CHEM 112: General Chemistry II
Spring 2018 Semester
Lecture Section 1
Lecture: MWF 9:00 - 9:50 PM FITZ 108

Course Website: http://employees.oneonta.edu/viningwj/chem112
MindTap Access: www.cengagebrain.com
To sign up, use the link below:
https://studentdashboard.cengagebrain.com/#/course-confirmation/MTPQZMVPBB42/initial-course-confirmation

Instructor: Bill Vining249A Physical Science, 607-436-2698, viningwj@oneonta.edu

Office Hours: M 12 – 1 PM; Th 10 – 11 AM, F 1 – 2 PM. Stop in any time or make an appointment.

Required Materials:

Textbook: We will be using an on-line MindTap (an electronic book). You can also obtain a paper copy at the Bookstore.

Course Website Materials:
You will watch online introductory lectures before we cover material in class. These are called lecturettes. These are found on the course website:

http://employees.oneonta.edu/viningwj/Chem112/index.html

Calculator: A good quality scientific calculator (usually costing about $10-15 is sufficient). Phones, PDAs, iPods, etc. may not be used for calculators on exams.

Laboratory: The Laboratory manual, safety goggles and a duplicating laboratory notebook are required and are available at the Bookstore. Unless you have a physical complication (see me), please try and use the safety goggles you will buy from the bookstore. If you have a duplicating notebook from last semester, that can be used for this semester as well.

Absolutes:

The Student Code of Conduct (consult the SUNY Oneonta website), covers the ordinary rules regarding academic honesty, use of computer resources, etc. Chemistry & Biochemistry department course guidelines are also part of this syllabus. In addition:

- No telephoning and no text messaging. No iPods, MP3 players, etc. Put phones on vibrate and, don't answer them. If these go off during an exam or you are using them to make calls or reading texts, I will ask you to leave and assign a zero grade.
- If you miss an examination because of circumstances beyond your control, please inform the instructor *immediately*. A make-up examination will be scheduled for as soon as possible. The instructor must be notified before or during the examination time.
- Students with Student Accessibility accommodations should be sure to see me in a timely manner (in accordance with SDS guidelines). It will be my pleasure to facilitate the accommodations.

Grading (out of 750 points):

The basis for course grades is determined by examinations, graded homework, and laboratory. Points for each are:

Four hour exams (75 points each):	300 points
Comprehensive final exam:	150 points
Homework and In-Class Quizzes	150 points
Laboratory:	150 points
Total Points:	750 points

Letter grade ranges on a percentage basis are:

A	90.0 – 100%	C+	74.0 – 76.9%
A-	87.0 – 89.9%	C	70.0 – 73.9%
B+	84.0 – 86.9%	C-	67.0 – 69.9%
B	80.0 – 83.9%	D+	64.0 – 66.9%
B-	77.0 – 79.9%	D	60.0 – 63.9%
		E	Below 60%

Exam Dates: February 9, March 12, April 2, April 25

Be aware that the policy of the Department of Chemistry & Biochemistry is to require a C- or higher grade in pre-requisite courses. **You will need to pass the laboratory, by earning 60% in order to pass the class (regardless of any other achievements).**

Course Schedule and Topics

Week	Chapter
Jan 17 – 19	11: Liquids
Jan 22 – 26	11: Liquids
Jan 29 – Feb 2	12: Solids
Feb 5 – 9	12: Solids + 13: Solutions and IMFs
Feb 12 – 16	13: Solutions and IMFs
Feb 19 – 23	14: Kinetics
Feb 26 – Mar 2	14: Kinetics
Mar 5 – Mar 9	BREAK
Mar 12 – 16	14: Kinetics
Mar 19 – 23	15: Equilibrium
Mar 26 – 30	16: Acids and Bases
Mar 28 – Apr 1	16: Acids and Bases
Apr 4 – Apr 8	17: Advanced Acid-Base Equilibria
Apr 7 – Apr 15	18: Precipitation Equilibria
Apr 18 – 22	19: Entropy and Free Energy
Apr 25 – May 2	20: Electrochemistry
May 7, 8:00 – 10:30 AM	Final Exam

Chemistry & Biochemistry Program Student Learning Outcomes:

Some of these are emphasized more in CHEM 112 and some less. The outcomes are a general list of how you may be evaluated on the specific topics we will consider, and not an indication of any specific question you would be asked at any given time.

Student Learning Outcome
Students will demonstrate an understanding of chemical elements and inorganic compounds, their properties, reactions and uses.
Students will demonstrate an understanding of organic compounds, their properties, reactions and uses.
Students will demonstrate an understanding of what controls chemical stability and reactivity, reaction kinetics and how to detect and analyze chemical reactions.
Students will learn and practice basic laboratory safety and chemical hygiene procedures.
Students will exhibit a working knowledge of classical and modern analytical techniques and instrumentation, and understand their uses and limitations.
Students will gain experience in the use of computers for chemical simulation and computation, data acquisition, and data analysis.
Students will demonstrate knowledge of the models chemists use to understand matter and energy at the atomic, molecular and macromolecular dimensions.
Students will exhibit an understanding of the process of science as inquiry, including the role of collaboration and the evolving nature of scientific knowledge as it applies to chemistry.
Students will demonstrate competence in analytical thinking and critical analysis of chemical literature.

Emergency Evacuation/Shelter-in-Place Procedures:

In the event of an emergency evacuation (i.e., fire or other emergency), our laboratory classes meeting in the physical sciences building are directed to reassemble at the Chase Gymnasium so that all persons can be accounted for. Evacuation from our lecture hall in IRC is to the Fine Arts Theater. Complete details of the emergency evacuation, shelter-in-place, and other emergency procedures can be found at http://www.oneonta.edu/security.

Department of Chemistry and Biochemistry

Policy on Course Attendance, Performance, Participation and Behavior

1. Students are expected to attend all scheduled course sessions and should be prepared by reading in advance any relevant material assigned or provided. Participation (defined by interacting with the instructor, working problems at the board, individually or in groups, using personal response "Clicker" systems and other mechanisms defined in the syllabus) is expected.
2. Students are reminded that instructors are not required to accept assignments submitted late, except in instances allowed according to College policies. College Policies as defined in the Student Code of Conduct apply to lecture, recitation and laboratory portions of all courses.
3. Laboratories are an integral part of education in chemistry courses. As a result, participation in all laboratories scheduled for a course is expected. Unless alternate activities are scheduled, students can expect that their laboratory section will meet each week, and failure to attend laboratories may lead to failure in the course.
4. The minimum acceptable grade for a chemistry course prerequisite is a C-. For example, a student with a D+ in General Chemistry I may not enroll in General Chemistry II. This standard applies to all Chemistry prerequisites for all Chemistry courses.
5. **The laboratory for a course must be passed**, normally by earning 60% of the available score or points for the laboratory, in order to pass the course. Exceptions may be noted in the course syllabus.
6. Students are expected to bring to laboratory the laboratory manual (or printout of the experiment), a laboratory notebook (if required), a calculator, ruler or other materials as specified by the instructor or in the syllabus.
7. Students are not allowed to work in the laboratory without direct faculty supervision.
8. Unless announced in advance, **SAFETY GOGGLES (WHICH PROVIDE A COMPLETE SEAL AROUND THE EYES AND ARE EQUIPPED WITH INDIRECT VENTS) ARE REQUIRED TO BE WORN AT ALL TIMES IN THE LABORATORY. STUDENTS ARE REQUIRED TO PROVIDE THEIR OWN SAFETY GOGGLES.**
9. Open-toed shoes (e.g. sandals, "Birkenstocks", flip-flops, etc), unrestrained long hair, excessively loose clothing and other items, which may be easily ignited or snag on apparatus are not allowed.
10. Food, drink, candy, cosmetics, tobacco products, etc. are not allowed in the laboratory.
11. Students are expected to be attentive to the material and any experiments and apparatus in the laboratory. The following must be turned off and stored away from the laboratory bench while in laboratories:

    Portable music players (e.g. iPods, MP3 players and the like)

    Cellular telephones, pagers, text messaging devices and the like

    Other portable electronic devices as defined by the laboratory instructor
12. Horseplay, practical jokes, "goofing around" or interfering with other students' work is not allowed in the laboratory.
13. Students should not expect to be able to makeup missed laboratory sessions or experiments. If a makeup session is possible, it will be at the discretion of the laboratory instructor and will normally be during the same week as the missed laboratory section.
14. Students will not be permitted to work in any laboratory section other than that they are registered for unless they have the **written approval** of both their regular instructor AND the instructor in the section they wish to enter.

Course instructors may modify these guidelines as necessary to meet the requirements of individual courses or chemical specialties in consultation with the Department Chairperson. Students should expect to receive a copy of these guidelines in their course syllabus or be given a copy by the course instructor (either in paper form or by electronic mail).

Adopted by the Department of Chemistry & Biochemistry on 16-March-2009 and to be included in each course syllabus beginning in Fall 2009. Modification of Policy #4 approved on August 20, 2010.