NOTE to prospective students: This syllabus is intended to provide students who are considering taking this course an idea of what they will be learning. A more detailed syllabus will be available on the course site for enrolled students and may be more current than this sample syllabus. Summer term courses may be accelerated – please check the Ecampus Schedule of Classes for more information.

CH 125

GENERAL CHEMISTRY

Note: *This General Chemistry course is a bridge course, allowing students who have taken one semester of General Chemistry (often called Gen Chem I) at another institution to complete their General Chemistry series with OSU. A student that takes CH 125, then CH 123, will earn 7 quarter-credits, which will transfer to a semester school as 4.7 semester credits including labs, and will be considered the equivalent of Gen Chem II.*

The prerequisite for CH 125 is one of the following:

- *One semester of General Chemistry at another institution*
- *CH 121 and CH 124 at OSU*

Students who need a full year of General Chemistry should take CH 121/122/123 instead of this bridge course.

COURSE CREDITS:

(2) This course combines approximately 60 hours of instruction, online activities, and assignments for 2 credits.

PREREQUISITES, CO-REQUISITES AND ENFORCED PREREQUISITES:

See the Office of the Registrar website for information on Prerequisite Enforcement.

COURSE DESCRIPTION FROM CATALOG

CH 125. GENERAL CHEMISTRY (2).

A bridge course, allowing students who also take one term of General Chemistry (CH 123) to complete the equivalent of one full semester of General Chemistry. Entering students are expected to have a working knowledge of high school algebra, logarithms, and scientific notation. Lec/lab. Offered via Ecampus only.

CONTACT INFORMATION:

Instructor: Dr. Marita C. Barth marita.barth@oregonstate.edu

Chemistry Dept. Support: chemweb@oregonstate.edu

Sample syllabi may not have the most up-to-date information. For accuracy, please check the ECampus Schedule of Classes to see the most current instructor information. You can search for contact information by name from the OSU Home Page.

LEARNING RESOURCES:

- Text
  - *Principles of Chemistry: A Molecular Approach* by Tro, bundled with solutions manual and Mastering Chemistry access code (ISBN# 978-1256635383)
  - If you choose to purchase the book from a source other than the OSU Bookstore, please be sure that you are buying a copy that includes a valid code for Mastering Chemistry. If you do not, you will have to purchase Mastering Chemistry access separately.

NOTE: For textbook accuracy, please always check the textbook list at the OSU Bookstore website. Sample syllabi may not have the most up-to-date information.

Students can also click the ***'OSU Beaver Store'*** link associated with the course information in the **Ecampus schedule of classes** for course textbook information and ordering.

COURSE SPECIFIC MEASURABLE STUDENT LEARNING OUTCOMES:

The successful student in CH124 will demonstrate mastery of basic chemical concepts and principles covered in this course as measured by performance on exams, quizzes, homework, and labs:

a) Solutions

- Be able to explain how a solution forms on the molecular level
- Be able to calculate and use the concentration units: molarity, molality, percent

composition by mass, and mol fraction

- Be able to define the term “colligative properties”, and explain the effect solutes have on solution properties

b) Kinetics

- Be able to explain what is meant by ‘rate of reaction’, and express the rate of a reaction in terms of the rate of change of any species in the reaction
- Be to explain and use rate laws, including determining a rate law from experimental data
- Be able to use integrated 1^{st} order rate equation to relate the concentration of a species to the time of reaction
- Be able to explain the effects of temperature on reaction rates
- Be able to explain reaction mechanisms and the effect of catalysts on reactions

c) Equilibrium

- Be able to explain the concept of dynamic equilibrium
- Be able to explain LeChatlier’s Principle and use it to predict the effects of changes made to a system at equilibrium
- Be able to correctly write an equilibrium constant, and apply the principles of equilibrium to a variety of quantitative and qualitative problems.

COURSE CONTENT AND POLICIES:

Course Outline:

Chapter 12	Solutions
Chapter 13	Chemical Kinetics
Chapter 14	Chemical Equilibrium

Course Components:

- Homework
  - Located at masteringchemistry.com

- Due dates are listed both on the Mastering Chemistry site, and on the grade sheet above. Homework that is completed late, but before the start of the final exam window may be submitted for up to half-credit
- To earn full credit (12 points) for each Chapter's assignment, you must get at least 9 of the 12 points possible based on Mastering Chemistry's grading system. If you score less than 9 points on a Chapter's assignment, your grade will be prorated.

- Online labs
  - Located at http://www.onlinechemlabs.com/
  - Labs are an integral part of the course, and are graded.
  - There are 5 labs (2 introductory and 3 core labs) associated with CH 125. Introductory labs (1a & 1b) will be graded on completeness. For a lab to be considered complete, a *genuine attempt* must have been made at all of the questions. Answers such as "I don't know" or strings of characters are not sufficient to for a lab to be considered complete.
  - You must complete labs 1a & 1b *even if you completed them in a previous term*.
  - The core labs will be graded on a combination of completeness, correctness in numerical answers, and correctness in conceptual answers. If you don't understand something in the lab, it is strongly recommended that you contact the Lab TA or Instructor for assistance *well before* the due date.
  - Late labs will not be accepted.

- Study aids (study guides, video, worksheets, practice exams)
  - *Study guides* break down each chapter into sections, and are intended to help you group the different course components together in a coherent fashion. Study guides include a checklist of items to do while studying a particular portion of the test, provide questions to think about during study of the material to help focus on important topics, and suggest problems from the book to work through for practice.
  - *Video modules* provide short video tutorials or demos on numerous topics. We cannot anticipate or solve all technical access issues, as local computer configurations and internet access vary greatly. If you have trouble viewing the videos, here are a few tips that may help:
    - Some video files are large, so allow sufficient time for downloads to complete (a single file could take several minutes).
    - Paste the video page link directly in your browser address bar, rather than opening the access page inside of the Canvas window.
    - Be sure that you have upgraded to the most recent version of the browser software you are using.
  - *Practice worksheets* are available and are keyed.
  - A practice *final exam* will be posted on Canvas. This provides excellent practice, and we strongly recommend that you take the practice exam under test conditions before attempting your exam.

- Study aids (study guides, worksheets, video modules, and practice exams) are important tools to help you understand the material in the course, but will not be collected or graded.

The successful student in CH124 will demonstrate mastery of basic chemical concepts and principles covered in this course as measured by performance on exams, quizzes, homework, and labs:

a) Solutions

- Be able to explain how a solution forms on the molecular level
- Be able to calculate and use the concentration units: molarity, molality, percent composition by mass, and mol fraction
- Be able to define the term “colligative properties”, and explain the effect solutes have on solution properties

b) Kinetics

- Be able to explain what is meant by ‘rate of reaction’, and express the rate of a reaction in terms of the rate of change of any species in the reaction
- Be to explain and use rate laws, including determining a rate law from experimental data
- Be able to use integrated 1^{st} order rate equation to relate the concentration of a species to the time of reaction
- Be able to explain the effects of temperature on reaction rates
- Be able to explain reaction mechanisms and the effect of catalysts on reactions

c) Equilibrium

- Be able to explain the concept of dynamic equilibrium
- Be able to explain LeChatlier’s Principle and use it to predict the effects of changes made to a system at equilibrium
- Be able to correctly write an equilibrium constant, and apply the principles of equilibrium to a variety of quantitative and qualitative problems.

- Quizzes
  - Quizzes are assigned and graded.
  - The Introductory Quiz is located in the “Week One Quizzes” module.
  - The Pre-Quiz is located under the “Week One Quizzes” module.
  - Chapter Quizzes are located in each chapter’s module.

- The Pre-quiz consists of twenty-one questions; credit is awarded based on completion. Since credit on the pre-quiz is based solely on completion, please answer the questions to the best of your ability **without** reading the material in advance or referring to any other materials.
- Quizzes for each chapter consist of five questions and are graded based on correctness. You have one attempt at each quiz, so please be sure that you're prepared to take each quiz before you open it.
- Quizzes will become unavailable after the due date. Please see the grade sheet above for due dates.
- It is strongly recommended that you record your calculations for the quiz questions, and be sure that you understand *how* to arrive at the correct answer for each quiz question.

- Final
  - The final exam *requires a proctor*. Your proctor must be registered with ECampus; you should set this up as soon as possible, or you will not be able to take your final. Your professor cannot do this for you. Info about acceptable proctors and a proctor registration form can be found at: http://ecampus.oregonstate.edu/services/proctoring/
  - The final exam is taken via the Canvas interface. You will need to take the exam on a computer with reliable internet access.
  - The final exam **must** be taken during the assigned exam window. The final will only be available on the course website during this time period; there are no make-up exams or alternate test times.
  - Materials allowed:
    - A calculator (programmable calculators and cell phone-based calculators will *not* be allowed)
    - A printed exam cover sheet (located in the "Course Documents" module in Canvas). This includes a periodic table.
    - Blank scratch paper, pens and/or pencil
    - One 3" by 5" card with handwritten or typed notes on both sides
    - Any use of materials not on this list (including accessing of websites or other online resources) will result in a non-replaceable score of 0 on the exam, and will be reported to student conduct as an incident of academic dishonesty.
  - Exam scores can be viewed shortly after completion by clicking "My Grades" in the *Course Tools* section of the class website.

Success in this course often depends on the amount of time devoted to studying the material. This is a 2-credit course, and each credit is meant to reflect about 30 hours of effort over the course of the term (this works out to ~12 hours a week in a 5-week term). We recommend that you prepare to devote ample time to the study of this course while it is in progress. Good luck!

Incompletes and Withdrawals:

- No incomplete grades are awarded in this course.
- Please note the deadlines for dropping courses and for course withdrawals (see http://catalog.oregonstate.edu/ChapterDetail.aspx?Key=148).
- The instructors and TAs are willing and eager to help you succeed in this course, and can also discuss your likely grade outcomes and options during the appropriate time window. Since enrollment space is limited, and course materials and assistance are available to all students throughout the term, late requests for drops or withdrawals will not be approved.
    -

EVALUATION OF STUDENT PERFORMANCE:

In the OSU online catalog, refer to AR 18 and AR 19 regarding assignment of grades.

COURSE SITE LOGIN INFORMATION

Information on how to login to your course site can be found **HERE**.

STATEMENT REGARDING STUDENTS WITH DISABILITIES

Oregon State University is committed to student success; however, we do not require students to use accommodations nor will we provide them unless they are requested by the student. The student, as a legal adult, is responsible to request appropriate accommodations. The student must take the lead in applying to Disability Access Services (DAS) and submit requests for accommodations each term through DAS Online. OSU students apply to DAS and request accommodations at our Getting Started with DAS page.

Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

ACADEMIC INTEGRITY AND STUDENT CONDUCT (OSU POLICY)

Students are expected to be honest and ethical in their academic work. Intentional acts of academic dishonesty such as cheating or plagiarism may be penalized by imposing an “F” grade in the course.

Student conduct is governed by the universities policies, as explained in the Office of the Dean of Student Life: Student Conduct and Community Standards. In an academic community, students and faculty, and staff each have responsibility for maintaining an appropriate learning environment, whether online or in the classroom. Students, faculty, and staff have the responsibility to treat each other with understanding, dignity, and respect.

Students are expected to conduct themselves in the course (e.g. on discussion boards, email postings, etc.) in compliance with the university's regulations regarding civility. Students will be expected to treat all others with the same respect as they would want afforded to themselves. Disrespectful behavior (such as harassing behavior, personal insults, inappropriate language) or disruptive behaviors are unacceptable and can result in sanctions as defined by Student Conduct and Community Standards.

For more info on these topics please see:

- Statement of Expectations for Student Conduct
- Student Conduct and Community Standards - Offenses
- Policy On Disruptive Behavior

PLAGIARISM

You are expected to submit your own work in all your assignments, postings to the discussion board, and other communications, and to clearly give credit to the work of others when you use it. Academic dishonesty will result in a grade of “F.”

- Statement of Expectations for Student Conduct
- Avoiding Academic Dishonesty

TECHNICAL ASSISTANCE

If you experience computer difficulties, need help downloading a browser or plug-in, assistance logging into the course, or if you experience any errors or problems while in your online course, contact the OSU Help Desk for assistance. You can call (541) 737-3474, email osuhelpdesk@oregonstate.edu or visit the OSU Computer Helpdesk online.

- **COURSE DEMO**
- **GETTING STARTED**

TUTORING

For information about possible tutoring for this course, please visit our Ecampus NetTutor page. Other resources include:

- Writing Center
- Online Writing Lab

STUDENT EVALUATION OF TEACHING

The online Student Evaluation of Teaching form will be available in week 9 and close at the end of finals week. Students will be sent instructions via ONID by the Office of Academic Programs, Assessment, and Accreditation. Students will log in to "Student Online Services" to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted. Course evaluation results are very important and are used to help improve courses and the learning experience of future students. Results from questions are tabulated anonymously and go directly to instructors and unit heads/supervisors. Unless a comment is "signed," which will associate a name with a comment, student comments on the open-ended questions are anonymous and forwarded to each instructor. "Signed" comments are forwarded to the unit head/supervisor.

REFUND POLICY INFORMATION

Please see the Ecampus website for policy information on refunds and late fees.