Syllabus

General Chemistry III
CH 223, Section 001, Portland State University
Spring 2014
CRN: 60565

Course Credit: 4 Quarter Hours

Course Description: This course is appropriate for both science and non-science majors, and it is designed to introduce students to basic concepts in chemistry. Whether science or non-science majors, students will learn basic chemical principles that help to understand biological phenomena, other natural (e.g., geologic, environmental) processes, and industrial processes that are important to human life. The course content will build upon concepts taught in the first two quarters of general chemistry (CH 221 and 222) and will cover the following topics: 1) acid/base chemistry and pH, 2) buffers (acid/base chemistry continued) and solid equilibria, 3) thermodynamics and free energy, 4) electrochemistry, and 5) nuclear chemistry. Throughout the course, Dr. Goforth will make every effort to relate these topics to things you already know, love, and care about, which will emphasize the practicality of learning and understanding concepts in chemistry.

Prerequisites: General Chemistry 221 and 222, Math 111 and 112 (equivalent of pre-calculus) or higher.

Instructor: Dr. Andrea M. Goforth, Ph.D.
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Telephone: 503-725-3838

Lecture: Mondays, Wednesdays, and Fridays, 10:15 - 11:20 am, Hoffman Hall
Office Hours: Mondays and Wednesdays, 12:00 - 1:00 pm, others available by appointment (email me)
Midterm Exam Dates: Monday April 21 (Midterm Exam 1), Friday May 9 (Midterm Exam 2), and Monday June 2 (Midterm Exam 3). I do not anticipate changing these, however, I reserve the right to do so. Changes to exam dates, if I deem them necessary, will be posted on D2L with at least 48 hours advanced notice.
Homework Sets: Will be due by 11:59 pm on their respective due dates, which will be ~1 day prior to the Midterm Exams. Required Homework Sets will be posted on the Sapling Learning online system. Due dates will be announced in class and on D2L. Successful completion of Chemistry Workshop will count for homework credit, in lieu of Sapling Learning Assignments.
Final Exam Date and Time: Wednesday, June 11, 10:15 am – 12:25 pm
Note that many versions of this textbook are available, including an abridged PSU version.

**Access to Online Homework System (Optional in lieu of Chemistry Workshop):** *Sapling Learning, General Chemistry*. Instructions for accessing this term’s assignments are below.

**Students:**
1. Go to [http://saplinglearning.com](http://saplinglearning.com) and click on your country at the top right.
2a. If you already have a Sapling Learning account, log in and skip to step 3.
2b. If you have a Facebook account, you can use it to quickly create a Sapling Learning account. Click "Create an Account", then "Create my account through Facebook". You will be prompted to log into Facebook if you aren't already. Choose a username and password, then click “Link Account”. You can then skip to step 3.
2c. Otherwise, click "Create an Account". Supply the requested information and click "Create My 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 (you may need to expand the subject and term categories) and click the link.
4. If your course requires a key code, you will be prompted to enter it.
5. If your course requires payment, select a payment option and following 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 or throughout the term, if you have any technical problems or grading issues, send an email to support@saplinglearning.com explaining the issue. The Sapling Learning support team is almost always faster and better able to resolve issues than your instructor.

**D2L Access/PSU WebMail Access:** To keep up with important course announcements (due dates & scheduling changes, handouts, suggested assignments, *etc.*), you must have access to PSU’s D2L System, which can be linked to this course while you are enrolled in it. Also, when e-mailing Dr. Goforth concerning this class, please use only your PSU e-mail account. I will not guarantee that I will answer e-mails from other accounts; to make sure yours is read, use your pdx.edu account. I DO NOT answer emails sent to D2L only, please send them to me directly at agoforth@pdx.edu.

**Brief Course Outline:**

1. Acids and Bases (Chapter 15, Tro)
2. Aqueous Ionic Equilibria (Chapter 16, Tro)
3. Free Energy and Thermodynamics (Chapter 17, Tro)
4. Electrochemistry (Chapter 18, Tro)
5. Radioactivity and Nuclear Chemistry (Chapter 19, Tro)
6. Transition Metals and Coordination Chemistry (Chapter 20, Tro)
7. Final Exam (Chapters 15-20, Tro), Date: Wednesday, June 12, 2013, 12:30 pm-2:20 pm
Grading:  A: 94-100%, A-: 90-93%, B+: 87-89%, B: 84-86%, B-: 80-83%, C+: 77-79%, C: 74-76%, C-: 70-73%, D+: 67-69%, D: 64-67%, D-: 60-63%, F: <60%

The letter grade will be determined using the following formula: (number of accumulated points/total possible points) x 100%. The total number of possible points will be 630. The distribution of these points by assignment is listed below. Both your lowest Midterm Exam score and your lowest Homework Set score will be dropped.

Exams (3 Exams at 150 points/each, lowest dropped):  **300 points**
Final Exam (1 final exam, Wednesday, June 9, 10:15 am – 12:05 pm):  **200 points**
Online Homework Sets or Chemistry Workshop (6 graded sets at 20 points/set, lowest dropped, ≥90%, full credit; <90%, actual % earned):  **100 points**
Clicker Questions (many questions at 1 point/each throughout the term):  **30 points**

30 clicker participation questions are required. You may earn 1 extra credit point extra credit per clicker question, up to 30 extra credit points.

Late Work and Exam Scheduling Conflicts:  Because of the drop/replace system for Midterm Exams and Homework Sets, no student will be allowed to make up a missed Midterm Exam or submit a late Homework Set. Exceptions may be made for emergency reasons, with documentation.

A Note About Calculators:  Both simple and graphing or programmable calculators are allowed. However, calculators must not be internet enabled. Dr. Goforth and teaching assistants reserve the right to inspect calculators.

A Note about Notes Sheets for Exams:  You may have one sheet of regular paper (8.5x11") with notes for each midterm exam. Front and back is allowable. You must turn in this sheet with your Midterm exam; you may use the same 3 note sheets for your Final Exam, or you may prepare 3 new ones (8.5x11”, front and back). Note sheets may be typed, but are for individual use only and cannot be shared or distributed. These note sheets are intended to assist your exam preparation and they are also a reflection of my personal philosophy that you should not memorize, but rather strive for understanding the material.

Disability statement:  Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the PSU Disability Resource Center, located in Room 435 of the Smith Memorial Student Union (voice phone: 503-725-4150; TTY: 503-725-6504; e-mail: drc@pdx.edu), to coordinate reasonable accommodations if you are a student with verifiable documentation.

Ethics and Integrity:  It is anticipated that the student is enrolled in this course to expand his/her knowledge of the physical sciences by learning the nature and importance of chemistry. This course seeks not only to acquaint its pupils with basic and advanced pedagogical models of chemistry, but also to encourage independent critical thinking and the further development of independent problem solving and career skills (e.g., interacting with peers, participating in scientific discussion, and occasional scientific
critical reading). To achieve this mission, in-class clicker participation, online homework problem sets related to lecture material (or Chemistry Workshop), Midterm Exams related to the lecture material, and a cumulative Final Exam over the 3rd term material will be required for satisfactory completion of this course. It is anticipated that students will benefit from discussions of course material with their peers inside the classroom and outside of testing periods. The student will maximally achieve the learning objectives of this course if his/her own work is submitted for analysis. Plagiarism (passing off someone else’s work as your own, or not citing someone else’s work appropriately) and other forms of cheating will be handled strictly and in accordance with the PSU Student Conduct Policy. PSU’s Code of Student Conduct and Responsibility can be found at the following site on the www: http://www.pdx.edu/dos/psu-student-code-conduct.