

CHEM 105- Section 001: General Chemistry I (4 credits)

Class Meetings:

MW 3:30 – 4:45 a.m., Sims 105

TR 8:00 – 8:50 a.m., Sims 105

Instructor:

Dr. Clifton Harris

Office: Sims 302B

E-mail: harrisc@winthrop.edu

Phone: x 4929

COURSE WEBSITE: www.chem.winthrop.edu

Office Hours:

You will be sure to find me in my office on **MTW 1:00-2:00 p.m.** You are welcome to make an appointment to meet at other times. You may also feel free to send me questions via e-mail. I have an open door policy, so if I happen to be in my office outside of these hours, feel free to come in.

Required Course Materials:

Textbook: *Chemistry: An Atoms-Focused Approach* (Gilber, Kirss, Foster); **NO ONLINE ACCESS REQUIRED**

Calculator: Any scientific or graphing calculator. Cell phones are prohibited during quizzes and exams.

Attendance Policy:

There is no mandatory attendance policy. However, you are strongly encouraged to attend every lecture as the order of the course material **will** deviate from the book. You are responsible for keeping track of all covered course materials, due dates and exam/quiz dates.

Course Goal:

The goal of this course is to provide a detailed introduction to chemistry. At the conclusion of the course, students are expected to exhibit in-depth understanding of fundamental theories and principles. This course investigates “why” certain phenomena occur, more so than simply addressing that they do. This course will involve problem solving, critical thinking, and group work.

Outline of Topics to be covered:

Unit 1:

Math review, Matter, Energy, Temperature, Sig. Figs, SI Units, Derived Units, Dimensional Analysis (Ch 1)

Atomic Structure, The Periodic Table, Radioactivity, The “mole” (Ch 2) Atoms and Molecules (Ch 2);

Light, orbitals, ionization energies and electron affinities (Ch 3)

Intro to bonding (ionic vs covalent), Naming, Balancing ionic charges, Polyatomic ions, Coulomb’s Law and Lattice Energies (Ch 4.1-4.2)

Written HW Set #1: Due Friday, February 3 @ 2:00 p.m.

Exam 1: Tuesday, February 7 @ 8:00 a.m.

Unit 2:

Lewis Structures for covalent bonds (Ch 4.3-4.9); VSEPR, polarity, hybridization, isomerization and chirality (Ch 5); intermolecular forces (Ch 6), stoichiometry (Ch 7), molarity (Ch 8), gases (Ch 10)

Written HW set #2: Friday, March 3 @ 2:00 p.m.

***EXAM 2: Tuesday, March 7 @ 8:00 a.m.**

INTERIM GRADES DUE: February 23

SPRING BREAK: March 13-17

Drop Deadline: March 8

Unit 3:

Thermochemistry (Ch 9), Kinetics (Ch 13), Entropy (Ch 12.1-12.5), Equilibrium (Ch 14), Gibbs Free Energy (Ch 12.6-12.8), Acids and Bases (Ch 15)

Written HW set #3: Due Friday, April 14 @ 2:00 p.m.

Exam #3 : Tuesday, April 18 @ 8:00 a.m.

Final Week: Buffers, TBD

FINAL EXAM: Monday, May 1 @ 3:00 p.m.

Study Tips:

Work in groups. Other students are your greatest resource. Stay on top of the material by reviewing the textbook in your free time. **Seek help from the tutorial center as well as from me.** Use other textbooks for reference. Do additional practice problems as well. **Make sure you UNDERSTAND the material. Do not simply memorize examples.** This will not prepare you for the exams. **Always use practice tests. Try variations of problems to ensure complete understanding.**

Assignments:

Written Homework: 10 %

Tests: 45 %

Quizzes: 15 %

Science Project: 5%

Final Exam: 25 %

Lectures: Most lectures will be given from powerpoint. All powerpoint lectures will be uploaded to my website. Visit www.chem.winthrop.edu. Click 'courses' and find the corresponding webpage.

Homework: There are 3 written homework assignments in this course. The due dates of these assignments are listed in the syllabus, although they may be subject to change. These assignments are posted to the website. They are to be completed, compiled, and submitted on the due date specified. **DO NOT SUBMIT SUGGESTED PROBLEMS FROM THE POWERPOINTS FOR GRADING.**

Quizzes : Announced quizzes will be given throughout the semester. These quizzes may vary in weight at my discretion.

Quiz-correction reports: You will have opportunities to improve your quiz grades if you choose to do so. Students may submit quiz-correction reports. In these reports, you will explain in full detail why your previous answer was incorrect, as well as the logic you applied to obtain the correct answer. All work must be shown. A grade will be assigned to the report, and your new quiz grade will be the average of the original quiz score and the report score. These reports **MUST BE NEAT AND THOROUGH.**

Exams: Three 100-point exams will be given in class on the dates shown below. If you will be unable to take an exam at the scheduled time due to participation in a University-approved activity (such as an athletic meet), **you must make arrangements in advance to take the exam at another time.** If you are absent on the exam date without prior approval and do not provide a written doctor's excuse, you will receive a zero for that exam.

Exam "Information Purchase": Every now and then, you come across a question on an exam that may address a topic that you forgot to study, or there may be some molecule whose structure you simply can't remember, but you need to know it in order to solve the problem. The "information purchase" allows you the option to obtain that information from me during the exam, in exchange for 20% of the value of the question. This does not apply to questions of clarification, only to information that is vital to the question that I feel you should have known coming into the exam.

Dropping quiz/exam grades: There will be **NO** dropped exam grades in this class. However, if your final exam score is higher than any of your previous exam scores, then that score will replace the original exam score. You **MUST** take the final to pass this class. Your final exam score **WILL COUNT**, regardless of previous exam scores. If you skip an exam, you will not receive a grade for that exam. A "no-grade" can not be replaced.

Science Project: Students are required to research a scientific topic and present a one-on-one lecture to Dr. Harris at a scheduled time in SIMS 302B. The presentations should be 10 minutes long. The presentation may be given in any format that the student decides. However, some form of visual aid must be provided to Dr. Harris at the time of the presentation. Project topics must be submitted and approved in advance. **This must be completed by the last day of class.**

Grading scale:

A	90-100	B+	87-89
B	81-86	B-	77-80
C+	74-76	C	67-73
D	58-66	F	< 58

Tutoring:

CHEM Tutorial Center: Tutoring will be provided by the Chemistry department for the duration of the semester. Tutors can be found in SIMS 301 at the following times:

MTW 7:00-9:00 pm

TR 11:00 am – 12: 15 pm

Please note that the tutors in the Tuesday afternoon period will be focused more on CHEM 104, but this does not mean that you will be turned away. For students that attend CHEM tutoring provided through the department, extra credit will be made available.

Services offered by the Academic Success Center (ASC): Winthrop's Academic Success Center is a free resource for all undergraduate students seeking to perform their best academically. The ASC offers a variety of personalized and structured resources that help students achieve academic excellence, such as tutoring, academic skill development (test taking strategies, time management counseling, and study techniques), and group/individual study spaces. The ASC is located on the first floor of Dinkins, Suite 106. Tutoring for this specific course is offered through the office. If you wish to request a tutor, you must attend ONE Tuttee Seminar, offered every Friday until October 24th. Please contact the ASC at 803-323-3929 or success@winthrop.edu if you have any questions. For more information on ASC services, please visit www.winthrop.edu/success.

Students with Disabilities/Need of Accommodations for Access:

Winthrop University is committed to providing access to education. If you have a condition which may adversely impact your ability to access academics and/or campus life, and you require specific accommodations to complete this course, contact the Office of Accessibility (OA) at 803-323-3290, or, accessibility@winthrop.edu. Please inform me as early as possible, once you have your official notice of accommodations from the Office of Accessibility.

The Office of Victims Assistance Syllabus Statement : The Office of Victims Assistance (OVA) provides direct services to survivors of sexual assault, domestic violence, dating violence, and stalking as well as campus-wide educational programming to prevent these crimes from occurring. The staff provides counseling services and assists with obtaining sexual assault forensic exams, STI testing/treatment, pregnancy prevention, housing options, legal prosecution, and access to other support services including assistance with class or course problems resulting from victimization (i.e. missed classes, trouble concentrating or completing assignments). The OVA is located in 204 Crawford and can be

reached at (803) 323-2206. In the case of an after-hours emergency, please call Campus Police at (803)323-3333, or the local rape crisis center, Safe Passage, at their 24-hour hotline, (803)329-2800.

Academic Integrity : Any instances of academic misconduct will be dealt with as outlined in the Student Conduct Code (Sect. V), found in the *Student Handbook* (<http://www2.winthrop.edu/studentaffairs/handbook/StudentHandbook.pdf>).

Syllabus Change Policy : Changes to the policies listed here may be made at the instructor's discretion. Students will be notified of any modifications.

Withdrawal: The course withdrawal deadline is 3/8/17