Syllabus: CHEM 1071H – section 001
Honors General Chemistry I Fall Semester, 2016
MWF 9:05 am – 9:55 am in Bruininks Hall 412

The Course: This is a 3 credit course that meets for 42 class periods, 50 minutes each, during the 15 week semester. The main themes of Chemistry 1071 include an advanced introduction to atomic theory; periodic properties of the elements; behavior of gases, liquids, and solids; the first law of thermodynamics; molecular/ionic structure and bonding; aspects of organic chemistry, spectroscopy, polymers and energy sources. A student may ask, “Why is this course considered an important component of my liberal education?” A liberally educated person is one who can understand complex issues, find credible information, analyze that information, problem-solve, and draw reasonable conclusions based on facts. This course will develop these skills and help prepare you to be an informed citizen and life-long learner.

Prerequisite: Honors student or Honors Office permission. Inasmuch as this is an honors course, a certain amount of prior knowledge will be assumed, and the lecture material will begin with Chapter 5 of the text by Silberberg and Amateis. You should be familiar with the material covered in Chapters 1–4, and you are encouraged to read these chapters and do practice problems to test your readiness and refresh your memories; this material is fundamental to any continued study of chemistry and will be incorporated into the exams.

NOTE: HOMEWORK ONE covers chapters 1-4 and is due Monday, 12 September 2016 via the CONNECT system (see below).

Instructor: Professor Lee Penn Office: 225 Smith Hall email: rleepenn@umn.edu Office hours: TBD by survey monkey and by appointment.


Note that the publisher's online homework system is required.

THREE CHOICES for getting access to CONNECT:

• Enter the access/registration code that came packaged with your new textbook.
• Choose free trial (2 weeks) if you want to test out the course or are waiting for financial aid.
• Choose buy online to purchase: Connect PLUS ($130) – online homework system AND the e-book – use this option if you don’t want to purchase a hard copy of the textbook.

Course web pages: The course Moodle site can be accessed by going to your myu page at https://www.myu.umn.edu/. After you login, click on the My Courses tab and then on the appropriate link for the course Moodle site (CHEM 1071H section 001). This site will be used for the posting of important announcements, instructions for iClicker and CONNECT registration, course related materials, and grades.

Grading: The final course grade will be determined by the combined performance on in-class response, the online homework, these will be weighted with the in-class quizzes,
the 3 midterm exams, and the final exam. Each of following percentages in the
determination of the final grade:

In-class Response 4% (>Clickers, participation-based, group discussion and work)
Friday Quizzes 10% (>Clickers, graded)
Homework 10% (online, CONNECT)
Midterm 1 17% -- 5 October 2016: 9:05 am – 9:55 am
Midterm 2 17% -- 2 November 2016: 9:05 am – 9:55 am
Midterm 3 17% -- 2 December 2016: 9:05 am – 9:55 am
Final Exam 25% -- 20 December 2016: 1:30pm-3:30pm

No grade lower than the following will be given for the total percentage-based letter
grade:

90% and higher → A-
80% and higher → B-
70% and higher → C-
60% and higher → D

However, the grades may be curved upward if warranted by the course distribution.

Examinations: There will be three midterm exams held on October 5, November 2, and
December 2 during the regularly scheduled class period, 9:05 am – 9:55 am. The final
exam will be 1:30pm-3:30pm, December 20. Each exam location will be announced
in class and posted on the course Moodle site.

You must bring your student I.D. to every exam, it may be checked at any time during
the exam.

All exams will be multiple choice and will use standard “bubble” or scantron answer
forms. Pencils are recommended (for ease of making changes) but not necessary.

Graphing and programmable calculators are forbidden on exams. Their use will be
considered an act of scholastic dishonesty (see section on scholastic dishonesty below).
Any one-line display calculator is allowed. The TI-30X is the suggested calculator for this
and most introductory chemistry and physics courses. It is available in the bookstore for
about $10. If you have any questions about your particular calculator, see the instructor
immediately. Calculators may NOT be shared during exams. If you are concerned about
battery failure, bring extra batteries or a second calculator.

Exams, including the final exam, can only be taken at the scheduled time. There are no
exceptions.

Missed exams: A student can be excused from one midterm exam for a true
emergency, serious illness, or University sponsored activity. The student should contact
the instructor as soon as circumstances allow and appropriate documentation must be
provided. If the circumstances are deemed as appropriate for missing the exam, the
unweighted average score of all other midterm exams and of the final exam in the
course will be used in place of the missed exam. If circumstances lead to a student
missing more than one midterm exam, the student should immediately schedule a
meeting with the instructor to discuss any available options.
In the case of University sponsored activities that require the student to be out of town, it may be possible to take the exam with the coach or another instructor as the proctor. Please see the instructor about such conflicts as soon as possible so arrangements can be made.

**Exam regrades:** A request for a re-grade must be made in writing to the instructor via email **by the end of the week following the posting of the exam results.** It is possible, although very unlikely, that the machine scored exam was misread. Note that you are responsible to properly record (and fully erase) the answer on the answer form when taking the exam.

**Homework:** Graded homework will be given using the online homework system, CONNECT, and will count as 10% of your course grade.

Group work is acceptable, although students need to ensure that they can complete problems independently in preparation for exams.

You must set up your CONNECT account correctly to get credit for your online homework.

**HOMEWORK ONE** will cover chapters 1-4. This CONNECT homework is due on 12 September 2016.

**Clickers:** Clickers will be used for in-class response. The required device is the i>Clicker2, and it is sold at the campus bookstore. At the end of the semester, if your clicker is in good condition, the bookstore will buy back your used i>Clicker.

You must properly register your clicker to receive credit!

Registration is done through the course Moodle site. For complete, blow-by-blow directions to register your clicker go to http://z.umn.edu/iclickerstudent. This site includes answers to frequently asked questions and technical help via both a web link and a phone number.

**Friday Quizzes:** At the start of class on most Fridays (see class schedule) there will be a short quiz with the answers given and graded using the clickers. The quizzes will count at 10% of your course grade. The quiz with the lowest score will be dropped. There will be no makeup quizzes. If a quiz is missed for a documented true emergency, serious illness, or University sponsored activity, that quiz will be dropped in addition to dropping the lowest score.

Your final grade in the category of Friday quizzes will be calculated as follows:

<table>
<thead>
<tr>
<th>% of questions answered correctly</th>
<th>points</th>
<th>% of questions answered correctly</th>
<th>points</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 90%</td>
<td>10</td>
<td>≥ 65%</td>
<td>5</td>
</tr>
<tr>
<td>≥ 85%</td>
<td>9</td>
<td>≥ 60%</td>
<td>4</td>
</tr>
</tbody>
</table>

CHEM 1071H – section 001
In-class responses using the clickers will count as 4% of your course grade. This will be graded for participation only. There will be responses requested throughout the course and you should bring the clicker to all lectures.

Your final grade in the category of in class responses will be calculated as follows:

<table>
<thead>
<tr>
<th>% of questions answered</th>
<th>points</th>
<th>% of questions answered</th>
<th>points</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 90%</td>
<td>4</td>
<td>≥ 70%</td>
<td>2</td>
</tr>
<tr>
<td>≥ 80%</td>
<td>3</td>
<td>≥ 50%</td>
<td>1</td>
</tr>
</tbody>
</table>

Free Tutoring: For students in the honors program, there will be weekly hours for chemistry specific tutoring available in the Terrace Room in Middlebrook Hall every Tuesday, 7–9 pm. In addition, room 124 Smith Hall is the site of regular Chem 1061/1071 drop-in tutorial sessions conducted by general chemistry TAs. See the TA web link for additional details, http://www.chem.umn.edu/ta/current/1061tutor.htm

Overlapping & Back-to-Back Courses: Enrolling in overlapping or back-to-back courses that does not allow enough travel time to arrive at our class meetings on time is prohibited. For more information, please see: http://policy.umn.edu/Policies/Education/Education/OVERLAPPINGCLASSES.html

Teaching & Learning: The materials provided in this course are intended only for the students officially enrolled in this section and are to be used to learn and practice the course material. Disseminating class notes, videos, exams, etc… beyond the classroom community or accepting compensation (in the form of cash or in trade, such as access to a study website) undermines instructor interests in their intellectual property while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community and are not allowed. For additional information, please see: http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html

Student Conduct Code: As a student at the University you are expected to adhere to Board of Regents Policy: Student Conduct Code. To review the Student Conduct Code, please see: http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf.

Scholastic Dishonesty: The Board of Regents Student Conduct Code states that, “Scholastic dis-honesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using...
test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis.” For additional information see the student conduct code at http://regents.umn.edu/sites/default/files/policies/Student Conduct Code.pdf The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: http://www1.umn.edu/oscai/integrity/student/index.html. The policy in this course is zero tolerance. The minimum action taken in a case of scholastic dishonesty in any portion of the work in this course will be a grade of F for the course.

Prof. Penn will absolutely make it clear when collaboration with other students is acceptable and even encouraged. Students are permitted and encouraged to work together on homework assignments, but students need to ensure they complete their online homework assignments and that they can work problems independently in preparation for the exams. Students may not collaborate on exams nor Friday quizzes.

Incompletes: Students that have an excused absence from the final exam AND are passing the course based on all the work completed prior to the final exam may be eligible to receive a grade of “I” in the course. If these criteria are met, contact the instructor as soon as circumstances allow to discuss the possibility of an incomplete grade and the associated requirements for completion.

Student Mental Health and Stress Management: As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student’s ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via http://www.mentalhealth.umn.edu/.

Sexual Harassment: The University policy on sexual harassment can be found at: http://regents.umn.edu/sites/default/files/policies/SexHarassment.pdf.

Equity, Diversity, and Equal Opportunity: The University policy on equity, diversity, and equal opportunity can be found at: http://regents.umn.edu/sites/default/files/policies/Equity Diversity EO AA.pdf.

Disability Resource Center (DRC): Students with special needs should contact the DRC, https://diversity.umn.edu/disability/. The staff at the DRC will work with me to provide accommodations. If you have a disability, please contact DRC as soon as possible to ensure that your accommodations are in place.

Issues with your Instructor: On occasion you may have a concern or problem regarding this course. You will find your instructor quite willing to discuss this with you. If, however, you wish to discuss it with someone other than your instructor, please contact Prof. Michelle Driessen, the director of the general chemistry program. You may e-mail to her at mdd@umn.edu, call her directly at 612.624.0062, or meet with her in her office.
(Smith Hall 113). She will serve as a mediator in helping to resolve the issue.

**Tentative Schedule (Exam and quiz dates will not change, but topics might shift a little as the semester progresses)**

<table>
<thead>
<tr>
<th>WEEK OF</th>
<th>Topic(s)</th>
</tr>
</thead>
</table>
| 5 Sept  | Chapter 5 – Gases and the Kinetic-Molecular Theory  
Friday – clicker quiz on Chapters 1-5 material  
CONNECT Chapters 1-4 due by 11:59 pm on 12 Sept 2016 (Monday) |  
| 12 Sept | Finish Chapter 5  
Start Chapter 6 – Thermochemistry: Energy Flow and Chemical Change  
Clicker quiz on Friday |  
| 19 Sept | Clicker quiz on Friday  
Finish Chapter 6 |  
| 26 Sept | Chapter 7 – Quantum Theory and Atomic Structure  
Clicker quiz on Friday |  
| 3 Oct | Finish Chapter 7, review  
Midterm 1 Wednesday -- 5 October 2016  
Start Chapter 8 – Electron Configuration and Chemical Periodicity  
*No Clicker Quiz* |  
| 10 Oct | Chapter 8  
Clicker Quiz Friday |  
| 17 Oct | Chapter 9 – Models of Chemical Bonding  
Clicker Quiz Friday |  
| 24 Oct | Chapter 10 – The Shapes of Molecules  
Clicker Quiz Friday |  
| 31 Oct | Start Chapter 11 – Theories of Covalent Bonding  
Midterm 2 Wednesday -- 2 November 2016  
*No Clicker Quiz* |  
| 7 Nov | Finish Chapter 11  
Clicker Quiz Friday  
Start Chapter 12 – Intermolecular Forces: Solids, Liquids, and Phase Changes |  
| 14 Nov | Finish Chapter 12  
Clicker Quiz Friday |  
| 21 Nov | Start Chapter 13 – The Properties of Mixtures: Solutions and Colloids  
NO CLASS Friday! Happy Thanks Giving Break! |  
<p>| 28 Nov | Finish Chapter 13 |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Dec</td>
<td>Start Chapter 15 – Organic Compounds and the Atomic Properties of Carbon</td>
</tr>
<tr>
<td></td>
<td>Clicker Quiz Friday</td>
</tr>
<tr>
<td></td>
<td>Finish Chapter 15</td>
</tr>
<tr>
<td>12 Dec</td>
<td><strong>Green Chemistry (not in text)</strong></td>
</tr>
<tr>
<td></td>
<td>14 Dec = last day of classes; Finish Green Chemistry and prep for Final exam</td>
</tr>
<tr>
<td></td>
<td>20 December 2016 = FINAL EXAM 1:30p until 3:30p</td>
</tr>
</tbody>
</table>