



CH122 Syllabus

Dr. Jeff T. Gautschi

I. Course Description and Contact Information

Welcome to CH122! This course combines approximately 150 hours of instruction, online activities, and assignments for 5 credits.

This course is the continuation of the general chemistry series that also includes CH121 and CH123. In this course, students will acquire a fundamental understanding of chemical reactions and scientific measurements, and become familiar with the principles, laws, and equations governing our understanding of chemical combination. Each student will be able to competently discuss concepts and solve problems relating to: atomic electron configuration, bonding and molecular structure (including Lewis structures), hybridization and molecular orbitals, intermolecular forces, solution behavior chemical kinetics, and the principles of chemical equilibria.

This course is also a Baccalaureate Core course in the Perspectives: *Physical Science with Lab* category. In this course, students will accomplish the following measurable learning outcomes:

1. recognize and apply concepts and theories of basic physical or biological sciences;
2. apply scientific methodology and demonstrate the ability to draw conclusions based on observation, analysis, and synthesis; and
3. demonstrate connections with other subject areas.

You are encouraged to communicate with us! You are also expected to check your university email for regularly correspondence from you instructor. Please see the Email Guidelines in the Canvas course site prior to connecting with us at the following emails:

Instructor Contact:	Dr. Jeff Gautschi, Ph.D. jeff.gautschi@oregonstate.edu
Teaching Assistants:	Alexis Morgan Scida and Lei Lei CH122Ecampus@oregonstate.edu
Ecampus Support:	Chemistry.Ecampus@oregonstate.edu

Acknowledgement of Contributions:

I am very grateful to my colleagues Drs. Barth, Nafshun, Haak, and Weiss for their contributions to this course and the Canvas course site. This group effort provides the student with deep content and diverse resources to help maximize student learning. Please utilize the excellent media and other content from this group.

II. Required Textbook and Software

- “Chemistry Atoms First” (<https://openstax.org/details/books/chemistry-atoms-first-2e>; or hardcopy).
- CHEM101 “Access Code” (bundled with textbook, or purchased separately). Follow carefully registration instructions within the Canvas course site (only).
- OSU Lab Platform software provided directly through the Canvas course site (only).

III. Course Assignment Schedule and Grade Sheet

This Grade Sheet is provided to help you keep track of your class assignments and grades. All times listed are for the Pacific Time zone. If you are in a different time zone, please be sure you've adjusted accordingly. Unless otherwise specified, all items are due by 11:59 PM (PT).

Assignment/Task	Time/Date	Points	My Score
Unit Assessments (note: drop lowest UA score for final tally of 300 pts)			
Unit 1 Assessment	11:00 AM Sun. Oct. 10 to 11:59 PM Mon. Oct. 11	75	
Unit 2 Assessment	11:00 AM Sun. Oct. 24 to 11:59 PM Mon. Oct. 25	75	
Unit 3 Assessment	11:00 AM Sun. Nov. 7 to 11:59 PM Mon. Nov. 8	75	
Unit 4 Assessment	11:00 AM Sun. Nov. 21 to 11:59 PM Mon. Nov. 22	75	
Unit 5 Assessment	11:00 AM Sun. Dec. 5 to 11:59 PM Mon. Dec. 6	75	
Homework (100 pts)			
Chapter 8 Part 1	11:59 pm Fri. Oct. 1	10	
Chapter 8 Part 2	11:59 pm Fri. Oct. 8	10	
Chapter 9 Part 1	11:59 pm Fri. Oct. 15	10	
Chapter 9 Part 2	11:59 pm Fri. Oct. 22	10	
Chapter 10	11:59 pm Fri. Oct. 29	10	
Chapter 11	11:59 pm Fri. Nov. 5	10	
Chapter 17 Part 1	11:59 pm Fri. Nov. 12	10	
Chapter 17 Part 2	11:59 pm Fri. Nov. 19	10	
Chapter 13 Part 1 and Part 2	11:59 pm Fri. Dec. 3	20	
Labs (75 pts)			
Lab 1 - Lab Techniques	11:59 pm Fri. Oct. 1	5	
Lab 2 - Linear Regression	11:59 pm Fri. Oct. 8	10	
Lab 3 - Metals and HCl	11:59 pm Fri. Oct. 15	10	
Lab 4 - Calorimetry	11:59 pm Fri. Oct. 22	10	
Lab 5 - TLC Elution	11:59 pm Fri. Nov. 5	10	
Lab 6 - Freezing Point Depression	11:59 pm Fri. Nov. 12	10	
Lab 7 - Osmotic Pressure	11:59 pm Fri. Nov. 19	10	
Lab 8 - Iodine Clock	11:59 pm Fri. Dec. 3	10	
Quizzes (110 pts)			
Introductory Quiz	11:59 pm Fri. Sept. 24	10	
Pre-Assessment Quiz	11:59 pm Fri. Sept. 24	10	
Quiz 1 - Chapter 8 Part 1	11:59 pm Fri. Oct. 1	10	
Quiz 2 - Chapter 8 Part 2	11:59 pm Fri. Oct. 8	10	
Quiz 3 - Chapter 9 Part 1	11:59 pm Fri. Oct. 15	10	
Quiz 4 - Chapter 9 Part 2	11:59 pm Fri. Oct. 22	10	
Quiz 5 - Chapter 10	11:59 pm Fri. Oct. 29	10	
Quiz 6 - Chapter 11	11:59 pm Fri. Nov. 5	10	
Quiz 7 - Chapter 17 Part 1	11:59 pm Fri. Nov. 12	10	
Quiz 8 - Chapter 17 Part 2	11:59 pm Fri. Nov. 19	10	
Quiz 9 and 10 - Chapter 13 Parts 1 and 2	11:59 pm Fri. Dec. 3	10	
		Final Score	585

This course is offered through Oregon State University Ecampus. For more information visit: <http://ecampus.oregonstate.edu>.

IV. Course Topics and Textbook Reading Assignments

The following topics and chapter sections are covered in this course. Please see also course study guides and other information for more details.

Topic	Chapter and Part	Reading Assignment
Gases	Chapter 8 Part 1	Sections 8.1, 8.5 and subsections of 8.2
Gases	Chapter 8 Part 2	Subsections of 8.2, Sections 8.6 and 8.3
Thermochemistry	Chapter 9 Part 1	Sections 9.1 and 9.2
Thermochemistry	Chapter 9 Part 2	Sections 9.3 and 9.4
Liquids and Solids	Chapter 10	Sections 10.1, 10.3-10.4
Solutions and Colloids	Chapter 11	Sections 11.1-11.4
Kinetics	Chapter 17 Part 1	Sections 17.1-17.3, 17.5
Kinetics	Chapter 17 Part 2	Sections 17.4, 17.6-17.7
Fundamental Equilibrium Concepts	Chapter 13 Part 1	Sections 13.1-13.2
Fundamental Equilibrium Concepts	Chapter 13 Part 2	Sections 13.3-13.4

V. Course Components

• Textbook

- OpenStax “Chemistry Atoms First” (Free Access <https://openstax.org/details/books/chemistry-atoms-first>; or hardcopy), with CHEM101 access code.
- You may choose to purchase the book and/or the Chem101 access code from a source other than the OSU Bookstore. You can also purchase the purchase the CHEM101 access during registration via the Canvas course site.

• Homework

- Homework is delivered by CHEM101 and located via the link within our Canvas course site (see also Course Information module within Canvas).
- Homework due dates are listed in the Syllabus, within Canvas, and on the CHEM101 site. Assignments are usually due by 11:59 PM (PT) on the date noted.
- If you score at least 90% of the raw CHEM101 points possible on any chapter assignment, you will receive full credit (i.e., 100%). If you score less than 90%, then your points will be pro-rated accordingly toward your final score.
- Homework questions that are completed late, but before the last day of instruction, will be accepted up to half-credit. Please alert your instructor if you accomplish any homework questions late to ensure they are graded and scored.
- Homework earned points will be added into Canvas only after the due date and late points will be updated after the last day of instruction.
- Students are expected to do their own work on homework assignments. Students are allowed and encouraged to seek assistance in understanding how to approach and/or calculate the answers to homework problems. Students may not, however, obtain answers for the homework problems from other sources. Students who complete homework assignments using answers obtained from other sources will be reported to Student Conduct and face penalties on their assignments, as will any student who provided them with answers.

• Online Lab Platform

- Online virtual laboratories are located within the Canvas course site. These are an integral part of the course and are graded accordingly.

This course is offered through Oregon State University Ecampus. For more information visit: <http://ecampus.oregonstate.edu>.

- There are 8 labs associated with this course. While the early lab will be graded on completeness only, all other labs will be graded on a combination of completeness and accuracy. 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 random characters are not sufficient for a lab to be considered complete. If you don’t understand something in the lab, it is strongly recommended that you contact the TA or Instructor for assistance *well in advance* of the due date.
 - You must complete all labs *even if you completed one in a previous term*.
 - To earn a passing grade in CH122, you must pass the lab portion of the course. A minimum total score of 60% (i.e., 45/75) must be earned in labs. This is a departmental policy without exceptions.
 - Lab submissions that are completed late, but before the last day of instruction, will be accepted up to half-credit. Please alert your instructor if you accomplish any homework questions late to ensure they are graded and scored.
 - Students are expected to do their own work on laboratory assignments. Students are allowed and encouraged to seek assistance in understanding how to approach and/or calculate the answer to the questions on the labs. Students who complete laboratory assignments using answers obtained from other sources will be reported to Student Conduct and face penalties on their assignments, as will any student who provided them with answers.
- **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.
 - *Practice midterm and final exams* will be posted on Canvas. These provide excellent practice, and we strongly recommend that you take some practice exams under test conditions before attempting your exams.
 - 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.
 - **Quizzes**
 - Quizzes are assigned and graded.
 - The Introductory Quiz and the Pre-Assessment Quiz are located under the “Pre-Assessment and Intro Quizzes” module within Canvas.
 - The Pre-Assessment Quiz consists of many course-specific chemistry questions and credit is based solely on a genuine completion attempt. So please answer the questions to the best of your ability **without** reading the material in advance or referring to any other materials.

- The Introductory Quiz is based on information in the Syllabus (and most often found within the Start Here and/or Course Information modules within Canvas). You may take the Introductory Quiz as many times as necessary for full credit, but this is the only quiz that allows multiple attempts. Please review the feedback after each attempt for important information.
- Weekly Chapter Quizzes for each chapter/part are graded based on correctness, and you have only 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 and late quizzes are not accepted. 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.
- Students are expected to do their own work on quizzes. Students may not obtain answers for the quiz questions from other sources. Students who complete quizzes using answer obtained from other sources will be reported to Student Conduct and face penalties on their quizzes, as will any student who provides another student with answers.
- **Unit Assessments**
 - There will be five unit assessments in the course, each covering two weeks of material, and each proctored within your Canvas course site by Proctorio (a free service).
 - To take the unit assessments, students will need to use a computer with a webcam, microphone and reliable internet access. You will also require the Proctorio extension for your browser, where complete instructions are provided with the Canvas course site.
 - Each unit assessment must be taken during the multi-day time period specified previously on the Grade Sheet page of the Syllabus. Unit assessments cannot be retaken and cannot be stopped once started. A missed unit assessment will receive a score of zero.
 - Each unit assessment must be completed within 80 minutes. The assessment will auto-submit at the end of this 80-minute period.
 - Each student will have their lowest unit assessment score dropped from their final grade.
 - Provided materials: the following materials will be available for each assessment as a link within the assessment:
 - A periodic table
 - The equation sheet for that assessment - this will be published in advance of the assessment so that students can familiarize themselves with it.
 - Allowed materials:
 - A scientific calculator (programmable calculators, graphing calculators, and cellphone-based calculators will not be allowed)
 - A dry erase board and dry erase markers
 - One 3 x 5" notecard with notes on *one side only*
 - Any use of materials not on this list (including accessing of outside websites or other online resources) will result in a non-replaceable score of 0 on the assessment, and will be reported to Student Conduct as an incident of academic dishonesty.
 - For the duration of the assessment window, students may not communicate contents of the exam or exam answers to any other individual in any format. Students also may not receive such information prior to taking their exam. Any violations of this will be reported to Student Conduct and result in exam penalties.

VI. Grading and Completion of Work

• Grading

Success in this course often depends on the amount of time devoted to studying the material. This is a 5-credit course, and each credit is meant to reflect about 30 hours of effort over the course of the term. This works out to ~40 hours per week in this accelerated 4-week term! We recommend that you prepare to devote ample time to the study of this course while it is in progress.

- Your point total is obtained by adding points from the assessments, online homework, quizzes, and virtual labs. These component point totals are indicated in the following table.

Component	Points Possible
Unit Assessments*	300
Homework	100
Quizzes	110
Labs	75
Total	585

*Remember that your lowest-scored unit assessment will not be counted.

- Your course grade is determined entirely from the total number of points earned. The following table provides the minimum number of points required to earn specific letter grades.

Grade	Earned Points /585	%
A	538	92%
A-	521	89%
B+	503	86%
B	480	82%
B-	462	79%
C+	445	76%
C	421	72%
C-	404	69%
D+	386	66%
D	363	62%
D-	351	60%
F	Less than 351	<60%

• Completion of Work and Incompletes

- Students are expected to be aware of all due dates as published in the syllabus, and complete work in a timely fashion. Late quizzes and exams are not accepted; late homework and labs may be completed for partial credit as outlined in the homework section below.
- Students should contact instructor via email as soon as possible if they are facing circumstances that interfere with their ability to complete any assignment by the due date.
- Students are expected to complete their own work as described in each portion of the 'Course Components' section of this syllabus.
- Students must not attempt to mask their location in completion of coursework. As such, students may not access the course website(s) through a VPN when completing any assessed course work without express instructor permission.
- Incomplete grades are not awarded in this course unless emergency cases warrant and students are in passing standing at the time of request.
- Please note the deadlines for dropping courses and for course withdrawals (see <https://registrar.oregonstate.edu/osu-academic-calendar>)

VII. Communication and Technology

• Communication and Announcements

- 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.
- Students are encouraged to communicate with the instructor and teaching assistants as often as questions on the material arise. Please review the Email Guidelines document for this course.
- Students are expected to regularly check email for communications from their instructors. Students should check their OSU email account daily, or configure their account to forward to an email account that will be regularly checked.
- Course announcements will be posted at least weekly. Students should either configure Canvas to receive ASAP (or daily) notification of new announcements, or should plan on checking the announcements for the course early each week.

• Technology

- Technology is an important aspect of online-only course work. Students are expected to regularly check email for communications from their instructors. Students it is the student's responsibility to have access to adequate computing resources to utilize course materials and complete course work. This includes having access to a computer with a webcam and good internet connection to complete proctored unit assessments.
- Multiple website are used in completion of course materials. These sides may require students to download (free) plug-ins or otherwise configure their computer in order to function. Students should plan on accessing and configuring these sites as early as possible to allow time to seek technical support if necessary.
- Technical issues are not considered a valid reason for missing due dates/times. If you do have technical issues, please report the issue to both the relevant site's technical support and to the instructor as soon as possible. Please be as specific as possible when describing the issue, including the text of any error messages and screen captures when appropriate.

VIII. Academic Integrity and Expectations for Student Conduct

Student conduct is governed by the university's policies, as explained in the Student Conduct Code (<https://beav.es/codeofconduct>). Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility.

Students are expected to conduct themselves in the course (e.g., on discussion boards, in email) in compliance with the university's regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please review the discussion board guidelines posted in Canvas, and bring any communications you believe to be in violation of this class policy to the attention of your instructor.

You will be expected to conduct yourself in a professional manner. Academic dishonesty such as plagiarism and cheating will not be tolerated. Therefore, students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in any one of the following areas:

- | | |
|---------------|---|
| * cheating | - use or attempted use of unauthorized materials, information or study aids |
| * fabrication | - falsification of any information |
| * assisting | - helping another commit an act of academic dishonesty |
| * tampering | - altering or interfering with evaluation instruments and documents or |
| * plagiarism | - representing the words or ideas of another person as one's own |

For more information about academic integrity and the University's policies and procedures in this area, please refer to the [Student Conduct website](#) and [Student Conduct Offenses](#).

Academic Integrity is a character-driven commitment to honesty, doing what is right, and guiding others to do what is right. Oregon State University Ecampus students and faculty have a responsibility to act with integrity in all of our educational work, and that integrity enables this community of learners to interact in the spirit of trust, honesty, and fairness across the globe.

It is important that you understand what student actions are defined as academic misconduct at Oregon State University. The OSU Libraries offer a [tutorial on academic misconduct](#), and you can also refer to the [OSU Student Code of Conduct](#) and [the Office of Student Conduct and Community Standard's website](#) for more information. More importantly, if you are unsure if something will violate our academic integrity policy, ask your professors, GTAs, academic advisors, or academic integrity officers.

IX. Accommodations and Resources

Accommodations for Students with Disabilities

Accommodations are a collaborative effort 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 have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

Technical Assistance

If you experience any errors or problems while in your online course, contact 24-7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Service Desk for assistance. You can call (541) 737-8787 or visit the [IS Service Desk](#) online.

Inclusivity

Science knowledge and discovery is a human endeavor and is historically built on a small subset of privileged voices. We acknowledge that it is possible that there may be both overt and covert biases in the material due to the lens with which it was written, even though the material is primarily of a scientific nature. Integrating a more inclusive set of experiences is important for a more comprehensive understanding of science and discovery. Please contact us if you have any suggestions to improve the quality of the course materials.

Through formal and informal means, your instructor and TAs (and others) continue to learn about perspectives, bias, and identities, and we remain committed to university ideals. We encourage direct discussion with you if you are ever made to feel uncomfortable in this class. As a participant in university course discussions, we ask you to be inclusive of your peers such that we create a learning environment for our students that supports a diversity of thoughts, perspectives, and experiences, and honors our identities (including race, gender, class, sexuality, religion, ability, etc.). To help accomplish this, please consider the following thoughtfully:

- **Pronouns:** If you have a name and/or set of pronouns that differ from those that appear in your official records, please let us know!
- **Religious Observances:** Please let your instructor know if your class deadlines interfere with any of your religious and/or spiritual practices so that we can make necessary arrangements.
- **Statement of Accessibility:** All students have the right to learn from and participate in the classroom. We designed this course with accessibility in mind, and are always open to hearing ways to make it more inclusive and accessible. Please contact your instructor if you have accessibility concerns.

Ecampus Reach Out for Success

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about [Ecampus Reach Out for Success](#) and resources that assist with wellness and academic success.

Ecampus students are always encouraged to discuss issues that impact your academic success with the [Ecampus Success Team](#). Email ecampus.success@oregonstate.edu to identify strategies and resources that can support you in your educational goals.

Hardships may impact your performance in this course. Your instructor may be a good resource if you are comfortable reaching out, and these may also be helpful.

- For mental health:
Learn about [counseling and psychological resources for Ecampus students](#). If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741- 741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).
- For financial hardship:
Any student whose academic performance is impacted due to financial stress or the inability to afford groceries, housing, and other necessities for any reason is urged to contact the Director of Care for support at 541-737-8748.

Academic Calendar

All students are subject to the deadlines as stated in the [Academic Calendar](#).

Student Evaluation of Courses

During Fall, Winter, and Spring term, the online Student Evaluation of Teaching system opens to students the Wednesday of week 8 and closes the Sunday before Finals Week. Summer operates per summer term schedule. Students will receive notification, instructions and the link through their ONID email. They may also log into the system via Online Services. Course evaluation results are extremely important and used to help improve courses and the learning experience of future students. Responses are anonymous (unless a student chooses to “sign” their comments, agreeing to relinquish anonymity) and unavailable to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/supervisor. Anonymous (unsigned) comments go to the instructor only.

This syllabus is subject to change with notice. Please bring any errors to the instructor's attention.