

CHM 3610L – INORGANIC CHEMISTRY LABORATORY

SPRING 2020

INSTRUCTOR INFORMATION

Instructors	Email	Office Phone	Office Location
Keith Searles	searles@chem.ufl.edu	(352) 392-0326	SIS 428A
Jhonti Chakraborty	jchakraborty@chem.ufl.edu	(352) 392-8417	CLB 419
Nicole Giorgi	nicolegiorgi@chem.ufl.edu	TBA	SIS 413

COURSE MATERIALS

TEXTBOOK

Required Text: There is no required text for this course.

Reserve/Resource Texts (*available through the UF library website portal*):

ACS Style Guide; 3rd ed.; Coghill and Garson

Experimental Organic Chemistry; Mohrig, Hammond, Morrill and Neckers

Inorganic Chemistry; 5th ed.; Miessler and Tarr

Inorganic Experiments; 2nd ed.; Woollins

Synthesis and Technique in Inorganic Chemistry: A Laboratory Manual; 3rd ed.; Girolami, Rauchfuss, Angelici

GENERAL INFORMATION

MEETING TIMES

This course will meet **Thursday (2-4; 8:30 am – 11:30 am)** and **Friday (2-3; 8:30 am – 10:25 am)** in **Hernandez 110**.

OFFICE HOURS

By appointment (email to schedule).

COURSE DESCRIPTION

Students will perform experiments involving the synthesis, isolation, purification and characterization of a variety of inorganic compounds and report the findings in the format of an ACS style journal article. Characterization methods that will be employed include NMR spectroscopy, UV/Visible spectroscopy, IR (infrared) spectroscopy, and electrochemical methods. As the course progresses, concepts relating to main group chemistry, transition metal chemistry, materials, bioinorganic chemistry, organometallics and molecular orbital theory will be developed.

The main learning objectives for this course are:

- I) Learn new synthetic techniques specific to inorganic chemistry
- II) Learn common characterization techniques used in synthetic inorganic chemistry
- III) Learn new aspects of inorganic molecular reactivity and bonding
- IV) Learn effective communication of scientific results, both written and oral

This course places more responsibility for the execution of experiments on you, the students. **You must read the entire protocol for a particular lab prior to that lab meeting.** Students will work in groups (usually two per group) to conduct different experiments each week. The lab will be open during the scheduled times but it may be necessary to come in for some additional time to complete unfinished characterization. Access to additional time will be at the discretion of the TAs and the instructor and will not be permitted in cases where students have arrived unprepared for a lab exercise. Unprepared students will be asked to leave the lab until they are appropriate ready for that experiment. **Students are required to look up the MSDS sheets** for each reagent used to understand the hazards and precautions required. Should any accident occur, no matter how small, you are to report the incident to the TA or instructor immediately.

LAB REPORTS

Lab reports will be prepared in the style of an article written in the *Journal of the American Chemical Society*. Your reports should be properly referenced and organized. The following separate sections are required in your reports: Abstract, Introduction, Experimental, Results, Discussion, and Conclusion. You are encouraged to use the ACS style guide useful for preparing your lab reports. Reactions and mechanisms must be drawn using the ChemDraw software package and the TAs will help you to obtain other experimental data in electronic versions. The written lab reports and answers to questions are to be each student's individual effort with the understanding that collected data were the work of the group. Because few students have had experience writing reports in this format, the first report will be graded S/U (a grade of "U" will require the student to write an additional report). The general rubric by which these reports will be graded is provided with the course information. Lab reports are due as indicated by the calendar included in the course information. A letter grade will be deducted from the total grade for each late submission without exception.

ORAL LAB REPORT

There will be one oral presentation near the end of the semester. Each student will be assigned an experiment. The student will deliver a 10-15 minute PowerPoint presentation (5-10 slides), which will be followed by a 10-15 minute Q&A period on topics relating to the experiment, presentation, and/or techniques used during the laboratory.

EXPERIMENTS

See lab manual.

MATERIALS AND SUPPLY FEES

\$50.00

GRADES

ASSIGNMENTS

The following assignments will be administered during the course:

Assignment	Weight
Written Lab Reports	40 %
Experimental Questions	30 %
Oral Lab Report	10 %
Lab notebook, technique, etc.	20 %

Course grades will be assigned according to UF policy:

A: 100-93%; A-: 92-88%; B+: 87-83%; B: 82-78%; B-: 77-73%; C+: 72-68%; C: 67-63%; C-: 62-55%; D: 55-45%; E <45%

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

ATTENDANCE, EXTENSION REQUESTS

Attendance will not be included in student assessment but it is ***strongly*** advised. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

SOFTWARE USE

All faculty, staff, and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

UNIVERSITY 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 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

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 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.aa.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.aa.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. <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

GETTING HELP

For issues with or technical difficulties with Canvas, contact the UF Help Desk: <https://lss.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.