

CHEM 122: General Chemistry II

Self-Paced Enroll Anytime Online Course

This is an unofficial syllabus and is subject to change at any time. The official course syllabus is posted in Blackboard.

Instructor & Course Information

Credits	3
Pre or Co-requisite	CHEM 121 with a grade of C or better and CHEM 121L
Instructor	Michael Whitney*
Email & Phone	See the Blackboard course for contact information and the instructor bio.

*If you have any course questions prior to enrollment, please email und.online@und.edu

About the Professor

See Blackboard for short bio.

Course Description and Objectives

This course covers the elementary principles and theories of chemistry; Intermolecular forces, liquids, solids, solutions, kinetics, equilibria, acids and bases, precipitation, thermodynamics, electrochemistry, organic chemistry and nuclear chemistry.

After successfully completing this course, students will be able to do the following:

Foundational Knowledge

- Remember terms associated with the following concepts of chemistry: the states of matter, the control of chemical reactions, and some chemistry of the elements.
- Predict simple chemical and physical behavior based on chemical structure.
- Describe the role that energy plays in chemical systems and in modern society.

Application

- Engage in quantitative reasoning, that is,
- Express and solve mathematical problems that describe chemical behavior on the macro-scale.
- Analyze and interpret graphs and tables containing technical data and see relationships in the real world that are being described.

Integration

- Relate ideas about chemistry into other fields such as biology, medicine, and engineering as well as everyday life.
- Be excited about chemistry as a broad, complex, multifaceted field of study, that is, a subject that is the foundation to the physical world.

Human Dimension:

- Come to see themselves as a person who is more educated about chemistry than they were before they took this course.

Learning How to Learn:

- Understand the need for multiple exposures to material to develop a solid understanding of it, for example, completing class assignments and electronic homework to learn, not just for a grade.
- Identify important resources for their own subsequent learning (being a self-directed learner).

Essential Studies – Requirements & Goals

The combination of Chem. 122 and 122L fulfills UND's Essential Studies Requirement of a 4-hour science course with lab and it provides 4 of a required 9 hours of Math, Science, and Technology. Chem 122 and 122L are also Quantitative Reasoning courses – meaning skills related to quantitative reasoning contribute to 30% or more of the final grade. Such skills include arithmetic/basic algebra, data analysis/interpretation, finding and using quantitative information in context, communicating quantitative data (mathematically, visually, orally, and/or in writing), as well as translating among these various forms.

Textbook and Course Materials

1. Textbook

Chemistry 2e, OpenStax, 2019, this e-text is free and accessed online via the following link:
[OpenStax Textbook Website](#).

If would like a paper copy, use the following ISBN-13: 978-1-59399-578-2

2. Student Solution Guide

[OpenStax Website](#)

3. ALEKS Homework System

ALEKS is an online learning and assessment tool that helps to build proficiency. You can purchase an access code for \$75 through the ALEKS link in the ALEKS folder on Blackboard.

4. Calculator

A **non-programmable** calculator (capable of exponential notation) is required for exams. Note: The Ti-83/84, Ti-83/84 plus and T-83/84 plus silver edition and above (or equivalent) calculators WILL NOT be permitted to be used on the exams. Each student must have his/her own calculator and know how to use it. Cell phones may NOT be used as calculators for exams.

Technical Requirements

The [UND Technical Support webpage](#) contains information on your UND email and how to download a free version of Microsoft Office.

- Students are expected to use their official UND email in the course.
- You will use Microsoft Word to complete assignments.
- [View the basic technical requirements](#) for every online course.

Course Overview and Organization

This course contains 14 lessons (including 5 proctored exams) designed to focus your study of Chemistry and to assist you in achieving the course learning objectives/outcomes. You will work through a combination of required readings, view captioned videos, problem sheets, quizzes, and exams.

The exams are proctored using ProctorU's Auto with Review service as the proctoring method. Visit the exam folders in Blackboard or the [Self-Paced Enroll Anytime Exams webpage](#) for more information on the exam process and technical requirements.

Each lesson contains the following structural elements

- Lesson Learning Outcomes/Objectives
- To-Do List
- Required Reading
- Video and Supporting Material
- Assessment

Course Outline

Lesson	Topic	OpenStax Textbook Chapter
1	Solutions and Colloids	11
2	Kinetics	12
3	Exam 1	11, 12
4	Fundamentals of Equilibrium Concepts	13
5	Acid-Base Equilibria	14
6	Exam 2	13, 14
7	Equilibria of Other Reaction Classes	15
8	Thermodynamics	16
9	Exam 3	15, 16
10	Electrochemistry	17
11	Organic Chemistry	20
12	Nuclear Chemistry	21
13	Exam 4	17, 20, 21
14	Final Exam	Cumulative

Assessment and Grading

This course is made up of a series of assessments which will be graded. You will work on a combination of problem sheets, quizzes, mid-term exams, and final exam.

Breakdown of Accumulated Totals

ALEKS Homework	150 pts (18.3%)
Quizzes after each lesson	120 pts (14.6%)
Mid-Term Exams (4 @ 100 pts each)	400 pts (48.8%)
Comprehensive Final Exam	150 pts (18.3%)
Total points used to derive grade	820 pts (100%)

Letter grades (A, B, etc.) will be awarded ONLY based on the total number of accumulated points

Grading Scale

A	87.50% to 100.00%
B	75.50% to 87.49%
C	65.50% to 75.49%
D	54.50% to 65.49%
F	00.00% to 54.49%

Netiquette

Netiquette is a set of rules for behaving properly online. Here are a few basic points to remember when communicating in this course:

- **Be scholarly.** Use proper language, grammar, and spelling. Explain your thoughts, justify opinions, and credit the ideas of others by citing or linking to scholarly resources. Avoid misinforming others when you are unsure of the answer. When discussing something and supplying a guess, clearly state that.
- **Be respectful.** Respect the privacy of others. Do not share personal or professional information about others unless permission has been granted. Respect diversity and opinions that differ from their own. Be tactful when you communicate.
- **Be professional.** Everyone should strive to give their best impression online. Truthfulness, accuracy, and running a final spell check are appropriate expectations for university students. Writing in a legible font and limiting the use of emoticons is considered professional behavior. Profanity and participation in hostile interactions, known as flaming, is unprofessional as well as disruptive.
- **Be polite.** Students should be addressing professors and instructors by the appropriate title or requested name. Students should interact online politely, just as they would be expected to do in a physical environment. Sarcasm rudeness, and writing in all capital letters (shouting) should be avoided.

For more information, read the [Top 12 Be-Attitudes of Netiquette for Academicians](#).

About UND Self-Paced Enroll Anytime Courses

You have 3 to 9 months to complete this course from the time of your enrollment. You may work at your own pace and complete lessons/exams on your own schedule, submitting up to 3 per week for grading.

After you finish your course, your final grade will be posted in Blackboard. Please **allow 3-5 business days for your final grade to appear** on your transcript in Campus Connection. You will receive a confirmation email from the Enroll Anytime staff once the final grade is officially posted on your transcript. You may then order an official transcript, if desired.

If you have an **administrative** question regarding course enrollment dates, extensions, withdrawals, questions regarding your transcript, or need exam assistance, please contact the **Office of Extended Learning** at und.courses@UND.edu or 701-777-0488.

Questions regarding **coursework** should be directed to the **instructor**.

For **technical support** including username and password help, assignment submission, or other technical assistance in the course, contact [University Information Technology](#).

Student Resources

Many services are available to online students such as writing assistance from the UND Writing Center, free online tutoring, and more. Visit the [Student Resources page](#) for more information. You can also access the resources webpage from the *Student Resources* link in your Blackboard course menu.

A final note

Chemistry can be a difficult subject. Thus, I highly recommend that any student who struggles or needs any help meet with me as early in the SPEA term as possible. Questions that come up should be resolved as soon as possible to avoid getting behind, and to prevent difficulty in understanding new concepts that build upon old

ones. Students are expected to take responsibility for their own education and to work at an appropriate pace. To receive more valuable feedback on your assignments and to avoid the need for cramming, I recommend that you work a steady pace and try to turn in assignments as soon as possible.

University of North Dakota Policies & Resources

Academic Integrity

Academic integrity is a serious matter, and any deviations from appropriate behavior will be dealt with strongly. At the discretion of the professor, situations of concern may be dealt with as a scholastic matter or a disciplinary matter.

As a scholastic matter, the professor has the discretion to determine appropriate penalties to the student's workload or grade, but the situation may be resolved without involving many individuals. An alternative is to treat the situation as a disciplinary matter, which can result in suspension from the University, or have lesser penalties. Be aware that I view this as a very serious matter, and will have little tolerance of or sympathy for questionable practices. A student who attempts to obtain credit for work that is not their own (whether that be on a paper, quiz, homework assignment, exam, etc.) will likely receive a failing grade for that item of work, and at the professor's discretion, may also receive a failing grade in the course. Read more in the [Code of Student Life](#).

Disability Support and Medical Services

The University of North Dakota is committed to providing equal access to students with documented disabilities. To ensure access to your classes and program, please contact [Disability Services for Students](#) (DSS) to engage in a confidential discussion about accommodations for the classroom, clinical and/or online course settings. Accommodations are not provided retroactively. Students are encouraged to register with DSS at the start of their class/program. More information can be obtained by email UND.dss@UND.edu or by phone at 701.777.2664.

If you receive an exam accommodation from Disability Services for Students, share the letter with the Office of Extended Learning at UND.courses@UND.edu.

Religious Accommodations

UND offers religious accommodations, which are reasonable changes in the academic environment that enable a student to practice or observe a sincerely held religious belief without undue hardship on the University. Examples include time for prayer or the ability to attend religious events or observe a religious holiday. To request an accommodation, complete [student religious accommodation request form](#). If you have any questions, you may contact the [Equal Opportunity & Title IX Office](#).

Pregnancy Accommodations

Students who need assistance with academic adjustments related to pregnancy or childbirth may contact the Equal Opportunity & Title IX Office or Academic Affairs to learn about your options. Additional information and services may be found at [Pregnancy Resources](#).

Resolution of Problems

Should a problem occur, you should speak to your instructor first. If the problem continues to be unresolved, go to the department chair, and next to the college Dean. Should the problem persist, you have the right to go to the Provost next, and then to the President.

Notice of Nondiscrimination

It is the policy of the University of North Dakota that no person shall be discriminated against because of race, religion, age, color, gender, disability, national origin, creed, sexual orientation, gender identity, genetic information, marital status, veteran's status, or political belief or affiliation and the equal opportunity and access to facilities shall be available to all. Concerns regarding Title IX, Title VI, Title VII, ADA, and Section 504 may be addressed to Donna Smith, Assistant Vice President for Equal Opportunity & Title IX and Title IX/ADA Coordinator, by calling 701.777.4171 or emailing UND.EO.TitleIX@UND.edu. Concerns can also be directed to the Office for Civil Rights, U.S. Department of Education, 230 S. Dearborn St., 37th Floor, Chicago, IL 60604, or any other federal agency.

Reporting Discrimination, Harassment, or Sexual Misconduct

If you or a friend has experienced sexual misconduct, such as sexual harassment, sexual assault, domestic violence, dating violence, or stalking, please contact the [Equal Opportunity & Title IX Office](#) or UND's Title IX Coordinator, Donna Smith, for assistance: 701.777.4171; donna.smith@UND.edu. You may also contact the Equal Opportunity & Title IX office if you or a friend has experienced discrimination or harassment based on a protected class, such as race, color, national origin, religion, sex, age, disability, sexual orientation, gender identity, genetic information, pregnancy, marital or parental status, veteran's status, or political belief or affiliation.

Faculty Reporting Obligations Regarding Discrimination, Harassment, and Sexual Misconduct

It is important for students to understand that faculty are required to share with UND's Title IX Coordinator any incidents of sexual misconduct or of discrimination or harassment based on a protected class they become aware of, even if those incidents occurred in the past or are disclosed as part of a class assignment. This does not mean an investigation will occur if the student does not want that, but it does allow UND to provide resources to help the student continue to be successful at UND. If you have been impacted by discrimination, harassment, or sexual misconduct, you can find information about confidential support services at the [Equal Opportunity & Title IX Office](#).

UND Cares Program

The [UND Cares program](#) seeks to educate faculty, staff and students on how to recognize warning signs that indicate a student is in distress.

How to Seek Help When in Distress

We know that while college is a wonderful time for most students, some students may struggle. You may experience students in distress on campus, in your classroom, in your home, and within residence halls. Distressed students may initially seek assistance from faculty, staff members, their parents, and other students. In addition to the support we can provide to each other, there are also professional support services available to students on campus through the Dean of Students and University Counseling Center. Both staffs are available to consult with you about getting help or providing a friend with the help that he or she may need. Visit the [UND Cares program](#) webpage for more additional information.

How to Recognize When a Student is in Distress

The term "distressed" can mean any of the following:

- Student has significant changes in eating, sleeping, grooming, spending, or other daily activities.
- Student has cut off or minimized contact with family or friends.
- Student has significant changes in performance or involvement in academics, sports, extracurricular, or social activities.

- Student describes problems (missing class, not remembering, destructive behavior) that result from experiences with drinking or drugs.
- Student is acting withdrawn, volatile, tearful, etc.
- Student is acting out of character or differently than usual.
- Student is talking explicitly about hopelessness or suicide.
- Student has difficulty concentrating or difficulty carrying on normal conversation.
- Student has excessive dependence on others for company or support.
- Student reports feeling out of control of one's emotions, thoughts, or behaviors.

Land Acknowledgement Statement

Today, the University of North Dakota rests on the ancestral lands of the Pembina and Red Lake Bands of Ojibwe and the Dakota Oyate - presently existing as composite parts of the Red Lake, Turtle Mountain, White Earth Bands, and the Dakota Tribes of Minnesota and North Dakota.

We acknowledge the people who resided here for generations and recognize that the spirit of the Ojibwe and Oyate people permeates this land. As a university community, we will continue to build upon our relations with the First Nations of the State of North Dakota - the Mandan, Hidatsa, and Arikara Nation, Sisseton-Wahpeton Oyate Nation, Spirit Lake Nation, Standing Rock Sioux Tribe, and Turtle Mountain Band of Chippewa Indians.