theory to solving the electronic structure of inorganic complexes
- 4) Apply group theory to understanding the spectroscopy of inorganic complexes
- 5) Understand the periodic trends of inorganic aqueous ions
- 6) Learn to draw, recognize, and assign the 3-dimensional structure of inorganic complexes
- 7) Understand the interaction between ligands and metal centers
- 8) Learn the reaction mechanism of coordination complexes and apply kinetics and solve rate equations
- 9) Assimilate new knowledge and apply it towards solving problems centered on inorganic structure and bonding and the physical properties of coordination complexes

#### **Topics and Associated Reading:**

Introduction	Chapter 1 (Independent reading and problem set)
Atoms and Periodic Properties	Chapter 2
Simple Bonding Theories	Chapter 3
Symmetry and Group Theory	Chapter 4
Molecular Orbitals	Chapter 5
Acids and Bases	Chapter 6
The Crystalline Solid-State	Chapter 7
Coordination Chemistry:	
Introduction	Chapter 9
Bonding	Chapter 10
Spectroscopy	Chapter 11
Reactions	Chapter 12

This syllabus represents our current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.

#### **Grading:**

Progress Exam	35%
Problem Sets	15%
Written assignment and Presentation	25%
<u>Final Exam</u>	<u>25%</u>
<b>Total</b>	<b>100</b>

The following anticipated grade cut-offs will not be raised:

A(88%), A-(84%), B+(80%), B(76%), B-(72%), C+(68%), C(64%), C-(60%), D+(56%), D(52%), E (<52%).

***There is no extra credit available for this course.*** We do not anticipate rounding grades at the end of term and exam grades, or course grades are not curved. Take care to complete each assignment prior to its advertised due date and to submit assignments as directed. Contact the UF Help Desk for help as needed with Canvas.

To review the current UF grade point equivalencies go to:

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

<b><u>Examinations</u></b>	Progress Test 1	Date: <b>TBD</b>	<b>(8:20 PM – 10:10 PM)</b>
	Progress Test 2	Date: <b>TBD</b>	<b>(8:20 PM – 10:10 PM)</b>

Cumulative Final Exam: Monday, April 29, **(Location TBD, 12:30 – 2:30 PM)**

Two progress exams and one cumulative final exam are in-person. The course material builds on itself, so progress tests are necessarily cumulative in nature.

**\*\*Note:** Queries regarding exam scores must be made within **one week** after the graded exams have been returned to the class **without exception**.\*\* After one week, the score will be final.

### **Conflict Exams**

CHM 3610 manages all conflicts with scheduled assessments and examinations in accordance with university policy: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

Exam absences will be handled in accordance with official UF academic regulations. For more information, see <https://catalog.ufl.edu/UGRD/academic-regulations/>. See below for further clarification for two different types of situations.

(1) **Unavoidable absences** by students from examinations are allowed if properly documented and disclosed to the instructor at least one week prior to the anticipated conflict. Permitted absences may include, but are not limited to: religious observances, sanctioned sporting events, and other UF exams if the other course has a higher course number than CHM 3610. In all such cases, students will be given the opportunity to take an early conflict exam. For more information on such absences see the official UF Policy at <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/#absencestext>. If you must be absent for an exam due to a documented and approved conflict known in advance, you must e-mail your instructor (within Canvas) the documentation at least one week prior to the scheduled exam and an **early conflict exam** (*i.e.*, before the regular exam date) will be scheduled for you.

(2) **Missing an exam due to an emergency or sudden illness:** If you are absent for an exam due to an unpredicted documented medical reason or family emergency, you must contact the instructor as soon as possible, and you may be asked to have your excuse verified by the Dean of Students Office (DSO). Your instructor will follow UF academic regulations in evaluating the notification and/or documentation received from you or from the DSO on your behalf. Once your instructor is satisfied with the validity of your exam absence a make-up exam will be scheduled after a reasonable amount of time, *i.e.*, before the end of the semester. If your documentation is deemed insufficient to excuse your absence you will receive a zero on the missed exam.

### **Problem Sets**

Problem sets will be assigned at intervals of approximately one week. Problem sets submitted after the due date and time 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 either **Satisfactory** (10 pts), **Marginal** (5 pts), or **Unsatisfactory** (0 pts)

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

**Marginal** or **M**: sloppy work, not attempting all problems, or if a significant portion is incorrect

**Unsatisfactory** or **U**: majority of the problem set is incorrect or not attempted

### **Written Assignment**

"What kind of chemist am I?" You will be given 3 x 5 cards to write notes on during the semester. The purpose of the cards is to capture fleeting thoughts and ideas. You will be required to read the primary literature casually during the semester and as thoughts, ideas, questions, data, factoids, tidbits enter your mind you will write them on the card. At the end of the semester, if you are diligent, the cards will tell you what kind of chemist you are and what your interests are. Another interesting side effect is the cards may reveal a proposal idea that can be developed later. At the end of the semester you will write a 1000 word paper titled "What kind of chemist am I?" The paper will include scans of the cards and a discussion of the details. The paper will discuss briefly the cards and why you found them interesting. To receive full credit the text must be written in the "active voice". If you don't know what "active voice" is then you will need to research that on your own.

## **Presentation**

During the final weeks of the course each student will present a 20 min presentation that describe the written report and highlights the note cards and literature you incorporated into your written assignment.

## **General Questions**

General course questions can be sent to me by email through canvas.

## **Class Attendance**

Attendance is ***strongly*** recommended. Students are advised to review the lecture materials and then attend the many office hours to engage in discussion with the instructor.

## **UNIVERSITY POLICIES**

### **University Policy on Accommodating Students with Disabilities**

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting [disability.ufl.edu/students/get-started](http://disability.ufl.edu/students/get-started). It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester. Accommodations are not retroactive and, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

### **University Policy on Academic Misconduct**

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida. The following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (*e.g.*, assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see:

<http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php>."

### **U Matter, We Care**

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) so that the U Matter, We Care team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing Staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

### **Feedback**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.ua.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu

under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.ua.ufl.edu/public-results/>.

### **Netiquette**

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions, and chats. A detailed guide is posted under the *Settling In* section in Canvas.

### **Getting help**

For issues with or technical difficulties with Canvas, contact the UF Help Desk: <https://iss.at.ufl.edu/help.shtml>; (352)-392-HELP.

Other resources are available at <http://www.distance.ufl.edu/getting-help> for Counseling and Wellness resources, disability resources, resources for handling student concerns and complaints, and library desk support.

### **Student Privacy**

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

### **Campus Resources:**

#### **Health and Wellness**

*U Matter, We Care:* If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

*Counseling and Wellness Center:* Visit the [Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.

*Student Health Care Center:* Call 352-392-1161 for 24/7 information to help you find the care you need or visit the [Student Health Care Center website](#).

*University Police Department:* Visit [UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).

*UF Health Shands Emergency Room / Trauma Center:* For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the [UF Health Emergency Room and Trauma Center website](#).

#### **Academic Resources**

*E-learning technical support:* Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).

*Career Connections Center:* Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

*Library Support:* Various ways to receive assistance with respect to using the libraries or finding resources.

*Teaching Center:* Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

*Writing Studio:* 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

*Student Complaints On-Campus:* [Visit the Student Honor Code and Student Conduct Code webpage for more information](#).

*On-Line Students Complaints:* [View the Distance Learning Student Complaint Process](#).