CHEMISTRY 150 SYLLABUS (Tentative)  
Fall 2015

Instructor: Shaozhong Zhang  
Lecture-CH 202, T, TH 12:00-1:15  
Lab- Sec. 21 RM CH 108 T-8:00-9:50  
Sec. 22 RM CH108 T-2:00-3:50

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Phone: 298-1685  
E-Mail: s-zhang@wiu.edu

Office Hours: TTh. 11:00 am-12:00 pm, and MW. 11:00 am – 12:00 pm or by appointment

Chemistry Help Center Hours in Currens 107: Free tutoring and/or help is provided by the department through the Chemistry Help Center. Hours are 8:00 am – 5:00 pm M Tu W; 8:00 am – 4:00 pm Th; & 8:00 am – 2:00 pm F. Also, the WIU Counseling Center provides additional tutoring help. BOTH ARE FOR FREE OF COST.

Course Credits: 4 s.h. (two lectures of 1hr.15min. each plus 1 two-hour lab per week)

Lab Text: Lab Manual for Chemistry 150 (available in bookstore)

General Education “W” Course: Yes  
Prerequisites/corequisites: None

Course Description: A course intended to inform the student of the role of science in modern society. Lectures treat the fundamentals of chemical composition; the impact of industrial products on the environment, energy, and drugs; and the importance of consumer information.

The lecture will cover the following chapters:

Chapter 1. Chemistry
  1. What is science?  
  2. Matter Classification  
  3. Measurement and Temperature  
  4. Energy, Heat, and Temperature

Chapter 2. Atoms
  1. Atomic Theory  
  2. Periodic Table

Chapter 3. Atomic Structure
  1. Atomic structure  
  2. Electron Configuration

Chapter 4. Chemical Bonds
  1. Chemical Bonding  
  2. Ionic Bond  
  3. The Covalent Bond  
  4. Polyatomic Ions  
  5. Molecular Geometry
Chapter 5. Chemical Accounting
1. Equations
2. The Mole Concept
3. Stoichiometry
4. Solution Concentration

Chapter 6. Gases, Liquids, Solids…and Intermolecular Forces
1. Change of Phase
2. Gas Laws
3. Gas Stoichiometry
4. Ideal Gas Equation

Chapter 7. Acids and Bases
1. Intro. to Acids and Bases
2. Neutralization
3. PH Scale

Chapter 8. Oxidation and Reduction
1. Intro. to Redox Reaction
2. Electrochemistry

Chapter 9. Organic Chemistry
1. Intro. to Organic Chemistry
2. Organic Nomenclature
3. Functional groups
4. Organic Reactions

Chapter 10. Polymers
1. Polymerization
2. Polymers

Chapter 12. Chemistry of Earth
1. Chemistry of Earth

Chapter 13. Air
1. Chemistry of Air

Chapter 14. Water
1. Chemistry of Water

Chapter 15. Energy
1. World’s Energy Sources

Chapter 16. Biochemistry
1. Intro. to Biochemistry

Chapter 17. Food
1. Intro. to Food Chemistry

EXPECTED STUDENTS OUTCOMES: Students are expected to gain an understanding of basic chemistry principles and be able to apply them to their everyday life.

Grading Policy: The Plus/Minus grading system for undergraduate coursework began with the Fall 2010 semester (details may be found at http://www.wiu.edu/Registrar/plusminus.php).

Final grades are based on a total point system according to the following scheme:
92.0-100%  A; 88.0-91.4% A-; 84.0-87.4% B+; 80.0-83.4% B; 76.0-79.4% B-; 72.0-75.4% C+; 68.0-71.4% C; 64.0-67.4% C-; 60.0-63.4% D+; 54.0-59.4% D; 50.0-53.4% D-; Less than 50%  F

Point Values are as follows:
Best 2 out of 3 hourly tests/exams* (100 pts. each)  200 pts.
**Final Exam** | 100 pts.  
**Quizzes* and attendance checks(best 10/12)** | 100 pts.  
**Lab Reports (best 12/13)** | 120 pts. *(Note: must score 70% or more in lab to pass course)*

| **Total** | **520 points** |

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*Tests/exams and quizzes include multiple choice and/or short answer questions and problems.

**NOTE:** The course syllabus/outline is tentative and the instructor can change any aspect of it with advance notice to students.

**Outside Work Required:** In addition, problems and/or questions from the text may be assigned in some chapters. Although these will **not** affect your grade, you are encouraged to complete these before the class as they will contribute to your understanding of the material.

**Additional Fees or Costs to be incurred by the student:** A $35.00 one time lab fee will be assessed as a part of your tuition for this lab course. A simple scientific calculator (**not** a graphing calculator) is required for the course. (TI30XA recommended)

As Eye protection is required in Labs, safety goggles must be purchased by the student. Students are expected to wear clothing that completely covers the body including arms and legs and to wear appropriate footwear in Labs (Sandals and shorts are not appropriate in lab).

**Class Format:** It is important that you obtain the textbook for the class, as many reference charts, tables, and diagrams from the text will be used. The class will closely follow the text sequence. You are encouraged to ask questions in class and I am available for extra help during my office hours.

**Classroom Policies:** Data Storage devices other than a simple scientific calculator (such as graphing calculators, cell phones, IPODs, MP3 players, and laptops) **are not allowed** to be used in the classroom at any time.

All hats, caps, and hoods that cover your ears are not allowed to be worn during a quiz or exam. The instructor reserves the right to assign seating for the students during exams and/or any other time deemed necessary.

Exam grades are based on the total points and all grades are final. No curve will be applied to exam grades, and no “retakes” will be allowed. No “extra point” assignments will be made or applied to grades. **The instructor keeps all graded tests/exams and the students have free access to them, when necessary.**

No incomplete will be given to a student with a failing grade in the course. No incomplete will be given in this course unless the student experiences a documented emergency that takes him/her away from the university for at least two consecutive weeks and/or causes him/her to miss the final exam. The student must notify the instructor of this emergency before the final exam.

**Classroom Emergency Procedures at WIU:** “In accordance with University policy and the Americans with Disabilities Act (ADA), academic accommodations may be made for any student who notifies the instructor of the need for an accommodation. It is imperative that you take the initiative to bring such needs to the instructor's attention, as he/she is not legally permitted to inquire about such particular needs of students. Students who may require special assistance in emergency evacuations
(i.e. fire, tornado, etc.) should contact the instructor as to the most appropriate procedures to follow in such an emergency. **Contact Disability Support Services at 298-2512 for additional services.**

**Emergency Preparedness:** The WIU Office of Risk Management and Emergency Preparedness provides resources on how to respond to emergency situations. Please view the video resources at [www.wiu.edu/rmep/](http://www.wiu.edu/rmep/) (Click “Resources” on the right side of the page). If the fire alarms sound and/or students are asked to evacuate the building all students should proceed immediately to the nearest exit and gather at the southwest corner of the Higgins parking lot (near the fence) until the “all clear” is given.

**Student Conduct Code:** The following action is prohibited under the Student Conduct Code: Disorderly Conduct: Any behavior which disrupts the regular or normal functions of the University community, including behavior which breaches the peace or violates the rights of others. Any student convicted of academic dishonesty/plagiarism, can receive a failing grade and may be subject to further academic penalties. Web address for Academic Integrity Policy [http://www.wiu.edu/policies/acintegrity.php](http://www.wiu.edu/policies/acintegrity.php)

**Attendance Policy:** Attendance is required in lecture and labs and will be monitored intermittently by way of unannounced quizzes in lecture. No quizzes or tests may be made-up. The quiz grade will be based on the average of the best 10 grades. Even though only 2 of the 3 hourly tests count toward the final grade, you are required to take all 3 tests. One excused absence on a test day will be allowed if arrangements are made in advance and the reason is approved by the instructor. An unexcused absence on a test day will result in a 20 point deduction from your final point total. Lab attendance is required and an average of 70% on the lab reports is necessary to pass the course regardless of whether other scores are passing. The lab grade will be based on the best 12 labs. A graduate assistant will teach the lab sections. He/She is under the course instructor’s general supervision.

**Definition of Excused Absences:** Excused absences include documented illnesses, documented family medical emergencies, military commitments, WIU required athletic trips, and other absences excused by the course instructor.

**Student Rights and Responsibilities:** Please find the web address for Student Rights and Responsibilities: [http://www.wiu.edu/provost/students.php](http://www.wiu.edu/provost/students.php)

**Additional information for syllabi to comply with the accreditation requirements.**

Below is the logo for the Teacher Education Program. You will note that Knowledge is one of the four key pieces to this logo. The content courses are heavily involved in our students achieving that knowledge. You will also note that commitment, action, and reflection are the other key pieces, these also are a component of our content courses for without a commitment to learning, reflection upon that learning, and actions related to learning, our students will not achieve the level of knowledge expected of them to teach.

When I put the logo on my syllabi, I tend to put it in a table so that I can put other items in the other column next to it.

Below the logo is a statement that needs to go on each syllabus to remind those in the teacher certification program that they are expected to get a grade of “C” or better in each content course they
take. Since we have students in Physics and Chemistry who take Biology 100 and Biology 101, those courses are also included as needing this set of information. In addition, a statement is included that tells students where to find how each course is aligned with the State and National Science Teaching Standards.

Information to be added is below:

STATE ACCREDITATION POLICY INFORMATION:

“In accordance with Illinois State Board of Education certification rules, all candidates seeking teacher certification are required by Western Illinois University to obtain a grade of “C” or better in all directed general education course, all core courses, and all courses in the option. Note: A “C-” is below a “C”.” Please note: any secondary science teacher certification student wanting to see how this course is aligned with the State and National Standards should see their advisor and/or examine the Secondary Science Teacher Certification WesternOnline Advising site.
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<th>CHAPTER</th>
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<td>1.1-1.6</td>
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<td>TH 8/27</td>
<td>Measurement and Density</td>
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<td>T 9/1</td>
<td>Energy, Heat, and Temperature</td>
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<td>Chemical Bonding and the Ionic Bond</td>
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<td>TH 9/17</td>
<td>The Covalent Bond/Polyatomic Ions</td>
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<td>Intro. To Acids and Bases</td>
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<td>TH 12/10</td>
<td>FINAL EXAM REVIEW</td>
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<td>T 12/15</td>
<td><strong>FINAL EXAM (tentative) 1:00 pm</strong></td>
<td>COMPREHENSIVE</td>
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