

**CHEM 4380 (CRN 23436)**  
**Advanced Inorganic Chemistry**  
**Spring – 2020**

**Lecture:** TR 8:00 – 9:15 am (Laney-Manion 105)

**Instructor:** Dr. Marsha D. Massey

**Phone:** (501) 450-5961

**Office Hours:** by appointment sign-up online here:

<https://tinyurl.com/MeetingMasseySpring2020>

**Lab – CHEM 3150: T 2:40 – 5:40 p**

**Office:** Laney-Manion 203D

**Email:** [marsham@uca.edu](mailto:marsham@uca.edu)

**Materials Required:**

- Text: “Inorganic Chemistry” by Weller, Overton, Rourke, Armstrong. 7<sup>th</sup> ed. ISBN: 978-0198768128
- Google Classroom (for assignments, in-class work, etc)\*
- Use of WebMO – free! <https://www.webmo.net/demoserver/cgi-bin/webmo/login.cgi>
- Internet-capable device: laptop, cellphone, or tablet (for during class)\*
- Calculator

\*The university and its affiliates are not responsible for any damage to your technology (ex: laptops, tablets, cellphones) used in lab or class.

Course Description	Extension of principles of chemical structure, introduction to transition metal chemistry, and application of chemistry in peer-reviewed, primary literature. Three hours of lecture per week. For all chemistry major degree-paths counts as core inorganic requirement. Also an elective option for the ACS-certified chemistry BS degree: Standard Track, the environmental science-chemistry track, and the minor in chemistry. The course will include lecture, group work, and presentations. Although Intermediate Inorganic Chemistry (CHEM 3360) is not a pre-requisite, you may find its content helpful preparation for this course.
Prerequisite	Students must have taken and passed CHEM 4450 with a C or better. <b>Students must have a <u>strong</u> ability to apply content from prior chemistry courses to succeed.</b>
Course Objectives	Students will be able to apply inorganic chemistry concepts to peer-reviewed primary chemistry literature. Students will become confident in evaluating and discussing chemical structure, chemical reactivity, and spectroscopic properties of compounds containing transition metals.
Office Hours	Take advantage of office hours early in the semester. Come to see me the moment you are concerned about understanding course material. This time is most effective if you come prepared with specific questions. If the times shown do not work for your schedule, email me for an appointment.

**Recommended Additional Texts:**

“Inorganic Chemistry” by Shriver & Atkins. 4<sup>th</sup> ed.

“Descriptive Inorganic Chemistry” by Rayner-Canham & Overton. 5<sup>th</sup> ed.

*Although not required these texts may be helpful to develop understanding of concepts in the course.*

**Overall Course Grade:**

Assignment	Total Assigned	Points
Q&A Assignments (5 pt ea)	10	50
Problem Sets (25 pt ea)	4	100
Literature Review	1	150
Poster Presentation	1	300
Exams (125 pt ea)	3	250
Literature Analysis Final	1	150
<b>Total</b>		<b>1000</b>

A: 1000 – 899   B: 898 – 799   C: 798 – 699   D: 698 – 599   F: <598

**Course Policies:**

**Late assignments** will receive 50% credit of the assigned grade, if turned in no later than two (2) days late (except Q&As). Assignments turned in later than two days (48 hours) after deadline can be submitted for evaluation but will receive a grade of zero (0).

Assignment extensions *may* be granted in the case of unavoidable circumstances (medical or family emergencies). If so, and you do not adhere to the new deadline zero points will be given for the assignment.

**Regrade Policy:** You have one (1) week after assignments are returned **to the class** to request grade adjustments.

**Attendance** for this course is mandatory. You are permitted three (3) lecture absences. In the case of illness, have your medical provider send a note the day you return to class.

**Classroom Etiquette:** You are expected to be *engaged* and respectful of everyone's time in class. Electronics can only be used for taking class notes or working problems. Checking email, reviewing social media, browsing the web, and any other non-class related activity is **unacceptable**. Consequences for using technology inappropriately or disrupting the class will be loss of points on Warm-up Questions grade.

Note that ONLY calculators can be used for exams and/or quizzes. Cellphones, tablets, laptops, smartwatches, and other electronics cannot be used in place of calculators. Calculators cannot be shared between students.

**E-mail Policy:** I will reply to your email promptly as possible. Please keep in mind like yourselves I have a schedule full of classes, meetings, and additional life matters to address daily. Thus, please allow for **24 hours** after your e-mail has been sent for me to send a reply. Holidays and weekends I may require more time, but I will endeavor to reply that your message has been received. I will only reply to UCA email addresses.

**Academic Accommodations:** The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the UCA Disability Resource Center, 501-450-3613.

**Assignment Details:**

Question & Answer (Q&A)	<p>At least 10 times during the term a “Q&amp;A #...” Assignment will post to Google Classroom. You will be required to write and answer questions about content on the specific dates mentioned for the assignment.</p> <p>To earn full-credit on these you must both:</p> <ul style="list-style-type: none"> <li>- post 1-2 questions related to new content from indicated dates</li> <li>- provide a relevant and accurate answer to another student’s question</li> </ul>
Problem Sets	<p>These assignments will be designed to aid you in integrating content across chapters and applying problem solving skills to interdisciplinary material.</p> <p>You <b><u>must</u></b> complete these assignments <b><u>independently</u></b>. Collaboration with classmates, tutors, or anyone other than the instructor is a violation of the Honor Code and against the academic integrity statement. You are encouraged to use your textbook or resources on <b><u>this</u></b> course’s Google Classroom site. <b>No other resources may be used.</b></p> <p>You will have four (4) total problem sets designed by Dr. Massey.</p>
Poster Presentation	<p>You will work in a pairs to design a research poster using one of the topic options listed on the last page of this syllabus.</p> <p>Guidelines on designing effective research posters can be found on Google Classroom under “Poster Presentation” topic header.</p> <p>Posters must meet the following requirements:</p> <ul style="list-style-type: none"> <li>• made as a single slide using PowerPoint or Google Slides</li> <li>• slide (poster) dimensions must be 56” x 42”</li> <li>• reference a <b><i>minimum</i></b> of 3 literature articles</li> </ul> <p><b>**see Google Classroom for full instructions and details**</b></p> <p><b><u>Deadlines:</u></b> Draft poster due electronically before 5 pm Thurs Mar 19<sup>th</sup>  Final work due electronically before 8 am CT on Thursday Apr 9<sup>th</sup>  Presentations to occur during X-period on Tuesday Apr 21<sup>st</sup> <i>or</i> a date decided on R Jan 16<sup>th</sup> (Day 2).</p>
Literature Review	<p>You will be required to find an inorganic/organometallic peer-reviewed literature article to lead class discussion for the last part of the course.</p> <p><b>**see Google Classroom for details on this assignment**</b></p>
Homework	<p>A list of recommended homework is on Google Classroom. Homework is not collected for grading, but you will find them helpful to master basics.</p>
Exams	<p>There will be three (3) exams throughout the semester as outlined in the tentative course calendar. <b><u>There will be no make-up exams.</u></b> In case of an emergency, you will have an opportunity to drop a single (1) exam grade.</p>
Literature Analysis Final	<p>The final is an assignment to be completed and submitted online before Thursday, Apr 30<sup>th</sup>, 2019 at 10:00 am.</p> <p>More details will post to Google Classroom before Apr 21<sup>st</sup>.</p>

**No Extra Credit assignments are offered for this course...**

**COURSE SCHEDULE posted on Google Classroom under Course Info.  
Also review the Syllabus Supplement on Google Classroom**

**Technology Instructions:**

**Google Classroom** – contains class slides, handouts, problem sets, practice tools, announcements, syllabus, evaluation forms, etc.

You will receive an invitation to your UCA email account to access it.

**WebMO** – You will use this online portal to conduct computational calculations which will aid in applying and understanding core concepts in the course.

You are encouraged to attend office hours to learn more or if you are uncertain about the program after following directions in course assignments.

See Course Schedule document on Google Classroom for more details.

**Syllabus highlights:**

- **Attendance is mandatory** for lecture.
- Need internet-capable device daily for class.
- Late assignments only graded 2 days after due date and will earn **at most** 50% credit.
  - Can **NOT** submit Q&A assignments for late credit
- **No** make-up exams/assignments offered. Keep deadlines in mind.
- Use office hours effectively: come see me early in the course and come prepared.
- Select a literature article for your Literature Review assignment before class T Mar 3<sup>rd</sup>
  - Get approval from Dr. Massey
- Start working on your Poster Presentation at the latest Tues Feb 4<sup>th</sup>
  - This will give you about 2 weeks to finish the outline before the deadline
- Poster Presentation deadlines:
  - Outline of Poster due electronically before 5 pm Tues Feb 18<sup>th</sup>
  - Draft Poster due electronically before 5 pm Thurs Mar 19<sup>th</sup>
  - Final work due electronically before 5 pm CT on Thursday Apr 9<sup>th</sup>, 2020
- **Exam times:**
  - Exam 1 – Tuesday, Feb 11<sup>th</sup>
  - Exam 2 – Tuesday, Mar 17<sup>th</sup>
  - Exam 3 – Thursday, Apr 16<sup>th</sup>
- **Final exam:** online due by Thursday, Apr 30<sup>th</sup>, 2019 at 10:00 am