Chemistry 140A  
Spring 2016  
MWF 11:00 AM -11:50 AM  
Neckers 240

Instructor: Ras K Gurung  
Phone: 453-6860  
Office: Neckers 146 G  
E-mail: gurungr@siu.edu  
Office Hours: Open door policy or by appointment

Required Lecture Materials:
- An i-clicker RF response pad is also required.
- A scientific calculator with “log” function is required, no cell phones may be used as calculators.

Laboratory Manual:
- Labs will be posted on 140A online.siu.edu. It is the responsibility of the student to print off all appropriate materials for lab from the class site.

Optional:

Course Description:
This is the first semester of a two-semester course of general, organic and biological chemistry designed to meet the needs of nursing, dental hygiene, physical therapy, other allied health programs, agriculture, forestry, family and consumer sciences education and other majors with comparable requirements. This course does not satisfy prerequisite requirements for other courses offered by the Department of Chemistry and Biochemistry. It is not applicable to a major in chemistry but it can serve as a preparation for Chem. 200 students. There are MATH prerequisites for this course.

Course Objectives:
The objectives for this course are:

1) ...to develop an understanding and appreciation for the fundamental principles in chemistry – the comprehensive laws that help explain how matter behaves.
2) ...to gain a beginning understanding of how the human body works at the level of molecules and ions – that is, to begin to understand the chemistry underlying physiological function.
3.) ...to develop problem-solving skills and to practice these skills.
Desire 2 Learn: Course content will be available through the Desire 2 Learn website (online.siu.edu). Students will need to refer to this website frequently to receive important information. The website can only be accessed by students registered for the course. The website will contain the following information: Lecture Notes, Answer Keys, Grades, Homework Assignments, and Syllabus.

Lectures: Lectures will be presented as PowerPoint presentations. Following the lecture, the ppt. file will be posted to Desire 2 Learn for your convenience. During lecture interactive questions will be asked that will require individual responses using the i-clicker RF response system.

In-Class Responses: An i-clicker RF response pad is also required to be brought to each lecture. During each class period questions requiring student response through the i-clicker response pad will be presented. Full credit for a question will be awarded if the question is answered correctly or half credit will be awarded for attempting to answer the question. This will comprise 10% of your grade.

On-Line Homework: Online homework will be assigned for each chapter. The homework will be given through Desire 2 Learn. This will comprise 10% of your grade.

Exams: 4 exams will be given during class time as designated tentatively on the schedule and dates may be changed to best serve the class. There will be no make-up exams, regardless of reason for absence, no exceptions. However, the lowest exam score will be dropped. The most important concepts, as stressed primarily in the lectures and in the homework and in the book, will predominate in the exam material. Exams are worth 40% of your grade. You will not be allowed to bring any notes into the examination with you. You will need a calculator for the exams, no cell phones may be used as calculators. There will be no sharing of calculators for the exams. You may not take the exam if you arrive late to class on the exam date. Any form of cheating will result in judicial proceedings in accordance with Southern Illinois University's policy on academic dishonesty.

Final Exam: The final exam is comprehensive. The final exam date and time are scheduled by the university. Any student who does not take the final exam will receive a zero for the final exam grade. If a student cannot take the exam on the scheduled time and date, he or she must obtain permission from the instructor to take the exam at another time. Final exams not taken during the scheduled final exam period will not be multiple-choice exams and is worth 20% of your grade. Final Exam: Friday May 13th; 10:15 - 12:15 PM

Quizzes: If necessary quizzes may be implemented during the lecture at any point. Quizzes will only be implemented to help classroom decorum (tardiness, cell phones, participation, etc.). Any quiz grades will be part of homework totals.
Grading:

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<th>Component</th>
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<tr>
<td>iclicker</td>
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<tr>
<td>Homework online</td>
<td>10%</td>
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<tr>
<td>Exams</td>
<td>40%</td>
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<tr>
<td>Laboratory</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
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GRADES:

A  90 %
B  80 %
C  70 %
D  60 %
F  < 60 %

This grading policy will be strictly enforced. **Changes in the grading policy are NOT negotiable.** Please note the university policy regarding incompletes which states: An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. In other words, under no circumstances, will an INC be given to a failing student to prevent them from getting an F. Please be advised that the deadline for dropping this course is **Sunday April 3, 2016.**

**Website:** There is a website for this course to which students will need to refer to receive important information. The website can only be accessed by students registered for the course. To log on to the website follow the instructions at the following link: [http://www.online.siu.edu/](http://www.online.siu.edu/). Information on the website will not be posted anywhere else, so students must become familiar with the website and use it to obtain this information.

**Study Tips - Important!! - Please Read!** - An understanding of chemistry is obtained one step at a time, by building on concepts and skills that were previously learned. Therefore, it is very important to keep up with the material presented in the course. This is most easily done by staying up-to-date with reading the textbook, by attending lectures regularly, by working the homework problems diligently, and by studying the material every day. You will **not** do well in this course if you wait until the night before an exam to study.

It is the goal of this course for you to gain understanding of particular concepts and to develop problem-solving skills. Keep this in mind when studying. Memorizing facts will not help you very much. Developing an understanding of the concepts by working the problems will. Good Luck!!
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<tr>
<th>Week of</th>
<th>M</th>
<th>W</th>
<th>F</th>
<th>Lab</th>
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<tbody>
<tr>
<td>1/19</td>
<td>Ch 1,2</td>
<td>Ch 1</td>
<td>Ch 2</td>
<td>No Lab</td>
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<td>1/25</td>
<td>Ch 2</td>
<td>Ch 2</td>
<td>Ch 2</td>
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<tr>
<td>2/01</td>
<td>Ch 2</td>
<td>Ch 2-3</td>
<td>Ch 3</td>
<td>Check-in, Metric-English Measurements</td>
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<td>2/08</td>
<td>Ch 3</td>
<td>Ch 3</td>
<td>Exam 1</td>
<td>Ionic Naming, Formula Electron Configuration</td>
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<tr>
<td>2/15</td>
<td>Ch 4</td>
<td>Ch 4</td>
<td>Ch 4</td>
<td>Covalent Structure, Naming</td>
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<td>2/22</td>
<td>Ch 4</td>
<td>Ch 5</td>
<td>Ch 5</td>
<td>Mass, Mole Relations 1</td>
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<tr>
<td>2/29</td>
<td>Ch 5</td>
<td>Ch 5</td>
<td>Exam 2</td>
<td>Mass, Mole Relations 2</td>
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<td>Ch 6</td>
<td>Ch 6</td>
<td>Ch 6</td>
<td>Food Energy</td>
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<td>3/14</td>
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<td>3/21</td>
<td>Ch 6</td>
<td>Ch 7</td>
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<td>TBA</td>
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<td>3/28</td>
<td>Ch 7</td>
<td>Ch 7</td>
<td>Exam 3</td>
<td>Charles Law</td>
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<td>4/04</td>
<td>Ch 8</td>
<td>Ch 8</td>
<td>Ch 8</td>
<td>Molar Volume</td>
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<td>4/11</td>
<td>Ch 8,9</td>
<td>Ch 8,9</td>
<td>Ch 9</td>
<td>Fractional Crystallization</td>
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<td>4/18</td>
<td>Ch 9</td>
<td>Ch 9</td>
<td>Exam 4</td>
<td>Acids, Bases</td>
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<td>4/25</td>
<td>Ch 10</td>
<td>Ch 10</td>
<td>Ch 10</td>
<td>Titrations, Buffers</td>
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<td>5/02</td>
<td>Review</td>
<td>Review</td>
<td>Review</td>
<td>Lab Final Check-out</td>
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<td>5/13</td>
<td>Final Friday 10:15-12:15p.m</td>
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Laboratory: Chemistry is a laboratory science and the laboratory is an important component of this course. The laboratory activities are designed to promote teamwork and it is important for students to attend all labs and work closely with their lab team. The laboratory is not designed to correlate exactly with the lecture. However, information about the laboratory will usually be provided during the lecture each week. It is expected that students will prepare for laboratory by reading the laboratory experiment before their lab section meets. Each laboratory experiment will be worth 100 points and the points will be awarded as follows: quiz/prelab questions (25 points), reports and problems (50 points), teamwork (25 points). The teamwork score will be 25 points for any student who is on time, prepared, participating, lab decorum, and has a good attitude. Teamwork scores will be lowered for students who fail to meet these expectations. The lowest non-zero grade received for any one laboratory will be dropped. You will have a lab final on the last day of lab, worth 100 pts. The lab is worth 20% of your grade. It is expected that students will attend the laboratory section in which they are enrolled. There are no make-up labs. Switching to other sections will not be allowed unless prior permission is obtained.

Emergency Procedures

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Safety's website www.dps.siu.edu (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.
Laboratory Directions for Chemistry Students

SAFETY:
1. Note the locations of the fire extinguishers, eyewash station, and emergency shower.
2. **YOU MUST WEAR SAFETY GOGGLES OR SAFETY GLASSES AT ALL TIMES IN THE LAB.** Regular prescription glasses are not sufficient protection. Do not wear contact lenses.
3. Wear proper clothing in the lab; do not wear shorts or loose clothing. Confine long hair. Footwear should completely cover the top of the foot—NO SANDALS and NO SKIN can be visible from the chest down. THERE ARE NO EXCEPTIONS TO THIS RULE. A student will be asked to leave and change into the appropriate attire before participating in the lab experiment.
4. Wear protective gloves as directed by the TA.
5. NO EATING OR DRINKING IN THE LAB AT ANY TIME. No smoking in the building.
6. Assume that all unfamiliar chemicals are dangerous, and handle them accordingly.
7. Report any accidents to the TA immediately. Chemicals spilled on your skin or in your eyes should be flushed with copious amounts of water. The TA will arrange for transportation and medical attention.
8. Experiments in which flammable, toxic or noxious chemicals are used should be performed in the fume hood as directed by the TA.
9. If a student is pregnant she should notify the TA. Some chemicals have dangerous effects during pregnancy.
10. Regularly check your glassware for chips or cracks; discard broken or chipped glassware in the special containers available in the lab, NOT in regular trash containers

GENERAL LABORATORY PROCEDURES AND RULES:
1. Only work which is assigned by the TA may be done in the lab. You MAY NOT work without supervision.
2. The TA will provide instructions at the beginning of each lab period concerning waste disposal. Don't dump anything down the drain or put anything in the trash unless specifically told to do so.
3. Discard excess reagents. Never return them into the reagent bottles. Don't put pipets into the reagent bottles.
4. Use distilled water when directed.
5. At the end of each lab period, clean up after yourself. Wipe up spills; re-cap reagents; DO NOT leave trash on the countertops, in the sink or on the floor.
6. ELECTRONIC DEVICES such as smart phone, i-pad and laptop are not allowed to be used during the laboratory classes except by the special permission of instructor. If you must take an emergency call during the lab, please notify the TA immediately and do so quietly outside the room. Habitual interruptions will not be tolerated.

INDIVIDUAL APPARATUS:
7. Special equipment or apparatus needed for a single lab period may be checked out of the stockroom using a green slip. Return this equipment at the end of the lab period. If it is not returned, you will be charged for it.
8. All apparatus is the property of the Department of Chemistry and Biochemistry and may not be removed from the premises.

I have read the above rules and agree to abide by them. I understand that if I fail to do this I will not be allowed to participate in the laboratory.