1. Schedule
Chemistry 1041 meets MWF 10:30-11:30 a.m. in 502 Rievschl. Recitation is on M from 11:45-12:45am in 502 Rievschl. There will be a graded worksheet to complete for credit in most recitation meetings.

2. Required Course Material
The bookstore company’s new includED program is being tested in General Chemistry this year. The required materials are automatically purchased and paid for through your tuition and fees payment for this course. This includes electronic access (ONLY) to the textbook, Silberberg and Amateis, "Chemistry, The Molecular Nature of Matter and Change", 7th ed., and access to the McGraw-Hill website for various online homework exercises, etc. A printed copy of the text is not required. (An inexpensive, loose-leaf, black and white printing of the text is available in the Campus Bookstore for those individuals who wish to have a paper copy in addition to the electronic access.) ALL ACCESS TO THE ELECTRONIC MATERIALS WILL BE THROUGH BLACKBOARD.

A calculator having trigonometric and logarithmic functions is required. See Item 9.

A PRS “clicker” is not required for class, but may be used periodically. The "clicker" is the ResponseCard RF device from Turning Technologies. It is available in the bookstore and, probably at a lower price, on the company's website (https://store.turningtechnologies.com/ – when asked for a school code, enter Jg@8 ). You will probably need this device in more than one of your courses – you only need to buy one.

3. Learning Outcomes
By the end of the semester, each student should be able to:
1. Describe the types of intermolecular forces and explain the role they play in determining the physical properties of a compound.
2. Solve problems involving colligative properties of solutions.
3. Determine the rate of a reaction and its dependence on time, concentration and temperature.
4. Discuss how reaction mechanisms lead to the development of rate laws.
5. Apply the principles of equilibrium to chemical systems including aqueous solutions.
6. Perform calculations involving enthalpy, entropy and free energy.
7. Demonstrate an understanding of the construction and operation of galvanic and electrolytic electrochemical cells.
8. Determine standard and non-standard cell potentials.
9. Predict and describe chemical properties, classification of the elements, and periodic patterns of reactivity.
10. Relate the chemistry they learn to applications and problems in society.
11. Effectively solve chemistry problems that require analytical and interpretative skills and use algebraic methods.

4. Special Dates
Last day to withdraw from classes with a grade of W is Wednesday, July 10, 2015. (Since Chem. 104 is a co-req for the laboratory course Chem. 1041L, withdrawing students may also have to withdraw from Chem. 1040L.)

5. Course Grades
Lecture (Chem. 1041) and laboratory (Chem. 1041L) are separate courses with separate grades. The grade in Chemistry 1041 will be based on the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Grading Scale:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Exam I</td>
<td>100 pt</td>
<td>lowest A: 90%</td>
</tr>
<tr>
<td>Lecture Exam II</td>
<td>100 pt</td>
<td>lowest A-: 88%</td>
</tr>
<tr>
<td>Lecture Exam III</td>
<td>100 pt</td>
<td>lowest B+: 85%</td>
</tr>
<tr>
<td>Homework</td>
<td>50 pt</td>
<td>lowest B-: 75%</td>
</tr>
<tr>
<td>Final Exam (ACS - comprehensive)</td>
<td>150 pt</td>
<td>lowest D-: 45%</td>
</tr>
<tr>
<td>Recitation Worksheets (8 highest of 10 scores)</td>
<td>50 pt</td>
<td>lowest C+: 71%</td>
</tr>
</tbody>
</table>

Grading Scale:
- lowest A: 90%
- lowest A-: 88%
- lowest B+: 85%
- lowest B-: 75%
- lowest C+: 71%
- lowest D+: 57%
- lowest C: 57%
- lowest D: 48%
- lowest D-: 45%
- lowest C+: 71%

6. Absences
Absence from a lecture examination will result in an automatic grade of zero unless the Instructor is informed immediately via email or voice mail. Absence from a recitation will result in an automatic grade of zero for that recitation worksheet. Since only the 8 highest recitation scores are retained, there will not be makeups for missed quizzes, including those missed for “good” reasons.

7. Class Cancellation
In the event that the University officially cancels classes for any reason, any assignment or exam scheduled on that day will automatically be postponed until the next class meeting.

8. Office Hours
Professors will be available to answer questions via email and via appointment. The most convenient way to contact your professor is via email.

The TA office hours will be held in 508A Rieveschl (see item 10).

9. Calculators
A simple, $10-15 scientific calculator is completely adequate for CHEM1041, as long as it has logarithmic and exponential functions and allows the use of scientific notation. Graphing calculators may NOT be used. Sharing is not permitted, and no adjustment will be made on account of calculator malfunction (including dead batteries). Cell phone calculator apps may NOT be used on quizzes or exams.

10. Recitation and Chemistry 1041 TA Office
You will meet with your TA during recitation. Please come prepared to ask questions and work on a worksheet covering recent material. You should bring your book, calculator and any other resource you want. You will work through problems both individually and as groups. Your recitation grade will be based on your performance on the worksheet. Your lowest two recitation grades will be dropped. Recitations are your time! Prepare by looking over your notes and doing some practice problems so that you can get the most out of your recitation.

The Chemistry TA Office is located in 508A Rieveschl. Teaching assistants will be available to help you learn to work problems and to answer questions during the times posted there. You are also encouraged to make use of the computer facilities in the Else Schulz Information Commons in the Chemistry-Biology library across from 502 Rieveschl. TA office hours will be posted on Blackboard (Bb).
11. Examinations

The exams during the semester will be taken in the regular classroom at the regular class meeting time. Students are required to have a University ID in their possession for all exams and be prepared to show it upon request. Exam 1 – June 5; Exam 2 – July 1; Exam 3 – July 31; Final Exam – Aug 7

12. Cell Phones, etc.

Cell phones, laptops, tablets etc. may be used quietly during class, but are to be turned OFF and PUT AWAY during any assessment (exam, etc.). Use of any such device during an examination will be considered academic dishonesty and treated accordingly (minimum penalty – grade of zero on the exam or quiz). A calculator app on a cell phone may NOT be used on an exam or quiz in place of a separate calculator.

13. Academic Misconduct

In this course you are encouraged to study and prepare for quizzes and examinations with other students. However, when taking quizzes or exams, you are required to work alone. The University regulations are explicit about academic misconduct and cheating, and these regulations will be fully enforced. Students engaging in such misconduct may be brought up on charges as outlined in the student code of conduct. See http://www.uc.edu/Code_of_Conduct.html.

Special Needs Policy:
If you have any special needs related to your participation in this course, including identified visual impairment, hearing impairment, physical impairment, communication disorder, and/or specific learning disability that may influence your performance in this course, you should meet with me to arrange for reasonable provisions to ensure an equitable opportunity to meet all the requirements of this course. Some accommodations may require prior approval by Disability Services.

What you can expect from your professor:
1. I will be prepared for class and ready to start the class on time.
2. I will end the class on time.
3. I will stick to the syllabus schedule, topics, and exam schedule as closely as possible.
4. I will do my part to make sure class time is valuable to the students who attend.
5. I will abide by the grading scale and course policies listed in the syllabus.
6. I will listen to in-class questions from students and will answer them thoroughly, if relevant to the topic being discussed. If I do not know the answer, I will find it out and report back.
7. Graded student exams will be returned as soon as possible.
8. I will be respectful, civil, and professional in my dealings with students.

What I expect from students:
1. Students will be prepared for, and willing to participate during, class.
2. Students will arrive for class and ready to begin on time. Late students will find a seat as close to the door as possible, and sit down quickly and quietly.
3. Students will stay until the end of class and will not pack up before that time.
4. Students will turn off all music and communication devices and games during class. If you need to be reached on an emergency basis (e.g. medical professional on call or kids in day care), let me know ahead of time.
5. Students will not disturb the learning of other students in class by talking when other students or I am talking, except during group activities.
6. Email will include your full name and what class you are in.
7. Students will not email me to ask me questions which are answered in the syllabus.
8. Students will keep in mind that the course policies, exam dates, and grading scale apply to all students equally, and will not ask for special treatment, except as detailed in special needs policy above.
9. Students will be respectful and civil with other students and the professor, and conduct themselves with personal integrity and honesty.
14. Personal Belongings
“The Department of Chemistry and the University of Cincinnati are not responsible for the personal belongings of students. All items brought to class are the student’s responsibility. Students are strongly encouraged not to bring items to class that are not required for that class.”

15. Homework
Homework will be assigned as describe on Blackboard. You will have one assignment due for each chapter we cover. Do not wait until the last minute to complete these assignments. Late assignments will be accepted but with a penalty of 5% off of your score for each day late. No late homework assignments will be accepted after the final exam on August 7th.

CHEMISTRY 1041 LECTURE - TENTATIVE TOPICS

The goal for the term will be to cover chapters 12-13, 16-24 and 14 (time permitting).

Material
Chapter 12 – Intermolecular Forces: Liquids, Solids and Phase Changes
Chapter 13 – The Properties of Mixtures: Solutions and Colloids
Chapter 16 – Kinetics: Rates and Mechanisms of Chemical Reactions
Chapter 17 – Equilibrium: The Extent of Chemical Reactions
Chapter 18 – Acid-Base Equilibria
Chapter 19 – Ionic Equilibria in Aqueous Systems
Chapter 20 – Thermodynamics: Entropy, Free Energy, and the Direction of Chemical Reactions
Chapter 21 – Electrochemistry: Chemical Change and Electrical Work
Chapter 22 – The Elements in Nature and Industry
Chapter 23 – Transition Elements and Their Coordination Compounds
Chapter 24 – Nuclear Reactions and Their Applications
Chapter 14 – Periodic Patterns in the Main-Group Elements

Tentative Schedule

Lecture held MWF 10:30-11:30am

<table>
<thead>
<tr>
<th>Sunday</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
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<tbody>
<tr>
<td>10-May</td>
<td>Intro Rec.</td>
<td>x</td>
<td>x</td>
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<tr>
<td>17-May</td>
<td>Rec. 1</td>
<td>x</td>
<td>x</td>
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<tr>
<td>24-May</td>
<td>Holiday</td>
<td>x</td>
<td>x</td>
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<tr>
<td>31-May</td>
<td>Rec. 2</td>
<td>x</td>
<td>x</td>
<td>Exam 1</td>
<td></td>
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<tr>
<td>7-June</td>
<td>Rec. 3</td>
<td>x</td>
<td>x</td>
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<tr>
<td>14-June</td>
<td>Rec. 4</td>
<td>x</td>
<td>x</td>
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<tr>
<td>21-June</td>
<td>Rec. 5</td>
<td>x</td>
<td>x</td>
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<tr>
<td>28-June</td>
<td>Rec. 6</td>
<td>x</td>
<td>Exam 2</td>
<td>x</td>
<td>Holiday</td>
</tr>
<tr>
<td>5-July</td>
<td>Rec. 7</td>
<td>x</td>
<td>x</td>
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<tr>
<td>12-July</td>
<td>Rec. 8</td>
<td>x</td>
<td>x</td>
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<tr>
<td>19-July</td>
<td>Rec. 9</td>
<td>x</td>
<td>x</td>
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<tr>
<td>26-July</td>
<td>Rec. 10</td>
<td>x</td>
<td>x</td>
<td>Exam 3</td>
<td></td>
</tr>
<tr>
<td>2-Aug</td>
<td>Review Rec.</td>
<td>x</td>
<td>x</td>
<td>Final Exam</td>
<td></td>
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</tbody>
</table>
**Final Exam Note:**

The standardized final exam covers material from our General Chemistry II course. It is a comprehensive exam. It is a 70 question multiple choice test written by the American Chemical Society (similar to other nationally standardized exams). ACS publishes a review book that is specific for this exam – actually the review book covers topics from the entire year of general chemistry but our exam will only cover topics from General Chemistry II. There are copies of this review book on reserve in the chemistry/biology library. If you wish – although it is not mandatory – you may also purchase the review book through ACS’s website: http://chemexams.chem.iastate.edu/general-chemistry.

**Academic Support:**
**Drop-in Tutoring**
Starting May 13th, drop-in tutoring is offered **Monday 12-2pm; Wednesday 12-4pm; Thursday 12-2pm** for this course by the Math and Science Support (MASS) Center. During the listed times, students will be able to work collaboratively with each other under the guidance of a highly-trained tutor. No appointment is necessary for these tutoring sessions, but there are a limited number of seats available on a first-come, first-served in the MASS center. You can find the schedule and more information about the MASS Center at [http://www.uc.edu/masscenter.html](http://www.uc.edu/masscenter.html).