Chemistry 110

Dr. Lori S. Van Der Sluys
Email: lsv10@psu.edu

Office Hours:
201 Whitmore
by appointment (email)

Necessary Materials


2. Summer Chem 110 Student Packet - Required

3. *Non-text programmable* calculator - Required


Lecture Notes can be downloaded and printed at: http://courses.chem.psu.edu/chem110/summer/SULectures.html
Chemistry: The Central Science

*Chemistry is the study of matter and its transformations*

Which area of study best fits your interests?

1. Chemistry
   - Chemical Engineering, Biochemistry

2. Life Sciences
   - Biology, Kinesiology, Microbiology
   - Health related fields: pre-med, nutrition, nursing

3. Materials
   - Material Science, Polymer Science, Fuel Science

4. Environmental
   - Forestry, Geoenvironmental Engineering
   - Resource management
   - Meteorology

5. Agriculture
   - Animal Science, Turf grass, Food Science

6. Engineering
   - Mechanical, Civil, Architectural,
   - Engineering Science, etc.

7. Other
   - Business (economics, management),
   - Liberal Arts, Music

8. Undecided???
Why Study Chemistry?

Chemistry: The study of matter & its transformations

- Learn the Language of Chemistry; gain general knowledge
- Understand how structure affects function (Properties)
- Connect microscopic properties to macroscopic properties
- Learn about modern analytical techniques and instrumentation - How do we know what we know? How can we find out more? What problems need solutions?
- Energy is stored in molecules; how can we use it?
- Develop analytical problem solving skills

Lectures

1. Read the text **AND** do all Chapter (text book) problems **BEFORE** the lecture (due at recitation).
2. *Print* lecture notes and *try* any blank questions before lecture.
3. Do supplemental multiple choice problems (packet) **after** the lecture (**due at recitation**).
4. Take notes! Ask questions! Be ready to answer questions!
5. Practice in-class problem solving.
6. Demos are fair game for exams.
Online Pre-Quiz

Must finish by ___________ @ midnight

Does NOT count toward Chem 110 grade

provides guidance for correct course placement

Prerequisites for Chem 110

- Algebra
- High school chemistry
- Chapters 1, 2 in text
- Familiarity with Chapters 3, 4, 10

NOTE: Chem 110 assumes previous exposure to Chemistry—we move very quickly

Chem 108 is 1-credit add-on course to Chem 110 for students needing more help (you can add now during the drop/add period)

No previous chemistry? Chem 101 is a better option; Chem 110 is not appropriate for you

Course Website

http://courses.chem.psu.edu/chem110/_______/

1. Course and Instructor Information
2. Expected Background
3. Syllabus & schedule of important deadlines
4. Instructions and deadlines for Online Skill Check Tests
5. Lecture Notes and Audio Tapes of lectures
6. Supplemental Homework problems
7. Exam Schedule and Locations
8. Previous Exams for practice
9. Tutorials and Useful Links
10. Grade calculator
11. Help Available

We will post announcements and other supplemental materials as they become available.

Also: Check ANGEL for postings
Homework

- All Homework is *collected during weekly recitations*. You must be present for the whole recitation or homework will not be accepted.

- Points: 2 random problems will be graded per homework set. Score will be based on:
  a) correct answers
  b) explanation of work
  c) neatness and completeness

- Help:
  - TA’s will hold **office hours** weekly (CRC, Whitmore 211) to answer questions, and hold review sessions before exams.

- Grading:
  - 6 HW, 25 points ea., max of 150 pts
  - Only 100 points needed for full credit
  - 50 points can be lost without penalty
  - NO MAKEUPS, NO EXTENSIONS, NO LATE HW

Online Skill Check Tests

Information and instructions are in the student packet and on the Web

To Take the tests:

Log on to Angel ([https://cms.psu.edu](https://cms.psu.edu))
Choose Chem 110
Choose the correct test (on the lessons tab)
Choose the EXAM button, take the test

1. **Scoring**: You *must* score 100% on each of these to earn credit. You may take these tests as many times as you like prior to the final deadline (Friday August 7 at midnight), but you will only get credit if you score 100% on the test.

2. **Extra Credit Bonus Deadline**: If you score 100% on the test before its corresponding bonus deadline, you earn 0.2 extra course points. With 10 tests, up to 2 extra course points are possible. (You can raise your summary score by 2% and perhaps raise your grade!)

Note there is a daily request limit of 8 tests per 24 hour period, and all deadlines end at midnight. DO NOT USE YOUR BROWSER BACK BUTTONS!
Online Quizzes

Similar instructions to SCT's

To Take the tests:
Log on to Angel (https://cms.psu.edu)
Choose Chem 110
Choose the correct folder and test (on the lessons tab)
Choose "Begin Quiz" link, take the test

1. Scoring: You will receive only 3 timed tries, they must be completed by the deadline at midnight, and only your highest score will count.

2. Grading:
   - 7 Quizzes, 10 points ea. max of 70 pts
   - Only 50 points needed for full credit
   - 20 points can be lost without penalty
   - NO EXTENSIONS OR MAKEUPS

All Deadlines end at midnight on the night of date listed on the syllabus.
DO NOT USE YOUR BROWSER BACK BUTTONS!

Summer 2009 Chem 110 Grading

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Online Midterm Exam 1</td>
<td>17%</td>
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<tr>
<td>Thursday, July 16</td>
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<tr>
<td>Online Midterm Exam 2</td>
<td>17%</td>
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<tr>
<td>Friday, July 24</td>
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<tr>
<td>Online Midterm Exam 3</td>
<td>17%</td>
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<td>Monday, August 3</td>
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<td>Final Exam</td>
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<td>Friday, August 14</td>
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Total Emphasis for Exams: 80%

Note the dates of these exams NOW

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<tr>
<td>Skill Check Tests</td>
<td>5%</td>
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<tr>
<td>Quizzes</td>
<td>7.5%</td>
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<tr>
<td>Homework</td>
<td>7.5%</td>
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Total Coursework Grade 20%

EXTRA CREDIT POSSIBLE 3%
### Important Deadlines: Website, packet

<table>
<thead>
<tr>
<th>Event</th>
<th>Bonus Deadline</th>
<th>Final Due date for completion</th>
<th>Material Covered (BLB)</th>
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<tbody>
<tr>
<td>SCT1. Basic Math (no calculator)</td>
<td>Friday July 3</td>
<td>Friday Aug. 7</td>
<td>Algebra</td>
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<td>SCT2. Metric Measurement</td>
<td>Friday July 3</td>
<td>Friday Aug. 7</td>
<td>Chapter 1.4</td>
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<td>HOLIDAY - NO CLASS</td>
<td>Friday July 3</td>
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<tr>
<td>ONLINE PRE-QUIZ</td>
<td>Monday 7/6</td>
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<tr>
<td>Online Unit Quiz 1</td>
<td>Tuesday 7/7</td>
<td>Friday Aug. 7</td>
<td>Chapter 6.3-6.6</td>
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<tr>
<td>SCT3. Electronic Structure</td>
<td>Friday July 10</td>
<td>Friday Aug. 7</td>
<td>Chapter 6.7-6.9 (ions)</td>
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<tr>
<td>SCT4. Periodic Table</td>
<td>Friday July 10</td>
<td>Friday Aug. 7</td>
<td>Chapter 7.1-7.6</td>
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<tr>
<td>Online Unit Quiz 2</td>
<td>Tuesday 7/14</td>
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<td>Chapter 1-7</td>
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<td>SCT5. Chem. Vocabulary</td>
<td>Wed. July 15</td>
<td>Friday Aug. 7</td>
<td>Chapter 8.1, 8.3, 8.5-8.7</td>
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<td>SCT6. Lewis Structures</td>
<td>Wed. July 15</td>
<td>Friday Aug. 7</td>
<td>Chapter 2.6-2.8</td>
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<td>Tuesday 7/21</td>
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<td>Chapter 9-12</td>
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<td>SCT7. Molecular Formulas and Structure</td>
<td>Thurs. July 23</td>
<td>Friday Aug. 7</td>
<td>Chapter 2.4, 3.3-3.4</td>
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<td>SCT8. Intermolecular Forces and Phase Diagrams</td>
<td>Thurs. July 23</td>
<td>Friday Aug. 7</td>
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<td>Tuesday 7/28</td>
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<td>Chapter 13-17</td>
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<td>SCT9. Solutions and Dilution</td>
<td>Friday July 31</td>
<td>Friday Aug. 7</td>
<td>Chapter 4.1-4.4</td>
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<td><strong>LATE DROP DEADLINE</strong></td>
<td>Monday Aug. 3</td>
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<td>SCT10. Net Ionic Equations</td>
<td>Tuesday Aug. 4</td>
<td>Friday Aug. 7</td>
<td>Chapter 4.5</td>
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<td>Online Unit Quiz 5</td>
<td>Tuesday 8/4</td>
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<td>Chapter 18-22</td>
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<td><strong>Final Credit Deadline for all Skill Check Tests</strong></td>
<td>Friday Aug. 7</td>
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<tr>
<td>Online Unit Quiz 6</td>
<td>Saturday Aug. 8</td>
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<td>Chapter 23-26</td>
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<td>Online Unit Quiz 7</td>
<td>Tuesday 8/11</td>
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<td>Chapter 27-28</td>
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<td><strong>Paper Final Exam, Friday August 14; Comprehensive</strong></td>
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### How to Succeed in Chem 110:

- **Manage your time**
  Expect to spend ~20 hrs per week outside of class **consistently on Chem 110 alone** (reading, homework, studying, online tests)

- **Come to lecture, come to recitation, use the office hours Do the Homework!**
  Sounds obvious (?!)

- **Choose your friends wisely**
  Form cooperative study groups
  Do your homework together
  *(You must do online tests on your own)*

- **Seek help**
  Do not wait to get help!
  If you fall behind in this class, you will be in serious trouble!