

# Syllabus for CH2000: Introduction to General Chemistry

Plymouth State University, Fall 2014

**Class time:** Wed, 5:30 – 7:15pm

**Class room:** Boyd 236

**Instructor:** Dr. Jeremiah Duncan

**Office:** Boyd 122

**Phone:** 535-2289

**e-mail:** jsduncan@plymouth.edu

**Course Websites:** [http://oz.plymouth.edu/~jsduncan/courses/2014\\_Fall/IntroGenChem/](http://oz.plymouth.edu/~jsduncan/courses/2014_Fall/IntroGenChem/)

<http://go.plymouth.edu/moodle>

<http://www.chem21labs.com>

**Credit:** 2 hours

**Co-requisite:** CH 2335 (General Chemistry I)

**Office Hours:** Mon 1:00 pm – 3:00 pm

Thurs 1:00 pm – 3:00 pm

**Description:** CH200 "Introduction to General Chemistry" is a companion course to be taken concurrently with CH 2335 "General Chemistry I" and is intended for students with limited or no experience in chemistry. This course will present the fundamental principles and theories of chemistry, focusing on the basic skills needed to be successful in General Chemistry, including the metric system, the periodic table, balanced chemical equations, stoichiometry, and the mole.

## COURSE MATERIALS

1. Account with Chem21Labs (*see Online Timed / Repetitive Quizzes below*)

## CLASS STRUCTURE

CH2000 meets once a week for two hours. Class will generally consist of a short lecture, time for questions, and time for completing in-class assignments.

## GRADING AND EVALUATION

In-class work (30 pts × 12 of 14)	360 pts	A	930 pts	C	730 pts
Assignments (30 pts × 8 of 9)	240 pts	A-	900 pts	C-	700 pts
Online TRQs (40 pts × 10 of 11)	400 pts	B+	870 pts	D+	670 pts
Total:	1000 pts	B	830 pts	D	630 pts
		B-	800 pts	D-	600 pts
		C+	770 pts	F	less than 600 pts

\*\* Cut-offs for grades MAY change, but *only in favor* of the students

**In-class Work.** Time will be permitted in class each week to work problems assigned from handouts. Attendance in this course is MANDATORY and will be recorded by students' completion of a graded In-class Questionnaire and Problem Set every week. You must attend class to receive and submit these. You will have the opportunity to re-submit Problem Sets to improve your score. The two lowest score will be dropped (effectively giving you two excused absences). Class will meet 14 times, including during Finals Week.

**Study Assignments,** given most weeks, will generally be due by the start of class the following week. These are designed to help you seek out and utilize resources that will help you be more successful in General Chemistry. Some of these assignments must be submitted electronically via Moodle. The lowest score will be dropped.

**Online Timed / Repetitive Quizzes (TRQ)** will be administered by Chem21Labs (<http://www.chem21labs.com>). These will generally be due by the start of class the week after they are assigned. The lowest score in this category will be dropped. Each quiz requires you to pass four "sets" to receive 40 pts. To pass a set, you must either: 1) Score 100% on five quizzes, OR 2) Score 100% on one quiz within the time limit. The time limit is typically one minute. After passing a set, you must wait a few hours before attempting the next set. Think of the TRQs less like quizzes and more like flash cards. They will require a small amount of time several times throughout the week. Note that everybody has the ability to score 100% on every TRQ assignment!

**Reminder messages:** (Optional) Sign up for text / email reminders through <http://www.remind.com>, code "@2014ch2000" or send a text to 781-499-6220 with the message "@2014ch2000" (case sensitive).

## POLICIES AND MISC. NOTES

**Lecture Attendance.** Attendance to lecture IS mandatory. See *In-Class Work* above.

**Late Assignments.** Unless otherwise specified, all assignments are due at the start of the next class. Each assessment category allows for dropping the lowest score, allowing you one built-in excused missed assignment. Use it wisely. No late assignments will be accepted.

**Online Resources and Electronic Communication.** This course will utilize Moodle, the course website, and the Chem 21 Labs site extensively. You should regularly check these sites to access assignments and to check your grades. *It is your responsibility to learn how to access these resources and to contact me if you have trouble.*

I will extensively use email to communicate with you about this course. *IT IS YOUR RESPONSIBILITY TO REGULARLY CHECK YOUR E-MAIL!* A few points about e-mail:

1. Please use your plymouth.edu address to communicate with me. I assume any emails sent or received through plymouth.edu are secure (i.e. it really is you that I am communicating with). I must assume any non-plymouth.edu addresses are not secure.
2. I will gladly answer student e-mails. During the week, you can expect a reply within 24 hours, but you should not expect an immediate reply. I will usually check my e-mail once during weekends, but it may happen that e-mails received after 5pm Friday will not receive a reply until Monday morning.
3. I request you consider e-mail correspondence with me a professional means of communication. E-mails should be written professionally—no text speak or twitter coding, please!—include a proper address (good: “Dear/Hi Prof. Duncan”, bad: “Yo, Duncan”) and sign your name with your contact information.

**Cell Phones.** If you bring a cell phone to class, turn it on vibrate for the duration of the class. If your phone rings or you are seen texting during class, you may be asked to leave. If a situation requires you to be able to answer your cell phone during a class, please inform me.

**Academic Integrity.** All PSU policies regarding ethics and honorable behavior apply to this course. Academic dishonesty, including any form of cheating, is regarded as a very serious offense and will result in severe consequences, including zeros on assignments, labs, and exams, and/or a failing grade in the course (including a note in your transcript). Although students are encouraged to study together, EVERY ASSIGNMENT YOU HAND IN MUST BE YOUR OWN WORK. Students are expected to abide by the PSU Code of Academic Integrity. See [http://www.plymouth.edu/registrar/policies/academic\\_standing.html](http://www.plymouth.edu/registrar/policies/academic_standing.html)

**Academic Support.** I want students to succeed in this course. If you are struggling with any aspect of the course, I strongly encourage you to attend office hours, ask questions before/after class or schedule an appointment with me. Limited drop in tutoring will be available through the Chemistry Resource Center (Boyd 138). The Center is staffed by students who have been successful in chemistry and are interested in helping other students learn chemistry. See the schedule posted outside Boy 138. In addition, if you require writing assistance, I encourage you to visit the Writing Center, located in the lower level of Lamson Library. The Writing Center serves all types of writers, from basic to high levels, in any discipline, at any point in the writing process.

**Special Accommodations.** Plymouth State University is committed to providing students with documented disabilities equal access to all university programs and facilities. If you think you have a disability requiring accommodations, you should immediately contact the PASS Office in Lamson Library (535-2270) to determine whether you are eligible for such accommodations. Academic accommodations will only be considered for students who have registered with the PASS Office. If you have a Letter of Accommodation for this course from the PASS Office, please provide the instructor with that information privately so that you and the instructor can review those accommodations.

**Inclement weather policy.** We will follow the University’s lead on class cancellation during inclement weather. However, students are urged to use their best judgment when assessing road conditions and their ability to safely get to campus. Because this class only meets once a week, one canceled class will severely disrupt the course schedule. Thus, should class be canceled, be aware that the schedule in this syllabus will likely change dramatically, and I ask you to be flexible as we work to make up for the missed class time.

## Schedule for CH2000: Introduction to General Chemistry

The following is a rough schedule of the semester. All efforts will be made to stick to this schedule, but changes may be made throughout the semester and with limited notice.

Week	Date	Topic	Assignment	Gen Chem Topic
1	Sep 3	NO CLASS		Basic Concepts of Chemistry Tools of Quantitative Chemistry
2	Sep 10	Metric system Dimensional analysis, Significant figures	TRQ1 SA1 (Study Group) ( <i>due Wed. Sep 17</i> )	The Nature of Light and Matter. The Quantum Mechanical Model of Atoms
3	Sep 17	Scientific Notation & Significant Figures Light, Energy, & Waves	TRQ2 SA2 (Office Hours) ( <i>due Wed. Oct 1</i> )	The Quantum Mechanical Model of Atoms
4	Sep 24	Quantum Numbers, Electron Configurations, and Periodic Trends	TRQ3 ( <i>due Wed. Oct 1</i> )	Electron Energies and Configurations  The Periodic Table and Periodic Trends
5	Oct 1	Atomic Number, Mass, Weight, Molecular Formulas	SA3 (Web Link) ( <i>due Wed. Oct 8</i> )	<b>EXAM 1: Mon, Sept 27, 6pm, Boyd 144</b> Atom Number, Mass, and Weight
6	Oct 8	Molecular Mass and the Mole	TRQ4 SA4 (Exam Question Re-do) ( <i>due Wed. Oct 15</i> )	Molecules and Compounds
7	Oct 15	Lewis Dot Structures	TRQ5 ( <i>due Wed. Oct 22</i> ) SA5 (Tutoring) ( <i>due Wed. Oct 29</i> )	<b>Mon: NO CLASS; Fall Holiday</b> Molecular Bonds and Structure

Week	Date	Topic	Assignments	Gen Chem Topic
8	Oct 22	Molecular Shape and Polarity		Bonding and Hybridized Orbitals
9	Oct 29	Balancing Equations, Acids & Bases, Ionic Compounds	TRQ6 SA6 (Flash Cards) (due Wed. Nov 5)	<b>EXAM 2: Mon, Oct 27, 6pm, Boyd 144</b> Chemical Equations and Types of Chemical Reactions
10	Nov 5	Oxidation Numbers, Stoichiometry, and Limiting Reagents	TRQ7 (due Wed. Nov 12)	Stoichiometry, Limiting reagents, percent yield, concentrations
11	Nov 12	Solution Calculations	TRQ8 SA7 (Textbook question) (due Wed. Nov 19)	<b>Tues, NO CLASS; Veteran's Day</b> Stoichiometry in Solution
12	Nov 19	Intermolecular Forces	TRQ9 (due <b>Tues. Nov 25</b> )	Intermolecular Forces
13	Nov 26	<b>NO CLASS</b>		<b>EXAM 3: Mon, Nov 24, 6pm, Boyd 144</b> Specific Heat <b>Wed-Fri: NO CLASS; Thanksgiving</b>
14	Dec 3	Thermochemistry	TRQ10 SA8 (Grade check) (due Wed. Dec 10)	Energy and Chemical Reactions
15	Dec 10	Ideal Gases	TRQ11 (due Sun, Dec 15) SA9 (Exam notecard) (due Wed. Dec 17)	Ideal Gases
<b>FINAL EXAM: Wed, Dec 17, 6:30 – 9 PM</b>				