

Syllabus - General Chemistry I for STEM Majors CHEM1215 Spring 2026

I. General Information

Instructor: Dr. Achraf Nouredine

Phone/Email: 305-903-9755 / anouredine@unm.edu

In-Person Office Hours: Mondays 1.30-2.30 PM and/or upon request (in person or online)

Office Number: Cubicles shared room

Meeting Room: Lecture Hall auditorium

Meeting Time: Wednesdays 10:30 AM to 01 :15 pm

II. Course Description

Prerequisite: MATH 1220 or MATH 1230 or MATH 1240 or MATH 1430 or MATH 1440 or MATH 1510 or MATH 1520 or MATH 2530 with a grade of C or higher or a math placement score that qualifies the student.

Co-requisite: CHEM 1215L

This course is intended to serve as an introduction to General Chemistry for students enrolled in science, engineering, and certain pre-professional programs. Students will be introduced to several fundamental concepts, including mole, concentration, heat, atomic and molecular structure, periodicity, bonding, physical states, stoichiometry, and reactions.

III. Resources

- "Chemistry" 2e from OpenStax (textbook) (can be downloaded from <https://openstax.org>.)
- Chemistry the molecular nature of matter and change, Martin Silberberg
- Canvas (learning management system for communication, grades entry, resources navigation and selected assignments).
- Most importantly, what I present in class as this will form the bulk of the quizzes. That's why, please ask questions as they arise, and do not leave the classroom with anything that is unclear, even if you ask the same question several times.

IV. Student Learning Outcomes

1. Apply the scientific method and relate the development of essential chemical theories to experimental observation and evidence.
2. Use dimensional analysis, the SI system of units, and appropriate significant figures to solve quantitative problems in chemistry.
3. Explain atomic structure, including atoms, isotopes, and ions, in terms of subatomic particles and electronic structure.
4. Differentiate between physical and chemical changes, and use IUPAC nomenclature and knowledge of reaction types to describe chemical processes, predict products, and write balanced chemical equations.
5. Apply the mole concept at both macroscopic and microscopic levels to perform stoichiometric calculations involving reactions in solution, gases, and thermochemical systems.

6. Apply gas laws and kinetic molecular theory to relate molecular-level behavior to macroscopic properties of gases.
7. Describe energy changes associated with chemical reactions and phase changes, relating heat of reaction to thermodynamic quantities such as enthalpy and internal energy, and calculate energy changes experimentally.
8. Use bonding models (ionic and covalent) and principles of electronic structure to determine molecular geometry, polarity, and intermolecular behavior.
9. Analyze periodic trends (including electronegativity, atomic and ionic radii, ionization energy, electron affinity, and metallic character) and relate them to electron configurations and chemical reactivity.
10. Apply principles of general chemistry to real-world problems in environmental, engineering, and health-related contexts, and work effectively in teams to solve chemical problems.

V. Course Requirements

This is a 16-week, face-to-face course with the following requirements:

Attendance: In-person participation is required in this course. Presence and participation are graded.

Technology & Computer Requirements :

- Dependable computer
- Reliable internet connection
- Computer speakers
- Reliable web browser
- Microsoft Suite (PowerPoint and Word)
- Adobe Flash Player

VI. Student's Evaluation Criteria

Quizzes – you will have up to 5 quizzes including the “final” (every 3 or 4 weeks) 75%

Participation and Presence: 10%

HomeWorks 15%

Bonus Points: 5 grades can be earned for courage and outstanding participation (for example, volunteering to go to the board to solve problems or replace the instructor for 5 minutes to explain things to the class).

Expected classes – it is dynamic and depends on the responsiveness of the class

The components of matter | Stoichiometry of Formulas and Equations | Chemical Reactions | Models of Molecules and Bonding | Organic Compounds and Nomenclature Acid-Base equilibria | Thermochemistry | Kinetics | Applications of Chemistry

GRADING SCALE

96-100 A+

91-94.9 A

88-90.9 A-

85-87.9 B+

82-84.9 B

79-81.9 B-

77-78.9 C+

73-76.9 C

70-72.9 C-

67-69.9 D+

63-66.9 D

60-62.9 D-

Below 60 F

- **COVID-19 Health and Awareness**

COVID-19 Health and Awareness. UNM is a mask friendly, but not a mask required, community. To be registered or employed at UNM, Students, faculty, and staff must all meet UNM's Administrative Mandate on Required COVID-19 vaccination. If you are experiencing COVID-19 symptoms, please do not come to class. If you have a positive COVID-19 test, please stay home for five days and isolate yourself from others, per the Centers for Disease Control (CDC) guidelines. If you do need to stay home, please communicate with us at the emails listed above; we can work with you to provide alternatives for course participation and completion. UNM faculty and staff know that these are challenging times. Please let us know that you need support so that we can connect you to the right resources and please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.

- **Support:**

Student Health and Counseling (SHAC) at (505) 277-3136. If you are having active respiratory symptoms (e.g., fever, cough, sore throat, etc.) AND need testing for COVID-19; OR If you recently tested positive and may need oral treatment, call SHAC.

LoboRESPECT Advocacy Center (505) 277-2911 can offer help with contacting faculty and managing challenges that impact your UNM experience.

- **Accommodations**

UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is our objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact Accessibility Resource Center at arcsrvs@unm.edu or by phone at 505-277-3506.

Support: Contact us at the emails above or in office/check-in hours and contact Accessibility Resource Center (<https://arc.unm.edu/>) at arcsrvs@unm.edu (505) 277-3506.

- **Credit-hour statement**

This is a three credit-hour course. Class meets for one 150-minute sessions of direct instruction for fifteen weeks during the Fall 2023 semester. Please plan for a minimum of six hours of out-of-class work (or homework, study, assignment completion, and class preparation) each week.

Support: Resources to support study skills and time management are available through [Student Learning Support](#) at the Center for Teaching and Learning.

- **Title IX:**

[Note: UNM encourages faculty and TAs to include a Title IX statement on the syllabus and reminds faculty, TAs, and GAs that per university policy UAP 2740 they are required to report gender discrimination,

including sexual harassment, sexual misconduct and sexual violence to the Title IX Coordinator at the [Office of Compliance, Ethics and Equal Opportunity](#). Information about how to have a conversation with a student about reporting and what steps to take is available on the [Title IX Coordinator page](#). The Ombuds for Staff runs workshops on that include handling disclosures of sexual harassment (<https://ombudsforstaff.unm.edu/professional-development/index.html>). Faculty may be interested in informational resources, including language that could be used on a syllabus for referral to support services, developed by a group of UNM faculty, [Faculty for a Sexual Assault Free Environment at UNM \(Faculty SAFE\)](#).]

To meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered “responsible employees.” This designation requires that any report of gender discrimination, which includes sexual harassment, sexual misconduct and sexual violence, made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office Compliance, Ethics and Equal Opportunity (ceeo.unm.edu). For more information on the campus policy regarding sexual misconduct and reporting, see: <https://policy.unm.edu/university-policies/2000/2740.html>.

Support: [LoboRESPECT Advocacy Center](#), the [Women’s Resource Center](#), and the [LGBTQ Resource Center](#) all offer confidential services.

- **Land Acknowledgement**

- Founded in 1889, the University of New Mexico sits on the traditional homelands of the Pueblo of Sandia. The original peoples of New Mexico Pueblo, Navajo, and Apache since time immemorial, have deep connections to the land and have made significant contributions to the broader community statewide. We honor the land itself and those who remain stewards of this land throughout the generations and also acknowledge our committed relationship to Indigenous peoples. We gratefully recognize our history.

Faculty Resource: Information provided by UNM’s Division for Equity and Inclusion can support building an inclusive classroom, <https://diverse.unm.edu/education-and-resources/programs/index.html>.

- **Citizenship and/or Immigration Status:**

All students are welcome in this class regardless of citizenship, residency, or immigration status. Your professor will respect your privacy if you choose to disclose your status. As for all students in the class, family emergency-related absences are normally excused with reasonable notice to the professor, as noted in the attendance guidelines above. UNM as an institution has made a core commitment to the success of all our students, including members of our undocumented community. The Administration’s welcome is found on our website: <http://undocumented.unm.edu/>.

- **Respectful and Responsible Learning:**

We all have shared responsibility for ensuring that learning occurs safely, honestly, and equitably. Submitting material as your own work that has been generated on a website, in a publication, by an artificial intelligence algorithm, by another person, or by breaking the rules of an assignment constitutes

academic dishonesty. It is a student code of conduct violation that can lead to a disciplinary procedure. Please ask me for help in finding the resources you need to be successful in this course. I can help you use study resources responsibly and effectively. Off-campus paper writing services, problem-checkers and services, websites, and AIs can produce incorrect or misleading results. Learning the course material depends on completing and submitting your own work. UNM preserves and protects the integrity of the academic community through multiple policies including policies on student grievances (Faculty Handbook D175 and D176), academic dishonesty (FH D100), and respectful campus (FH C09). These are in the Student Pathfinder (<https://pathfinder.unm.edu>) and the Faculty Handbook (<https://handbook.unm.edu>).

Support: Many students have found that time management workshops or work with peer tutors can help them meet their goals. These and are other resources are available through [Student Learning Support](#) at the Center for Teaching and Learning.

- **Connecting to Campus and Finding Support:** UNM has many resources and centers to help you thrive, including [opportunities to get involved](#), [mental health resources](#), [academic support such as tutoring, resource centers](#) for people like you, free food at [Lobo Food Pantry](#), and [jobs on campus](#). Your advisor, staff at the [resource centers](#) and [Dean of Students](#), and I can help you find the right opportunities for you.