CHEM 415 meets every Tuesday and Thursday from 12:30-1:45 p.m. in room Science 146.

Instructor: Dr. Bukuo Ni  
Office Location: Science 303  
Office Hours: Monday and Wednesday 9:00am-12:00 pm  
Office Phone: 903-886-5382  
University Email Address: Bukuo.Ni@ tamuc.edu

Additional Book for your study of this course:  

Course description and learning outcomes:  
This course assumes knowledge of general chemistry. Prerequisites for this class are CHEM 1411 and CHEM 1412. Inorganic chemistry is a core subdiscipline of chemistry. The course covers descriptive chemistry of more interesting elements and compounds and the standard topics in coordination, organometallic, solid-state chemistry, and catalysis and some industrial processes. Regular attendance and active learning are expected. Students’ questions and comments are welcome.

Even though the scope of the class is broad, the topics are interconnected. Having complete understanding of each chapter as the class progresses is essential for the big picture to emerge at the end of the semester. This will lay a solid foundation for the specialized study/research in the future. At the end of the course, the student will be able; (1) to describe and explain the coordination compounds containing metal as central atom which surrounded by ligands; (2) to understand the stereochemistry of coordination compounds; (3) to classify the type and mechanism involve in coordination compounds reactions; (4) to study the characterization of coordination compounds and its application.

Grading/Evaluation  
The grade for this course will be derived as follows:  
CHEM 415: Lecture and Laboratory (graded as a single 4-credit hour course.)  
Lecture Portion: 75% of course grade; Lab portion: 25% of the course grade.

Your performance and final grade in the lecture will be evaluated on the basis of total points earned. The distribution of points will be based on the following: Homework and quiz (15 points), which will be assigned and discussion throughout the semester. Two partial exams and comprehensive final exam will both carry 30 points, for a total of 60. The final letter grade will be based on a standard scale 86-100% A, 75-85% B, 65-74% C, 55-64% D, and below 55% F. The grades may be curved, if warranted.
There will be absolutely no make-ups for exams. If you miss an examination, you will be assigned a zero for that assignment. Homework not submitted on time may receive a grade of zero.

**Tentative Schedule**

The tentative schedule is subject to change.

<table>
<thead>
<tr>
<th>Week of</th>
<th>Lecture Topic</th>
<th>Reading</th>
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<tbody>
<tr>
<td>1 Jan 13-17</td>
<td>An introduction to molecular symmetry</td>
<td>Ch. 3</td>
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<tr>
<td>2 Jan 20-24</td>
<td>Acids and bases</td>
<td>Ch. 7</td>
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<tr>
<td>3 Jan 27-Jan 31</td>
<td>Reduction and oxidation</td>
<td>Ch. 8</td>
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<tr>
<td>4 Feb 3-7</td>
<td>Reduction and oxidation</td>
<td>Ch. 8</td>
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<tr>
<td>5 Feb 10-14</td>
<td>Exam 1(Feb. 14), and the group 1 metals</td>
<td>Ch. 11</td>
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<tr>
<td>6 Feb 17-21</td>
<td>The group 2 metals and The group 13 elements</td>
<td>Ch. 12&amp;13</td>
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<tr>
<td>7 Feb 24-28</td>
<td>The group 14 elements</td>
<td>Ch. 14</td>
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<tr>
<td>8 Mar 2-6</td>
<td>The group 15 elements</td>
<td>Ch. 15</td>
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<tr>
<td>9 Mar 9-13</td>
<td>The group 16 elements</td>
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<td>Mar 16-20</td>
<td>Spring break</td>
<td>Ch. 16</td>
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<tr>
<td>10 Mar 23-27</td>
<td>The group 17 elements</td>
<td>Ch. 17</td>
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<tr>
<td>11 Mar 30-Apr 3</td>
<td>(Exam 2, Apr 7) d-Block metal chemistry: general</td>
<td>Ch. 20</td>
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<td></td>
<td>consideration</td>
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<td>12 Apr 6-10</td>
<td>d-Block metal chemistry: coordination complex</td>
<td>Ch. 21</td>
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<tr>
<td>13 Apr 13-17</td>
<td>Organometallic compounds of d-block elements</td>
<td>Ch. 24</td>
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<tr>
<td>14 Apr 20-24</td>
<td>d-Block metal complexes: reaction mechanisms</td>
<td>Ch. 26</td>
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<td>15 Apr 27-May 1</td>
<td>Catalysis and some industrial processes and</td>
<td>Ch. 27</td>
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<td>Final exam</td>
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<td>(comprehensive exam)</td>
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<tr>
<td>May 4-8</td>
<td>ACS Exam (10% extra credit)</td>
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* Please note that this schedule and topics are subject to change

**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](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)


**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.

**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**

If you have any questions or are having difficulties with the course material, please contact your Instructor.

**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

**Interaction with Instructor Statement**

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

**University Specific Procedures**

**Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette http://www.albion.com/netiquette/corerules.html

**TAMUC Attendance**

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.

http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

**Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

Graduate Student Academic Dishonesty 13.99.99.R0.10
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

**ADA Statement**

**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
Email: studentdisabilityservices@tamuc.edu
Website: [Office of Student Disability Resources and Services](http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/)

**Nondiscrimination Notice**
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.

**Campus Concealed Carry Statement**
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 the [Carrying Concealed Handguns On Campus](http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf) document and/or consult your event organizer.
Web url:
[Carrying Concealed Handguns On Campus](http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf)
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.