

# CHEM 105: General Chemistry I

(Section 001, 4 Credit Hrs)

Spring, 2013

*“Great minds have purposes, others have wishes.” – Washington Irving*

**Professor:** Dr. Jay Hanna

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**Office Phone:** 323-4933

**Course Website:** [chem.winthrop.edu](http://chem.winthrop.edu)

**Office Hours:** TR 10:00 – 11:00 am

To contact me outside of these hours, please feel free to e-mail or call to make an appointment. I check my email and phone messages periodically throughout the day.

**E-mail:** Check your e-mail! Important course information will be communicated through e-mail, and you may also communicate with the instructor by e-mail. However, remember that e-mail communication is formal correspondence and should be written as such. The instructor reserves the right to ignore informal or poorly constructed e-mails.

**Lecture:** MWF 11:00 am – 12:15 pm in Sims 105.

T 8:00 – 8:50 in Sims 209 (Recitation, a time to ask questions about lecture material and homework problems)

The tentative schedule is posted on the course web page ([chem.winthrop.edu](http://chem.winthrop.edu))

## Required Materials:

**Text:** *General Chemistry*, 4th Edition, McQuarrie, Rock, and Gallogly.

**Sapling Learning Course:** “Winthrop – CHEM 105 – Spring13 – HANNA” ([www.saplinglearning.com](http://www.saplinglearning.com)). Instructions for course registration can be found below.

**Calculator:** Any scientific calculator will be sufficient. Cell phones (and therefore cell phone calculators) are prohibited during exams.

**Lecture Supplements:** PowerPoint presentations will be used to supplement the lecture material. These and other handouts are posted on the course webpage ([chem.winthrop.edu](http://chem.winthrop.edu)) in the “Lecture Supplements” section. You need a username and password (available from the instructor) to access these materials.

**Course Goals:** The goals of this course align with *University Level Competency #1* – “Winthrop graduates think critically and solve problems.” The student will learn the following basic concepts and their application to the chemical sciences.

- Chemical calculations
- Structure and bonding
- Energy and chemical reactivity
- Intermolecular forces
- Chemical Thermodynamics
- Acid/base and Redox reactions

**Course Learning Outcomes:** After completion of the General Chemistry I (CHEM 105), the student will

- Understand fundamental concepts of chemistry and their broad importance in the sciences and be able to think critically and solve problems using those basic concepts
- Be conversant in the chemical vocabulary
- Understand the scientific methodologies employed in chemical discovery and appreciate the experimental history behind the concepts discussed
- Recognize and appreciate chemistry in daily life

**Class Attendance and Conduct:** It is to your benefit to attend all class meetings for the full scheduled time without any disruptions. Therefore, cell phones, cameras, and other devices not required for the class discussion cannot be used during class time. Students are expected to adhere to the Winthrop Student Conduct Code as outlined in the Student Handbook: (<http://www2.winthrop.edu/studentaffairs/handbook/StudentHandbook.pdf>)

**Withdrawals:** Per Winthrop University policy, any student who wishes to withdraw from the course with a grade of "N" must do so before the Course Withdrawal Deadline (*Wednesday, March 6, 2013*).

**Graded Homework:** Graded homework assignments will be administered through Sapling Learning, and will generally be due 48 hours after completion of the chapter in lecture. *Specific homework due dates are listed in the Sapling Learning Course.* To register for the course, follow the instructions below.

1. Go to <http://saplinglearning.com>
- 2a. If you already have a Sapling Learning account, log in then skip to step 3.
- 2b. If you have Facebook account, you can use it to quickly create a SaplingLearning account. Click "create account" located under the username box, then click "Login with Facebook". The form will auto-fill with information from your Facebook account (you may need to log into Facebook in the popup window first). Choose a password and timezone, accept the site policy agreement, and click "Create my new account". You can then skip to step 3.
- 2c. Otherwise, click "create account" located under the username box. Supply the requested information and click "Create my new account". Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email.
3. Find your course in the list (listed by school, course, semester and instructor) and click the link.
4. Select a payment option and follow the remaining instructions.
  - Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments.
    - During sign up - and throughout the term - if you have any technical problems or grading issues, send an email to [support@saplinglearning.com](mailto:support@saplinglearning.com) explaining the issue. The Sapling support team is almost always more able (and faster) to resolve issues than your instructor.
    - To optimize your Sapling Learning experience, please keep your internet browser and Flash player up to date and minimize the use of RAM-intensive programs/websites while using Sapling Learning.

**Ungraded Homework:** Suggested end-of-chapter practice problems (ungraded) are listed in the course schedule ([chem.winthrop.edu](http://chem.winthrop.edu)). You are responsible for the material, concepts, and problem-solving strategies used in these problems. I **strongly suggest** you do these problems as part of your study for this course. Other ungraded practice problems can be found in Sapling.

**Exams:** There will be four (4) in-class (closed-book) exams. The tentative dates for these exams are outlined in the course schedule ([chem.winthrop.edu](http://chem.winthrop.edu)). You will need a pencil and a calculator for each exam. Cell phones calculators are **not** allowed during exams. You may not share calculators or bring any other electronic devices (including ipods, laptops, cell phones, pagers, or personal digital assistants) to the exam. **No makeup exams will be given.**

**NOTE:** *Any number written on an exam without its proper unit will result in a loss of 1 point*

**The Final Exam is cumulative, closed-book, and will count for 25% of the final grade.**

**You must score at least 50% on the final exam to pass the course. The final exam will be given at 8:00 am on Monday, April 29, 2013.**

**Re-Grades:** Requests for re-grades must be submitted within one week after the exam is returned. You must indicate the specific problem(s) to be re-graded and submit justification (in writing) as to why the grading was incorrect.

<b>Grading:</b> Homework	15 %
Exams (4)	60 %
Final Exam (Cumulative)	25 %
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	<b>100 %</b>

**NOTE:** *Grade discussions will only be held in person. No grades will be communicated by e-mail.*

**Final Course Grade:** The final grade for the course will be a weighted percentage based on the scores earned on the exams and homework. The formula for determining the final grade is as follows:

$$\text{Course grade (\%)} = [(\text{Avg Homework \%}) * 0.15] + [(\text{Avg Exam \%}) * 0.60] + [(\text{Final Exam \%}) * 0.25]$$

The +/- system will be used for "A," "B," and "C" grades, according to the following ranges:

$$A = 90 - 100\%, A^- = 88 - 89.99\%$$

$$B^- = 78 - 79.99\%, B = 80 - 84.99\%, B^+ = 85 - 87.99\%$$

$$C^- = 68 - 69.99\%, C = 70 - 74.99\%, C^+ = 75 - 77.99\%$$

$$D = 60 - 67.99\%$$

$$F = < 60\%.$$

**Students with Disabilities:** Winthrop University is dedicated to providing access to education. If you have a disability and require specific accommodations to complete this course, contact the Office of Disability Services (ODS) at 803-323-3290. Once you have your official notice of accommodations from the Office of Disability Services, please inform me as early as possible in the semester.

**Changes to Syllabus:** Any changes to the syllabus or course schedule will be announced in class.

**Success in Chemistry:** *“Success is dependent on effort.” - Sophocles*

This is a challenging course, and I would like to see you do your very best. Here are some tips to help you succeed in this course (i.e., master the course material and receive a reasonable grade):

**THE TWO MAJOR RULES FOR SUCCESS:**

1. Work Problems
2. Do Not Fall Behind

**THE EXPANDED RULES:**

3. **PLAN** to spend **at least 10 hrs per week** (2 hr/day) outside of class studying for this course.
  - Work in an area where there are **NO DISTRACTIONS** (turn off your cell phone, take out your ear buds, turn off the TV, radio, etc.). Remember it is you against the course, and you want to conquer it! ***Your friends and your i-pod do not care whether you win or not.***
4. **READ; THINK**
  - **Before lecture on a topic**, read the appropriate sections of the text, outline the material (don't highlight!) and work the in-chapter practice problems.
5. **ATTEND LECTURE; LISTEN; THINK; TAKE NOTES**
  - Note that **“listening” and “thinking” come before “take notes.”** If you have read the material, you will know what is in the book, and you can take fewer notes. Blindly writing without thinking does you no good.
6. **REVIEW; THINK**
  - **After the lecture**, rewrite the lecture notes in the fewest words possible, as if you were making a “cheat sheet” for an exam.\* Re-work the in-chapter practice problems. Ask questions about what you don't understand. **\*NOTE:** *“Cheat sheets” are not allowed on exams. Only closed-book exams will be given.*
7. **WORK PROBLEMS; THINK**
  - **Do the Sapling homework problems.** Do the suggested practice problems at the end of each chapter. Do other appropriate text problems or practice problems in Sapling if you need more practice. Do the problems again while studying for your exam.
8. **DO NOT FALL BEHIND – falling behind is death.**
  - Everything in this course builds on what was previously covered. If you do not understand what was previously covered, it makes learning the later material much harder.
  - **Chemistry cannot be learned the night before an exam.** Don't even try.
9. **IF YOU DON'T UNDERSTAND – GET HELP!!**
  - Talk to me after class, stop by my office during office hours, or make arrangements with me to meet outside of office hours. You can stop by any time, but if you have an appointment that guarantees that I will be there. Tutors and classmates can also help you when you need it.