

Eastern Kentucky University
Department of Chemistry
CHE 850, ADVANCED INORGANIC CHEMISTRY CRN XXXX
3 Credit Hours
Fall XXXX

Professor:

Phone:

Email:

Office:

Catalog Course Description:

CHE 450 or departmental approval. Molecular symmetry in inorganic chemistry, mechanisms of inorganic reactions, and catalysis by coordination and organometallic complexes. (3 Lec)

Texts & Course Materials:

Required: Housecroft, C. E., Sharpe, A. G., *Inorganic Chemistry* 4th ed. Pearson Education Limited, 2012. ISBN: 978-0-273-74275-3

Blackboard: The electronic course management system Blackboard will be utilized for this course (website: <http://learn.eku.edu>). Additional course material and assignments **WILL** be administered through Blackboard. Students must regularly check Blackboard!!! Additional readings from the literature will be assigned and posted to Blackboard.

Student Learning Outcomes:

Upon completion of this course, students will:

- Understand theoretical and mathematical descriptions of chemical bonds—including symmetry, molecular orbital theory, and group theory—and use these concepts to interpret and/or predict vibrational and electronic spectra (NSTA Std. 1)
- Identify and interpret seminal peer-reviewed literature on a given topic, concept, or application of inorganic chemistry, and use literature to construct a detailed comprehensive description of that concept at the molecular level
- Be able to articulate the relevance of inorganic chemistry to a wide range of scientific disciplines and applications in every-day life (NSTA Std. 1)
- Be confidently curious—enabled to ask, answer, and apply the findings of useful and important questions

Evaluation Methods:

In-class Activities (5% of total grade): Students will earn points through daily in-class activities that CANNOT be made up (without an excused absence). Students who miss class are still responsible for all content covered during class.

Problem Sets (25% of total grade): There will four *Problem Sets* assigned during the semester. Problems Sets will be posted on Blackboard and must be submitted at the beginning of class on the assigned due dates. Late Problem Sets will NOT be accepted (without an excused absence). If a Problem Set is not submitted by the assigned due date, zero points will be awarded for that Problem Set.

Midterm Exam (25% of total grade): The comprehensive Midterm Exam will be given during a normal class time meeting time on October 20, 2016. The Midterm Exam CANNOT be made up (without an excused absence).

Functional Inorganic Materials Presentation (10% of total grade) & Functional Inorganic Materials Paper (10% of total grade): Effective use of peer-reviewed scientific literature is critically important for MS students. As such, this introduces students to various types of literature research strategies, facilitates practice with these strategies, and challenges students to integrate knowledge and concepts from multiple sources into a cohesive paper and presentation. Each student will work with the instructor to identify a functional inorganic material of interest that will be the focus of the student's paper and presentation.

Each student will be assigned a presentation time during the final two weeks of the semester. The presentation should be 45 minutes long, with an additional 15 minutes available for questions. The corresponding term paper, due Friday, December 9th at 5:00 pm, should be based on a minimum of 7 references and should be approximately 10 pages in length (double-spaced, 12-point font, 1 inch margins). In preparation, students will meet with Dr. Jenkins to discuss selected topics during the week of September 11th, and again during the week of October 11th to discuss progress. A more complete assignment description and grading rubrics will be posted to Blackboard.

Final Exam, December 13th 2016, (25% of total grade): The comprehensive final examination is scheduled on Dec 13, 6:00 pm – 8:00 pm. This exam will cover material from the assigned readings, activities, problem sets, and Functional Inorganic Materials Presentations. The Final Exam CANNOT be made up (without an excused absence).

Evaluation & Assessment:

Letter Grade	Grade Range
A	90.00% - 100%
B	80.00% - 89.99%
C	70.00% - 79.99%
D	60.00% - 69.99%
F	< 60.00%

Activities	(5 %)
Problem Sets	(25 %)
Midterm Exam	(25%)
Fn. Inorg. Mater. Paper	(10 %)
Fn. Inorg. Mater. Presentation	(10 %)
Final Exam	(25 %)

Student Progress:

Throughout the semester, students will be able to monitor their progress in the course as activities are graded and posted through Blackboard. Additionally, each student will receive a **Four Week Evaluation** (in the fourth week of the semester).

Attendance Policy:

Lecture in Chemistry:

Research shows that students who regularly attend class are more likely to succeed. So, regular class

attendance or online participation is expected of all students. Students should arrive to class on time and avoid leaving class before dismissed to circumvent disruptions to the instructor and other students. Students who arrive late for class without an adequate reason will be counted as $\frac{1}{2}$ **absent**; Students who leave class before it is dismissed without the permission will be counted as absent for the **entire period**.

Students who present the instructor with an adequate and documented reason for an absence will be excused and allowed to make up the work missed, if feasible. **Adequate reasons** involve circumstances beyond the student's control, such as illness; serious emergencies; special curricular requirements (e.g., field trips and professional conferences); military obligation; inclement weather conditions; religious holidays; court-imposed legal obligations; approved accommodations by the Office of Services for Individuals with Disabilities; medically necessary absences due to pregnancy or childbirth; or death in the immediate family, or participation in official university-sponsored activities.

Students who are to be absent for participation in activities sponsored by the University (e.g., a class, University athletics program, Student Government Association or sponsored organization) and approved by the Dean of the college/unit in which the activity occurs (or the Provost if the sponsoring organization is outside of an academic college/unit) shall show their instructors the official notice of such approval.

The University Activity Involving Student Absences from class form in the following link should be used as documentation for absences.

http://forms.eku.edu/sites/forms.eku.edu/files/university_sponsored_activity_involving_student_absences.pdf

To the extent possible, students should notify the instructor **in advance of** an absence. Students are encouraged to complete scheduled assignments **prior** to the absence when possible. If students cannot give advance notice of an absence, they should notify the instructor **as soon as possible** of the reason for the absence with appropriate documentation.

It is the student's **responsibility** to obtain class notes from a member of the class of any missed lectures. Initiating the request to make up class work is the student's responsibility. The make-up exam will be only given in the first week (**5 class days**) students come back to school. No absence of any nature will be construed as relieving the student from responsibility for the timely completion of all work assigned by the instructor (**either in-class or assigned on-line**). **20%** unexcused absences **without the approval of the instructor or documented adequate reasons for absences, as defined above**, will result in loss of the attendance credits given in the class.

Under Title IX, you have a right to an educational environment free from gender/sex discrimination and harassment. EKU is committed to your academic success and has many support services for students. You can find more information about Title IX at: www.titleix.eku.edu

Notification of the Last Day to Drop the Course:

See the Colonel's Compass website (<http://colonelscompass.eku.edu>) for further information.

Disability Statement:

The University strives to make all learning experiences as accessible as possible. If you are registered with the EKU Center for Student Accessibility (CSA), please obtain your accommodation letters from the CSA, present them to the course instructor, and discuss the accommodations needed. If you believe you need an accommodation and are not registered with the CSA, please contact the office in 361 Whitlock Building by email at disserv@eku.edu or by telephone at (859) 622-2933. Upon individual request, this syllabus can be made available in an alternative format.

A student with a “disability” may be an individual with a physical or psychological impairment that substantially limits one or more major life activities, to include, but not limited to: seeing, hearing, communicating, interacting with others, learning, thinking, concentrating, sitting, standing, lifting, performing manual tasks, working. Additionally, pregnancy accompanied by a medical condition(s), which causes a similar substantial limitation, may also be considered under the Americans with Disabilities Amendments Act (ADAAA).

Academic Integrity Policy:

Students are advised that EKU’s Academic Integrity policy will be strictly enforced in this course. The Academic Integrity policy is available at <http://studentrights.eku.edu/academic-integrity-policy>. Questions regarding the policy may be directed to the Office of Academic Integrity located in the Turley House, or contact them by phone at (859) 622-1500.

Official Email:

An official EKU e-mail is established for each registered student, each faculty member and each staff member. All university communications sent via e-mail will be sent to this EKU e-mail address.

Course Requirements:

The content of this course comes from the required textbook and provided supplemental materials. **Students are expected to complete assigned readings before coming to class.** Class periods will be a combination lectures, problem-solving, and group work. In-Class Activities are used to emphasize, provide practice, and facilitate interaction with the more difficult material contained in this course, but students are responsible for all material in the assigned readings. A 3-ring binder is suggested for organization of materials (expect lots of handouts!). Additional assignments include 4 Problem Sets, a term paper, one midterm exam, and one final exam.

Course Outline:

<u>DATES</u>	<u>READINGS & ASSIGNMENTS</u>
WEEK 1:	Read Chapters 1-2 and supplemental reading
WEEK 2:	Scientific Literature Assignments
WEEK 3:	Problem Set 1 due Sept. 6 th at 6:00 pm Read Chapters 3, 5.4 – 5.7
WEEK 4:	Read Chapters 7.4 – 7.13
WEEK 5:	Read Chapter 19 Problem Set 2 due Sept. 22 nd at 6:00 pm
WEEK 6:	Read Chapter 20.3 – 20.4
WEEK 7:	Read Chapter 6

WEEK 8A:	Problem Set 3 due Oct. 11 th at 6:00 pm Continued Chapter 6
WEEK 8B:	Individual meetings with Dr. Jenkins to discuss progress on the Functional Inorganic Materials paper and presentation
WEEK 9:	NO CLASS OCT 18 (Fall Break) MIDTERM EXAM Oct 20
WEEK 10:	Read Chapter 28.1 – 28.5
WEEK 11:	Read Chapter 24.1 – 24.5, 24.10 – 24.15
WEEK 12:	NO IN-CLASS MEETING NOV 8 (Presidential Election) Problem Set 4 due Nov. 10 th at 6:00 pm Read Chapter 26
WEEK 13:	Continued Chapter 26
WEEK 14:	Functional Inorganic Materials Presentations NO CLASS NOV 24 (Thanksgiving)
WEEK 15:	Functional Inorganic Materials Presentations
WEEK 16:	Functional Inorganic Materials Presentations Functional Inorganic Materials Paper due 5:00 pm Dec 9

FINAL EXAM 6 pm – 8 pm

Guidelines for appropriate use of personal technology in the classroom

Students in this course are encouraged to use personal “devices” (laptops, netbooks, cell phones, smart phones, iPads, eReaders, etc.) to assist and enhance their learning whenever appropriate. Below are guidelines for acceptable usages. This is not an exhaustive list, but should guide student behavior. Ultimately, technology can and should enhance the learning experiences.

When students are **in class**, devices may be used in ways relevant to the course.

- It **IS** appropriate to search for information online, access materials stored on a personal computer, access one’s Blackboard site, generate electronic documents for the course etc. while performing in-class activities.
- It is **NOT** appropriate to text, send emails, talk on the phone, listen to music, watch videos (unrelated to the task at hand), or play games on personal devices while in class.
- It **IS** appropriate to make sure that all personal devices are silenced at all times while in class. The goal of technology is enhanced learning rather than to distract from learning.

- It is **NOT** appropriate to use personal devices when taking Exams or when otherwise explicitly instructed to turn devices off.

Internet access outside of class time is a student responsibility. Please plan to use ECU campus computer labs (either in the Chemistry Department or elsewhere on campus) if needed.

Technology Contract:

I agree to respect myself, my classmates, and my instructor by using technology appropriately while in class. I acknowledge that personal devices may be used for tasks relevant to the course, and I agree to turn off or put away devices when instructed. I agree to minimize distraction and refrain from inappropriate use of technology during class.

Name (print):

Name (sign):

Date: