



Dr. Jerry Godbout
CHEM-1120C
Introduction to
Chemistry for
Non-Majors

Fall 2024 – Section 501 – CRN 66852

Instructor Contact Information:

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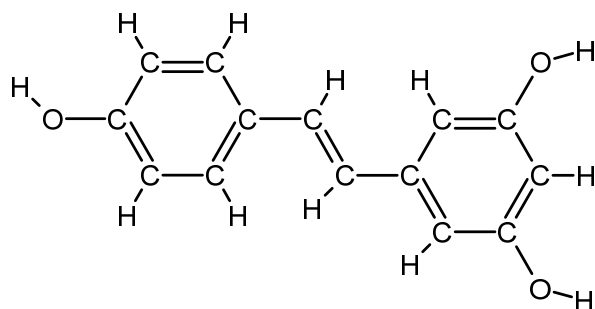
Drop-in Hours (US MT, in-person or remote):

Mondays: 10:30 am – 12:30 pm

Thursdays: 10:00 am – 12:00 pm

And other times by appointment

Please suggest three times that work for you when requesting an appointment



COURSE DESCRIPTION #1: The study of stuff, and what it does

COURSE DESCRIPTION #2: This course covers qualitative and quantitative areas of non-organic general chemistry for non-science majors and some health professions. Students will learn and apply principles pertaining, but not limited to, atomic and molecular structure, the periodic table, acids and bases, mass relationships, and solutions. The laboratory component introduces students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Credit for both this course and CHEM 1215 and/or CHEM 1217 may not be applied toward a degree program.

Meets New Mexico Lower Division General Education Common Core Curriculum Area III: Science (NMCCN 1114). Prerequisite: MATH 1215Z or MATH 1220 or MATH 1240 or MATH 1430 or MATH 1440 or MATH 1512 or MATH 1522 or MATH 2530 or ACT Math =>22 or SAT Math Section =>540.

Now guess which one is the instructor's, and guess which one is has gone through various committees and perhaps a lawyer or two

Class Meetings (all times US MT)

Lecture: Tuesday & Thursday 8:30 am – 9:45 am, VAAS 140 (in-person)

Lab/Recitation: Tuesday 9:45 am – 11:45 am, US MT VAAS 128 (in-person)

WHAT YOU'LL LEARN

COURSE TEACHING & LEARNING OUTCOMES

By the end of this course, a successful student will be able to:

Lecture Component SLOs

1. Use the different systems of measurements and perform conversions within the same system of measurement and between different systems of measurements
2. Identify elements from their name or symbol, use the periodic table to describe reactivity patterns of elements and to predict compound formation.
3. Describe the basic structure of an atom using subatomic particles, and apply these concepts to nuclear reactions.
4. Describe ion formation and the difference between covalent and ionic compounds. Name and write formulas for ionic and simple molecular compounds.
5. Write and balance chemical reactions. Use balanced reactions in stoichiometric calculations.
6. Describe the differences between the solid, liquid and gas phases. Use the gas laws in calculations, and apply these laws to everyday situations.
7. Explain different types of energy, and how energy is released or absorbed in a reaction
8. Describe acid and base behavior and the nature of buffer solutions

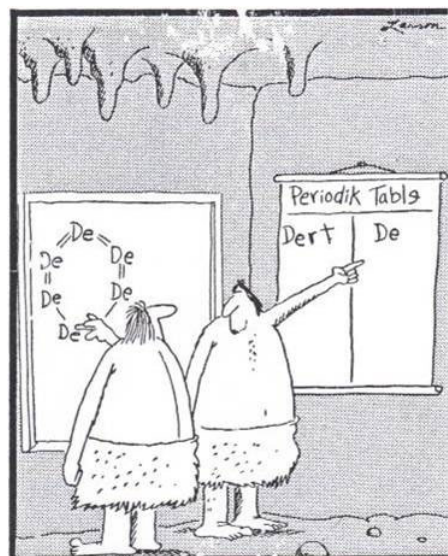
Periodic Table of the Elements

The image shows a standard periodic table with elements color-coded by groups: Alkali Metals (red), Alkaline Earths (orange), Transition Metals (yellow), Main Metals (green), Metalloids (light blue), Nonmetals (dark blue), Noble Gases (purple), Lanthanides (pink), and Actinides (grey). Each element cell contains its atomic number, symbol, name, and atomic mass. A legend box in the center defines the fields: Number, Symbol, Name, and Mass. The Lanthanide and Actinide series are shown as separate rows at the bottom.

Laboratory Component SLOs

1. Practice concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines.
2. Demonstrate the computational skills needed to perform appropriate laboratory related calculations to include, but not be limited to determining the number of significant figures in numerical value, solving problems using values represented in exponential notation, solving dimensional analysis problems, and manipulating mathematical formulas as needed to determine the value of a variable.
3. Perform laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital).
4. Record quantitatively measured values to the correct number of significant figures and assign the correct units.
5. Master basic laboratory techniques including, but not limited to weighing samples (liquid and solid), determining sample volumes, measuring the temperature of samples, heating and cooling a sample or reaction mixture, decantation, filtration, and titration.
6. Draw appropriate conclusions based on data and analyses.
7. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.
8. Determine chemical formulas and classify different types of reactions.
9. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.

**If none of these make any sense to you at the beginning of the semester – Fret Not!
We're literally here so you can learn this stuff!**



Early chemists describe the first dirt molecule

WHAT YOU'LL NEED (COURSE MATERIALS)

- **Text:** Atoms First from OpenStax, Print ISBN 1-947172-64-6, Digital ISBN 1-947172-63-8, <https://openstax.org/details/books/chemistry-atoms-first-2e> Go to the following web address or scan the QR code on the left. This textbook is available for free online! If you prefer, you can also get a print version at a very low cost. The text is available in web view and PDF for free. You can also choose to get a print version via from OpenStax on Amazon.com. You can use whichever formats you want. Web view is recommended - the responsive design works well on any device. If you buy on Amazon, make sure you use the link on your book page on openstax.org so you get the official OpenStax print version. The print quality will be high and it supports the authors.



Course Text

- **Access to Internet, UNM Valencia networks, UNM Canvas and UNM email:** Network access is necessary for most assignments, and may be necessary for everything. Course materials will be posted on UNM Learn and important class announcements will be made to your Learn account. Please check your email regularly. The Valencia campus provides internet and computer access at the library, and the Learning Commons.
- **Safety glasses/goggles for lab:** please purchase those in the bookstore to avoid any question of their safety rating
- **A scientific calculator** with log/antilog and exponential functions: such as TI-30Xa TI-30X IIS TI-30XS and their Casio or Sharp equivalents (**cell phones may be used, but must be in airplane mode for exams**).
- **A notebook or space in a binder (preferable) to**
 - Take notes, keep class handouts, and work out problems/questions. This will allow you to have it readily available when working with fellow classmate(s), tutor(s) and/or instructor; and to use as review/study material.

HOW DO I EARN ALL THOSE POINTS?

(Exams, Quizzes, Assignments, and the Like)

	How Many	Points Each	Points Total
Final Exam	1	150	150
Exams	4	100	400
Unit Assignments	17	40	680
Labs/Recitation	14	25	350
Total			1500*

*If you do the math, you will notice that this adds up to 1580 points. The scale however, is based in 1500 points, so there are 80 points of extra credit. In addition, the 100-point exams will actually have 110 points. This means that there are actually a total of 120 points of extra credit possible.

HOW MANY POINTS DO I NEED FOR AN A?

(What's the grading scale?)

Earn This Many Points	Get This Grade
1425	A+
1350	A
1320	A-
1275	B+
1200	B
1170	B-
1125	C+
1050	C
1020	C-
975	D+
900	D
870	D-
825	F+

EXAMS

Think of these as opportunities for you to show just how much you have learned. Expect these to be challenging. The exam format consists of two types of questions: multiple-choice, and partial credit. To help you figure out how well you understand the material, approximately a week in before each exam, a Practice Exam with the Answer Key will be published for students' use

There are 4 scheduled exams **tentatively** on the dates below, although the instructor reserves the right to alter course schedule as the semester progresses. The exam will not be held before the dates given, and students will be given advance notice of any change.

	Units	Date
Exam 1	1 – 3	12 Sep 2024
Exam 2	4 – 8	15 Oct 2024
Exam 3	9 – 12	07 Nov 2024
Exam 4	13 – 16	03 Dec 2024
Final**	All	10 Dec 2024

**The final exam must be taken to pass the course, regardless of points accumulated to that point

WHAT WILL EACH CLASS BE LIKE?

- **Course Business:** Announcements and the like
- **Topic Introduction:** A brief introduction of the main concepts behind the day's topic
- **Group Activity:** Structured, collaborative exercises to guide your mastery the day's topic(s). This will be most of the meeting.
- **Reflection:** an opportunity to put the day's lesson into larger perspective, and formulate/ask questions

WHAT WILL MY ROUTINE BE LIKE?

- **Before Class:** Complete any preparatory assignment (reading, video, *etc.*)
- **During Class:** Pay attention. Take notes. Work with your group to master concepts. The more you put in, the more you'll get out of it.
- **After Class: WORK ON CHAPTER PROBLEMS, WORK ON UNIT ASSIGNMENTS,** think of questions for office hour visits, *etc.*
- **Repeat 29-ish times!**

WHEN WE LEARN THIS STUFF?

(Schedule is approximate and subject to change by the instructor)

Unit	Topics
1	Math you'll need to know (1.4 – 1.6, Appendix B)
2	Atoms, Ions, Periodic Table: (2.1 – 2.5)
3	The Mole
Exam 01: Units 1 – 3	
4	Electronic Structure and (3.1 – 3.4)
5	Periodic Properties of Elements (3.5 – 3.7)
6	Chemical Bonding and Molecular Geometry (4.1 – 4.6)
7	Chemical Nomenclature (4.3)
8	Composition of Substances and Solutions (6.1 – 6.4)
Exam 02: Units 4 – 8	
9	Stoichiometry of Chemical Reactions (7.1 – 7.4)
10	Gases (8.1 – 8.5)
11	Thermochemistry (9.1 – 9.4)
12	Liquids and Solids (10.1 – 10.6)
Exam 03: Units 9 – 12	
13	Solutions and Colloids (11.1 – 11.4)
14	Kinetics (17.1 – 17.7)
15	Fundamental Equilibrium Concepts (13.1 – 13.4)
16	Acid-Base Equilibria (14.1 – 14.7, 15.1 – 15.2)
17	Nuclear Chemistry (20.1 – 20.2)
Exam 04: Units 13 – 16	
Final Exam Units 01 – 17	

So that molecule on the front page – send me a message with its name for 5 class points. Offer expires after exam 1 is distributed. Hint – This molecule is found in peanuts, grapes and soybeans, and food chemists are investigating its antioxidative and anticarcinogenic properties..

Other Things That Aren't Chemistry, But Are Still Important (Class Policies and Important Dates)

- **Be There:** Seriously, you'll do a lot better if you show up than if you don't. Students are expected to attend all meetings of the classes in which they are enrolled, barring illness and other mitigating circumstances
 - I will exercise my discretion without notice to drop any student who:
 - misses the first two lectures and first lab/recitation;
 - has not completed any assignments by the end of the 2nd week;
 - Once you begin attending and/or participating in class, it is your responsibility to drop the class if they you wish to do so. Otherwise, you will receive a grade based on the points you have accumulated.
 - An excused absence must be communicated.
 - Students are limited to 2 unexcused absences BUT they may not be used for days of exams. Make-up exams will be given only with documentation of the mitigating circumstance
- **Be on time.** Late arrivals and early departures are disrespectful, disruptive and should be avoided if at all possible. Absences due to illness or any mitigating circumstance are unavoidable but must be documented or approved in advance if possible. If you must miss a lecture or lab, email me ASAP in order to get your absence excused and discuss when you will turn in or make up any allowable assignments. Students are responsible for all assignments regardless of attendance.
- **Your job begins when class ends:** Practice problems (homework) will be assigned for each chapter. Homework for each chapter will be collected on the day of the exam for each chapter. It is the responsibility of the student to keep up with the assignments as the material is covered in class. **DO NOT WAIT UNTIL THE NIGHT BEFORE THE EXAM TO START THE CHAPTER PROBLEMS AND/OR UNIT ASSIGNMENTS!**

Selected Dates, Deadlines & Holidays ¹	
Fri, 30 Aug 2024	Last day to register, ADD sections and change credit hours on LoboWEB Enrollment cancellation for non-payment on LoboWEB
Mon, 02 Sep 2024	University Holiday – Labor Day
Fri, 06 Sep 2024	Last Day to DROP without “W” grade and 100% tuition refund on LoboWEB
Thu, 10 Oct 2024	University Holiday – Fall Break (through Fri, 12 Oct, 2024)
Fri, 08 Nov 2024	Last Day to DROP WITHOUT Dean’s Permission on LoboWEB
Thu, 28 Nov 2024	University Holiday – Thanksgiving (through Sun, 01 Dec 2024)
Fri, 05 Dec 2024	Last day to withdraw WITH Dean’s Permission and change grading options

¹ These are only selected deadlines! For a complete and up-to-date calendar, please see <https://registrar.unm.edu/semester-deadline-dates/>

Responsible Learning and Academic Honesty

Cheating and plagiarism (academic dishonesty) are often driven by lack of time, desperation, or lack of knowledge about how to identify a source. **Communicate with me and ask for help, even at the last minute, rather than risking your academic career by committing academic dishonesty.** Academic dishonesty involves presenting material as your own that has been generated on a website, in a publication, by an artificial intelligence algorithm (AI), by another person, or by otherwise breaking the rules of an assignment or exam. Academic dishonesty is a violation of the [Student Code of Conduct](#) that can lead to a disciplinary procedure.



Student Code
of Conduct

Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. For more information, please consult the [UNM Academic Integrity Policy](#)

The policy states in part: *Each student is expected “to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.*



Academic Integrity
Policy

Academic Dishonesty is defined as: "Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Wellness

If you do need to stay home due to illness or are experiencing a wellness challenge, please take advantage of the resources below. You can communicate with me via Canvas messaging or jgodbout@unm.edu, and I will work with you to provide alternatives for course participation and completion. Let me, an advisor, or another UNM staff member know that you need support so that we can connect you to the right resources. UNM is a mask friendly, but not a mask required, community. If you are experiencing COVID-19 or any other infectious symptoms, please do not come to class.

Support

[PASOS Resource Center](#) (505) 925-8546, <mailto:pasos@unm.edu>. The Resource Center is an on-campus center that serves as a “one-stop” for all non-academic needs of UNM-Valencia students.

[Student Health and Counseling](#) (SHAC) at (505) 277-3136.

[TimelyCare](#): Free 24/7 virtual care services (medical, emotional support, health coaching, self-care, basic needs support).

[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 my 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 The [UNM-Valencia Equal Access Services](#) (Sarah Clawson, Coordinator), at (505) 925-8840 or by email at msjclawson@unm.edu. Or the UNM-Albuquerque [Accessibility Resource Center](#) at arcsrvs@unm.edu or by phone at 505-277-3506.



Equal Access Services

Support (Accommodations)

Contact me via email (jgodbout@unm.edu) or Canvas messaging or in office/drop-in hours.

The [UNM-Valencia Equal Access Services](#) (Sarah Clawson, Coordinator), at (505) 925-8840 or by email at sjclawson@unm.edu, Or [Accessibility Resource Center](#) (<https://arc.unm.edu/>) at <mailto:arcsrvs@unm.edu> (505) 277-3506.

Credit-hour Statement

This is a three credit-hour course. Class meets for two 75-minute sessions of direct instruction per week for sixteen weeks during the Fall 2024 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

[UNM Valencia Learning Commons \(tutoring\)](#). Tutoring is available to you in math, science, writing, and other subjects through the Learning Commons: Learning and STEM Centers and Writing Center. In person tutoring is in these centers in the LRC (the building that also has the library). Tutoring in Zoom and, for writing, through email, is also available.

Making use of tutoring is a fantastic way to use your resources and set yourself up to learn deeply and well in your courses. To schedule an appointment, please go to: [Learning Commons Bookings](#)



Learning Commons Booking

If you are making an email appointment with the Writing Center, email your draft to tutor@unm.edu after you fill out the form above.

If you have difficulty with the scheduling link above, would like an appointment in a subject not listed at that link, or have a question, [email tutor@unm.edu](mailto:tutor@unm.edu). You'll get answers during business hours Monday through Friday.

The webpage, with more details about available hours, is here: [Learning Commons: Tutoring Services webpage](#).

[Center for Academic Program Support](#) (CAPS). Many students have found that time management workshops can help them meet their goals (consult [CAPS](#) website under "services").



Title IX

The University of New Mexico and its faculty are committed to supporting our students and providing an environment that is free of bias, discrimination, and harassment.

The University's programs and activities, including the classroom, should always provide a space of mutual respect, kindness, and support without fear of harassment, violence, or discrimination. Discrimination on the basis of sex includes discrimination on the basis of assigned sex at birth, sex characteristics, pregnancy and



Title IX Policy

pregnancy related conditions, sexual orientation and gender identity. If you have encountered any form of discrimination on the basis of sex, including sexual harassment, sexual assault, stalking, domestic or dating violence, we encourage you to report this to the University. You can access the confidential resources available on campus at the [LoboRESPECT Advocacy Center](https://loborespect.unm.edu) (<https://loborespect.unm.edu>), the [Women's Resource Center](https://women.unm.edu) (<https://women.unm.edu>), and the [LGBTQ Resource Center](https://lgbtqrc.unm.edu) (<https://lgbtqrc.unm.edu>). **If you speak with an instructor (including a TA or a GA) regarding an incident connected to discrimination on the basis of sex, they must notify UNM's Title IX Coordinator that you shared an experience relating to Title IX, even if you ask the instructor not to disclose it.** The Title IX Coordinator is available to assist you in understanding your options and in connecting you with all possible resources on and off campus. For more information on the campus policy regarding sexual misconduct and reporting, please see <https://policy.unm.edu/university-policies/2000/2740.html> and [CEEQ's website](#).

If you are pregnant or experiencing a pregnancy-related condition, you may contact UNM's Office of Compliance, Ethics, and Equal Opportunity at ceeo@unm.edu. The CEEQ staff will provide you with access to available resources and supportive measures and assist you in understanding your rights. For more information on the campus policy regarding sexual misconduct, please see: <https://policy.unm.edu/university-policies/2000/2740.html>.

Support

Confidential services for students are available at [LoboRESPECT Advocacy Center](https://loborespect.unm.edu) and the support services listed on its website, the [Women's Resource](https://women.unm.edu)

Citizenship/Immigration status

[Center](#) and the [LGBTQ Resource Center](#) all offer confidential services and reporting. The [Women's Resource Center](#) supports all students, including those who are pregnant or are parents. UNM-Valencia has lactation stations located in LRC 112 (Tomé campus) and in the Workforce Training Center.

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.

Resource: [Division for Equity and Inclusion](#).



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. 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 Conduct Expectations

I am committed to building with you a positive classroom environment in which everyone can learn. I reserve the right to intervene and enforce standards of

respectful behavior when classroom conduct is inconsistent with University expectations [and/or classroom community agreements]. Interventions and enforcement may include but are not limited to required meetings to discuss classroom expectations, written notification of expectations, and/or removal from a class meeting. Removal from a class meeting will result in an unexcused absence. [Insert number] or more unexcused absences may result in permanent removal and a drop from the course (see attendance policy). The University of New Mexico ensures freedom of academic inquiry, free expression and open debate, and a respectful campus through adherence to the following policies: [D75: Classroom Conduct](#), [Student Code of Conduct](#), [University Policy 2240 – Respectful Campus](#), [University Policy 2210 – Campus Violence](#).

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 [PASOS](#) (Pathways to Articulation and Sustainable Opportunities for Students), [TRIO Student Support Services](#), and [Student Learning Support](#) at the Center for Teaching and Learning.

[Center for Academic Program Support](#) (CAPS). Many students have found that time management workshops can help them meet their goals (consult (CAPS) website under "services").

Connecting to Campus and Finding Support

UNM-Valencia has many resources and centers to help you thrive, [including opportunities to get involved](#), [mental health resources](#), [academic support including tutoring](#), [resource centers](#), free food at [Valencia Campus Food Pantry](#), and [jobs on campus](#), and [financial capability support](#). Your advisor, staff at the [resource centers](#) and [Academic Affairs Office](#), and I can help you find the right opportunities for you.