

Chemistry 1910H

General Chemistry - Autumn Semester 2014

Lecture: MWF 11:30 - 12:25 pm (5 credit hours) 2017 McPherson
Course Web Site: www.grandinetti.org/Teaching/Chem1910H

Instructor: Philip Grandinetti
Office: 1046 Smith Lab
Contact: www.grandinetti.org/Contact
Office Hours: Mon and Wed at 12:30-1:30 PM or by appointment

Lab Supervisor: Dr. Robert Tatz
Office: 280D Celeste Lab
Phone: (614) 292-8096
Email: rjtatz@chemistry.ohio-state.edu

Textbook: "Chemical Principles," 6th Edition, Atkins and Jones
Course Notes: www.grandinetti.org/Teaching/Chem1910H
Lab Manual: General Chemistry 1910 Laboratory Manual
Lab Notebook: Student Lab Notebook, Hayden-McNeil Publishing, Inc.
Prerequisite: ACT math score of 30 or above, an ACT science reasoning score of 28 or above, and an ACT composite score of 30 or above; prereq or concur: Math 1151

Section	TA	Email	Lab, Tuesdays	Recitation, Thursdays
16623	Deepansh Srivastava	srivastava.89@osu.edu	11:10 am-2:05 pm, 360 CE	1:50 pm-2:45 pm, 0318 Bolz Hall
16624	Jose Lorie Lopez	lorielopez.1@osu.edu	2:20 pm-5:15 pm, 360 CE	3:00 pm-3:55 pm, 0020 Page Hall

Lecture Topics

Read the entire chapter before lecture. Topics will not be covered in the order presented in the text.

Topic	Chapter(s)
Gases	5
First Law of Thermodynamics	8
Second and Third Law of Thermodynamics	9
	First Exam
Atoms: The Quantum World	1,2
Chemical Bonds	3
Molecular Shape and Structure	4
	Second Exam
Liquids and Solids	6
Physical Equilibria	10

If you miss lecture you are expected to get announcements, etc. from other students in the class.

Grading

Laboratory	20%	A minimum of 50% of total lab points are required to pass the course.
Recitation quizzes	15%	
First Exam	20%	
Second Exam	20%	
Final Exam	25%	

There is NO extra credit. Recitation quizzes will be given at the end of each recitation. Only the 10 highest will be counted. OSU ID cards will be checked when you turn in your exams.

There is also one mandatory online quiz dealing with Academic Misconduct to be taken on Carmen - <https://carmen.osu.edu>. You must complete the online quiz before the end of the 2nd full week of the semester. You will not pass this course unless you get a perfect score on this quiz.

Make-up exams will be given only for documented medical reasons, or pre-approved university conflicts. Students with University conflicts should provide the lecturer with their complete course schedule, including the conflict, at least two weeks before the exam so an alternate exam can be scheduled.

Homework Assignments

Homework assignments can be found at www.grandinetti.org/Teaching/Chem1910H/Assignments
You are encouraged to work additional homework problems from the book.

Calculators

An instructor approved calculator is required for exams.

Laboratory

Lab consists of one three-hour session per week. YOU MAY WORK IN THE LABORATORY ONLY DURING YOUR SCHEDULED LABORATORY PERIOD. Any time remaining in a lab period and the final lab period (check-out) can be used to complete a previous experiment – *discuss this with your TA first.*

Date	Lab #	Lab Title
Sept 2	<i>check in, 35</i>	Analysis of Magnesium Reacting in Air
Sept 9	12	Investigation of a Real Gas
Sept 16	14	Vapor Pressure and ΔH_{vap}
Sept 23	6	Calorimetry and Hess' Law
Sept 30	22	Determining ΔG° , ΔH° , and ΔS°
Oct 7	7	Emission of Light and Atomic Models
Oct 14	31	Absorption Spectra
Oct 21	38 calc	Infrared Analysis of C–O Stretching Vibration
Oct 28	38 calc	Infrared Analysis of C–O Stretching Vibration
Nov 4	8	Oxidation-Reduction Reactions of the Halogens
Nov 18	11	Molecular Geometry, Bonding, and Polarity
Nov 25	15	Variation of Solubility with Temperature and Solvent
Dec 2	16	Freezing Point Depression
Dec 8	-	<i>check out, make-up lab</i>

IF YOU ARE UNABLE TO ATTEND THE FIRST LAB SESSION,
Email gc_office@chemistry.ohio-state.edu immediately to reserve your seat.

Laboratory Notebooks

You are required to use the “Student Lab Notebook” (Hayden-McNeil Publishing, Inc), and record all entries in ink. Record procedures followed, observations made and data collected, calculations, and results. The notebook should be sufficiently neat and organized so that anyone can follow what you did.

Laboratory Reports

Laboratory Reports are due at the beginning of the lab session ONE week after the COMPLETION of the experiment. Late reports (even if on the same day) will be penalized 10% per day up to a maximum of 10 days. No lab reports will be accepted after 4:00 PM on the last day of classes, regardless of the date on which the lab was completed. To turn in a late report, make sure it is labeled with your TAs name, and drop it in the TA drop slot on the first floor of Celeste lab. It will be date stamped and put in your TAs mailbox. Notify your TA by e-mail that you have turned in a late report no more than 24 hours later. Photocopies of the report sheets are not acceptable.

Laboratory Safety Requirements

Read, understand, and implement the safety precautions indicated in the laboratory manual and laboratory handouts. The precautions are summarized on a safety form which must be signed by all students during their first laboratory period. The following are selected instructions from the safety form:

1. You must wear Department-authorized ANSI code goggles in the laboratory. Goggles will be issued during check-in if they are misplaced, goggles may be borrowed from 231/331 CE. Not wearing goggles will result in the loss of 10% of the grade for the experiment. For any subsequent violation, an additional loss of 10% of the grade will result. Continued violations may result in dismissal from the course. The wearing of contact lenses is NOT recommended.
2. Each student must wear shoes (not sandals) and adequate clothing to reduce the possibility of injury from chemicals or broken glass.
3. Familiarize yourself with the location of the fire blanket, fire extinguisher, and eye wash in the laboratory.
4. Promptly report all accidents, no matter how small, to your lab instructor.
5. Your work area should be cleaned before you leave lab. After putting your equipment away, wipe down your work area with a wet sponge or towel. This ensures that you and other students who use the space will not be harmed by chemicals left on the desktop. Also clean up spills in the balance room by brushing chemicals into a weighing dish.
6. No unauthorized experiments are allowed. No chemicals may be removed from the lab.

Medical Insurance Coverage

Due to the potentially dangerous nature of laboratory work, you are reminded to maintain medical insurance coverage through OSU health service or a private agency when enrolling in Chemistry laboratory courses.

Requirements Fulfilled

Chemistry 1910 is a Physical Science course in the Natural Science category of the GE, which has these goals and objectives:

Goals: Students understand the principles, theories, and methods of modern science, the relationship between science and technology, the implications of scientific discoveries and the potential of science and technology to address problems of the contemporary world.

Learning Objectives:

1. Students understand the basic facts, principles, theories and methods of modern science.
2. Students understand key events in the development of science and recognize that science is an evolving body of knowledge.
3. Students describe the inter-dependence of scientific and technological developments.
4. Students recognize social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.

Disability Services (ODS)

All students with documented disabilities, who need accommodations, should see the instructor privately to schedule an appointment as early in the quarter as possible. If your disability requires materials in alternative format, please contact the Office for Disability Services at 292-3307, Room 150 Pomerene Hall.

STANDARDS OF ACADEMIC CONDUCT IN GENERAL CHEMISTRY

Any material submitted in General Chemistry must represent your own work. Violations of this standard will be referred to the University Committee of Academic Misconduct (COAM) as required by Faculty Rules.

It is the responsibility of COAM to investigate all reported cases of student academic misconduct; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations, quizzes, and graded assignments. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information see the Code of Student Conduct on the web at:

http://studentaffairs.osu.edu/pdfs/csc_12-31-07.pdf

Copying, use of “crib” material, or use of stored constants and formulas in calculators on quizzes, midterm examinations or the final exam is regarded as a severe violation of academic standards no matter how small the action. The Department of Chemistry will recommend as the **minimum penalty a grade of E for the course for any such violations**. The use of improper calculators (those NOT listed on the syllabus as approved) may constitute academic misconduct. The staff will inspect calculators used in quizzes and exams. During exams, students are seated with their lab section to facilitate proctoring of the exam.

Students supplying materials for others to “look at” may be charged with academic misconduct. Never allow another student access to your pre-laboratory exercises or lab reports even after completion of the course. You should not assist others in violations of academic standards. “I didn’t know that the person was going to copy my work” is not an acceptable excuse.

Laboratory work is the essence of the science of Chemistry; therefore, laboratory work in General Chemistry is to be an individual effort. You are expected to perform all parts of the experiments with your own equipment, chemicals and unknowns. The accumulation of data, calculations derived from that data and any conclusions or answers to questions associated with that experiment are to be your own work. Examples of academic misconduct involving lab work include but are not limited to the following activities:

- Laboratory data may not be altered or “made up”. All laboratory work must be done in your assigned laboratory room during your scheduled time period and be supervised by your assigned teaching assistant. You are required to have the data sheet/notebook signed by your teaching assistant during lab. Some courses require the submission of carbon copies of the lab notebook every lab period. Violations will be prosecuted with the minimum recommended penalty of a zero for the entire laboratory portion of the course.
- Group efforts by students, use of another students pre-laboratory or laboratory material, or assistance from individuals who already have taken the course will place you in jeopardy of violation of the standards of General Chemistry. Identical answers indicate copying or unacceptable group efforts - always answer questions in your own unique words.
- Plagiarism or the submission of work based on old material is considered to be academic misconduct no matter how small the infraction. Possession of another students lab report(s) will raise immediate concerns about academic misconduct.
- Evidence of copying or “working together” will be submitted to COAM. The minimum penalty recommended by the Department of Chemistry will be a zero for the pre-laboratory exercise and the accompanying experiment.
- Individuals retaking the course must complete all work for the course during the current syllabus and may not submit any parts of pre-labs or lab work or reports performed in a previous syllabus (see item #6 in “Ten Suggestions for Preserving Academic Integrity”, <http://oaa.osu.edu/coamtensuggestions.html>).

Remember that a minimum total score in laboratory is required, as stated on the syllabus of the course. A zero on a lab report may result in an E for the entire course.