



TEXAS A&M UNIVERSITY  
**COMMERCE**

**Inorganic Chemistry Laboratory (CHEM 415L)**  
COURSE SYLLABUS: Spring 2019

The CHEM 415L class meets every Thursday from 2:00-6:00pm at science room#313.

**Instructor:** Dr. Bukuo Ni

**Office Location:** Science 303

**Office Hours:** M 9:00am-12:00 pm & F 9:00-12:00 pm

**Office Phone:** 903-886-5382

**University Email Address:** Bukuo.Ni@ tamuc.edu

**Required Textbook:** "*Microscale Inorganic Chemistry*", Szafran, Pike, and Singh, John Wiley & Sons. ISBN: 978-0-471-61996-3.

**Course:** This is the laboratory course that accompanies CHEM 415 lecture class and involves the preparation and study of a number of types of inorganic and organometallic compounds. Experiments will be described in the required text and in additional handouts if necessary.

**Grading:** Your laboratory grade will be based on 10 experimental write-ups (lab reports) (80%) and lab performance (20%) with total 100 points.

**You are required to submit lab reports in a timely manner. You will incur a 10% penalty for every day that your lab report is late; thus, if a lab report is 10 days late, you will receive a zero for that report. There will be absolutely no make-ups for laboratory experiments. If you miss a laboratory experiment that will be your dropped laboratory write-up. If you miss more than one laboratory experiment, you will be assigned a grade of zero for that assignment.** Dishonest scholarship will earn an automatic zero (0) and initiate prosecution to the fullest extent. Incomplete grades may be given only if the student has a current average  $\geq 70\%$  and is precluded from completion of the course by a documented illness or family crisis.

**Lab Cleanliness**

You will be expected to maintain a clean and orderly lab. At the end of every experiment, your bench space and hood space must be cleaned. Any equipment utilized during the experiment must be cleaned as well (balances, rotovaps, etc.). You should ensure that sinks and floors are also clean. If the lab space and equipment that

you utilized during the experiment is left dirty and unorganized, you will be penalized 20% on your lab report and quiz associated with that experiment.

*Each laboratory report will consist of the following sections:*

- I. *Prelab Section – 40 points (due at the beginning of the laboratory)*
  - A. *Title – 2 points*
  - B. *Objective – 3 points*
  - C. *Procedure – 15 points*
  - D. *Physical Constants/Reagent Data – 10 points*
  - E. *Safety – 5 points*
  - F. *Stoichiometry/Theory – 5 points*
- II. *Postlab Section – 60 points (Must be completed by the beginning of the next laboratory period).*
  - A. *Modifications to procedure – 5 points*
  - B. *Observations – 15 points (this sections should be your notes of observations that you make DURING the course of the experiment)*
  - C. *Results – 20 points*
  - D. *Discussion – 20 points*

### **Tentative Lab Schedule and Reports:**

Week and Experiment

- 1 Check-in,
- 2 NMR of acetylacetone, Synthesis of  $\text{Cr}(\text{acac})_3$ , Exp. 22A
- 3 Synthesis of  $\text{Mn}(\text{acac})_3$ , Exp. 22B
- 4-5 Preparation of Sodium Thiosulfate and its reactions (handout)
- 6 Synthesis of *trans*- $[\text{Co}(\text{en})_2\text{Cl}_2]\text{Cl}$ , Exp. 26A
- 7-8 Synthesis of  $[\text{Cr}(\text{en})_3]\text{Cl}_3$ , Exp. 29
- 9 Synthesis of allylpalladium chloride, Exp. 39
- 10 NMR investigation of allylpalladium chloride, Exp. 39
- 11 Preparation and characterization of DMSO complexes, FTIR, Exp. 20
- 12-13 Synthesis and Characterization of  $[\text{Co}(\text{NH}_3)_5\text{ONO}]\text{Cl}_2$  and  $[\text{Co}(\text{NH}_3)_5\text{NO}_2]\text{Cl}_2$ , Handout
- 14 Check-out

## **TECHNOLOGY REQUIREMENTS**

### **LMS**

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

### **ACCESS AND NAVIGATION**

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

### **COMMUNICATION AND SUPPORT**

**Communication:** If the instructor needs to contact an individual student, it will be via the student's Texas A&M –Commerce email account.

#### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

#### **Student Conduct Policy:**

**In order to create a “learning environment” free of disruption, you MUST TURN OFF your cell phones, MP3 players, PDA's, Pagers, and any other electronic devices before entering the class. All the students enrolled at the university shall follow the tenets of common decency and acceptable behavior conducive to positive learning environment. (See current [Student Guidebook](#)).** If the student is failed to comply with the code of conduct and being disrespectful, disruptive to the instructor or the students of the class, the instructor reserves the right to dismiss the student from the class on the first offense. A second offense may constitute dismissal from the course with a failing grade. A & M-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity expression will be maintained.

**Cheating and other Breaches of Academic Conduct:** Academic cheating, plagiarism, and other forms of academic misconduct may result in removal of the student from class with a failing grade or may in extreme cases result in suspension or expulsion from the University as described in the Code of Student Conduct section of the Student's Guidebook A & M-Commerce Procedure 13.99.99.R0.10.

### **Students with Disabilities**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services  
Texas A&M University-Commerce  
Gee Library- Room 162  
Phone (903) 886-5150 or (903) 886-5835  
Fax (903) 468-8148  
[StudentDisabilityServices@tamuc.edu](mailto:StudentDisabilityServices@tamuc.edu)

### **Campus Concealed Carry**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted

locations. For a list of locations, please refer to (<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>) and/or consult your event organizer).

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

### **Nondiscrimination Statement**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.