Instructor Contact Information:

Office: VAAS 102A

Phone: 505.925.8611

Email: jgodbout@unm.edu

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

Mondays 10:30 am – 11:30 am

Mondays: 1:00 pm – 3:00 pm

Thursdays: 10:00 am – 12:00 pm

And anytime by appointment (in-person or remote)

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

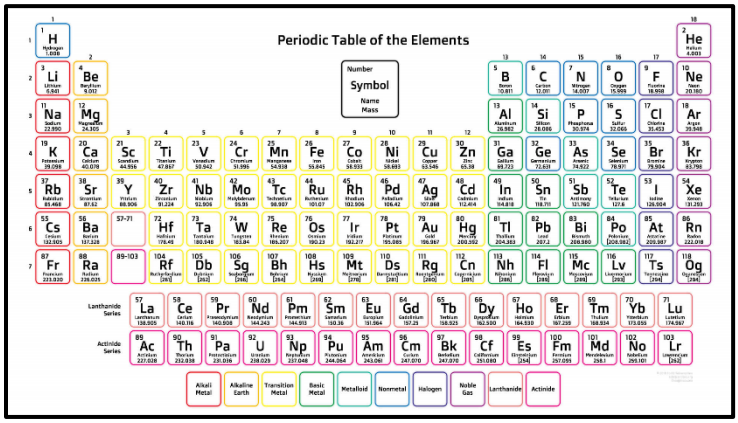
COURSE DESCRIPTION #2: Intro-duction to the chemical and physical behavior of matter. Credit for both this course and CHEM 1120C may not be applied toward a degree program. Meets New Mexico Lower-Division General Education Common Core Curriculum Area III: Science. Prerequisite: MATH 1220 or MATH 1230 or MATH 1240 or MATH 1250 or MATH 1430 or MATH 1440 or MATH 1512 or MATH 1522 or MATH 2530 or ACT Math =>25 or SAT Math Section =>590.

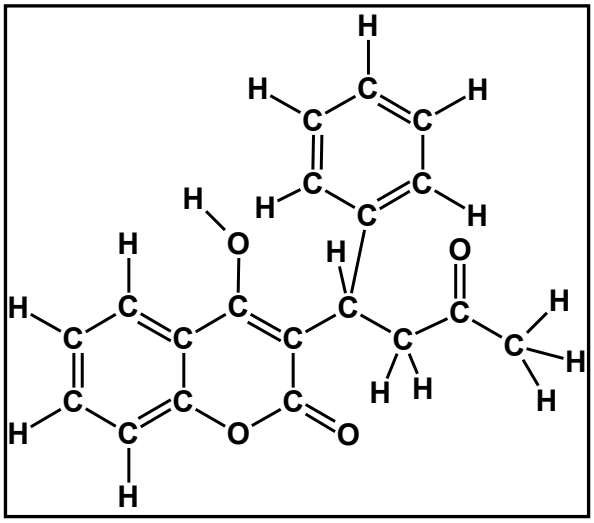
Now guess which one is the instructor's, and guess which one is has gone through various committees and perhaps a lawyer or two

Class Meetings

Lecture: Monday & Wednesday 9:00 – 10:15 am, US MT VAAS 133

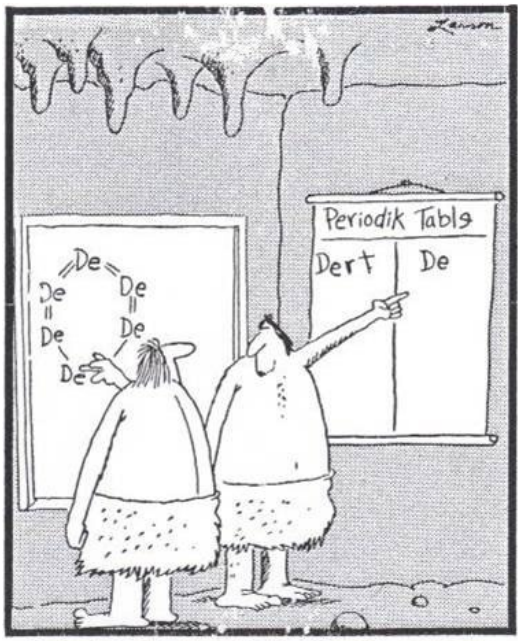
Modality: 100% face-to-face. We hope.





WHAT YOU'LL LEARN
(Course-Level Learning Objectives)

1. Use dimensional analysis, the SI system of units and appropriate significant figures to solve quantitative calculations in science.
2. Explain the structure of atoms, isotopes and ions in terms of subatomic particles.
3. Understand the differences between physical and chemical changes to matter, and utilize the IUPAC system of nomenclature and knowledge of reaction types to describe chemical changes, predict products and represent the process as a balanced equation.
4. Apply the mole concept to amounts on a macroscopic and a microscopic level and use this to perform stoichiometric calculations including for reactions in solution, gases and thermochemistry.
5. Apply the gas laws and kinetic molecular theory to relate atomic level behavior to macroscopic properties.
6. Describe the energy conversions that occur in chemical reactions and state changes, relating heat of reaction to thermodynamic properties such as enthalpy and internal energy, and apply these principles to measure and calculate energy changes in reaction.
7. Use different bonding models to describe formation of compounds (ionic and covalent) and apply knowledge of electronic structure to determine molecular spatial arrangement and polarity.
8. Analyze how periodic properties (e.g. electronegativity, atomic and ionic radii, ionization energy, electron affinity, metallic character) and reactivity of elements results from electron configurations of atoms.



Early chemists describe the first dirt molecule

Course Text

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 recom mended - 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/INSTRUCTOR COMMUNICATIONS

- **Please use the messaging function in UNM Canvas for course communications.** UNM email (Lobo Mail) should be used only when there are issues with Canvas messaging.
- When requesting meeting, please propose three (3) times that work for you in your initial request, and I'll choose from those if possible. This makes scheduling much more efficient
- It is the responsibility of the student to keep up with course announcements. ***Check Canvas Messaging daily and your UNM email daily!***

WHAT YOU'LL NEED (Required Resources)

- Course Text OpenStax Atoms First
- Calculator (non-graphing) with log/antilog and exponential functions
- Internet Access: *Canvas* and *UNM email address* ***must be checked regularly (daily)***

WHAT YOU'LL FIND USEFUL (Recommended Resources)

- Binder for lecture notes, handouts, group activities
- Chemistry notebook: keep track of problem solving, identify patterns, record areas of difficulty
- Small markerboard to share your work with classmates
- Periodic Table: download your favorite from the internet! Having a paper copy available while you are working will be very useful

WHAT IF YOU NEED HELP? (UNM-Valencia Resources)

- **Instructor**: Class, office hours
- **STEM Center**: Tutors*, molecular modelling kits, Laptops, textbooks (see UNM Canvas for remote tutoring instructions)

* Reminder: when using tutors, it is the **students'** responsibility to make sure they understand well enough to complete the problems on **their own**.

HOW IS YOUR GRADE DETERMINED?

(Exams, Quizzes, Homework, and the Like)

	How Many	Weight
Class Points	1	10 %
Homework	10	25 %
Exams	4	50 %
Final Exam	1	15 %
Total		**100 %**

* Approximate values

** Each equally weighted, 12.5 % each

WHAT DO I NEED FOR AN A?

(What's the grading scale?)

Earn This %	Get This Grade
98	A+
92	A
90	A-
88	B+
83	B
80	B-
78	C+
73	C
69	C-
67	D+
62	D
60	D-
55	F+
0	F

What Will My Routine Be Like?

- **Before Class**: complete any prepatory assignment (reading, video, etc.)
- **During Class:** Work in groups in breakout rooms to master concepts. The more you put in, the more you'll get out. There will also be some recorded lectures to fill out the and show some more examples.
- **After Class:** work on homework assignment relevant to that day's topic (review notes, **WORK ON PROBLEMS**, think of questions for office hour visits, etc.
- **Repeat 29-ish times!**

What Will Each Class Be Like?

- **Course Business**
- **Group Activity:** collaborative activities to help master that day's topic
- **Reflection:** an opportunity to put the day's lesson into larger perspective, and formulate/ask questions
- **Quiz**: (after class) covering material recently covered and any assigned preparation (reading, video, etc.)
- **Homework**: Work on Mastering Chemistry assignment

Class Policies, Strategies for Success, and Important Dates

- **Be There.** Attendance is expected.
  - I will exercise my discretion to without notice to drop any student who:
    - misses the first two meetings or has not registered any activity in UNM Canvas and/or Mastering Chemistry by the end of the 2nd week;
- **Be on time.** Class meetings will begin promptly, I hope. Please try to join in promptly as well.
- **When class ends, the work is just beginning.** Expect to dedicate at least 9 out-of-class hours per week for this class. Electronic quizzes (UNM Canvas) and homework (Mastering Chemistry) will be assigned regularly.
- **Make a schedule.** Most of your overall work in the class will be "on your own." Make a plan, stick to it, and don't fall behind!

All of this is flexible. These continue to be challenging times, and I realize that everyone has many additional stresses in their lives. I don't want to add to it more than necessary. Please don't hesitate to ask about deadlines and the like.

Selected Important Dates & Holidays[1]	
Mon, 15 Jan 2024	University Holiday – Martin Luther King Day (campus closed)
Fri, 26 Jan 2024	Last day to register, ADD sections and change credit hours on LoboWEB Enrollment cancellation for non-payment on LoboWEB
Fri, 02 Feb 2024	Last Day to DROP without "W" grade and 100% tuition refund on LoboWEB
Fri, 09 Feb 2024	Last Day to CHANGE grade option
Sun, 10 Mar 2024	University Holiday – Spring Break (through Sun, 17 Mar 2024)
Fri, 12 Apr 2024	Last Day to DROP **WITHOUT** Dean's Permission on LoboWEB
Mon, 06 May 2024	Final Exam (for this section)

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

WHEN WE LEARN THIS STUFF?

(Schedule is aspirational, approximate and subject to change by the instructor, public health orders, and other circumstances beyond our control)

Class	Date	Topics/Activities/Text Sections
1	Mon 15 Jan	Martin Luther King Day – No meeting
2	Wed 17 Jan	Nuclear Atom GA[2] (2.1)
3	Mon 22 Jan	Dalton's Atomic Theory (2.1 – 2.3)
4	Wed 24 Jan	Periodic Table, Average Atomic Mass GA (2.6)
5	Mon 29 Jan	Dimensional Analysis GA (1.6)
6	Wed 31 Jan	Chemical Bonding, Formulas and Naming (2.4)
7	Mon 05 Feb	Molar Mass: Counting by Weighing GA (2.4)
8	**Wed 07 Feb**	**Exam 1 (Chapters 1 & 2)**
9	Mon 12 Feb	Electron Shapes: Quantum Description of Matter GA (3.1, 3.3)
10	Wed 14 Feb	Electronic Configurations of Atoms GA (3.4)
11	Mon 19 Feb	Periodic Trends GA (3.5)
12	Wed 21 Feb	Bond Polarity, Dipoles, Bond Characteristics (4.4 – 4.5)
13	Mon 26 Feb	Lewis Structure GA (4.4 – 4.5)
14	**Wed 28 Feb**	**Exam 2**
15	Mon 04 Mar	VSEPR Theory (4.6)
16	Wed 06 Mar	Hybridization (5.1 – 5.3)
	Mon 11 Mar	Spring Break – No Meeting
	Wed 13 Mar	Spring Break – No Meeting
17	Mon 18 Mar	Energetics of Ionic Bonding (handout)
18	Wed 20 Mar	Molecular Orbital Theory (5.4)
19	Mon 25 Mar	Molecular Orbital Theory (5.4)
20	Wed 27 Mar	Balanced Chemical Equations GA, Classifying Reaction (7.1 – 7.2)
21	Mon 01 Apr	**Exam 3**
22	Wed 03 Apr	Stoichiometry GA, L.R. GA, % Yield, (7.3 – 7.4)
23	Mon 08 Apr	Solution Stoichiometry. Aqueous Solutions, Molarity (7.4 – 7.4)
24	Wed 10 Apr	Aqueous Reactions, Net Ionic Equations (6.4, 7.3)
25	Mon 15 Apr	Ideal Gas Equation GA GA (8.1 – 8.2)
26	Wed 17 Apr	Gas Stoichiometry and Gas Mixtures GA (8.3)
27	Mon 22 Apr	Kinetic Molecular Theory GA, Real Gases, (8.4 – 8.5)
28	Wed 24 Apr	**Exam 4**
29	Mon 29 Apr	Thermochemistry and Calorimetry (9.1 – 9.2)
30	Wed 01 May	Hess' Law and Reaction Enthalpies (9.3)
	Wed 06 May	**Final Exam**

That molecule on the first page – canvas message me its name for 5 assignment points. Offer expires after exam 1 is distributed. Hint – This molecule is used to control both rats and blood clots

[2] GA indicates group activity

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 Accessibility Resource Center at arcsrvs@unm.edu or by phone at 505-277-3506. The UNM-Valencia Equal Access Services (Sarah Clawson, Coordinator), at (505) 925-8840 or by email at sjclawson@unm.edu.

Equal Access Services

Support

Visit my drop-in hours, contact me via Canvas messaging or email (jgodbout@unm.edu).

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 four credit-hour course. Class meets for two 75-minute sessions of direct instruction and 120 minutes of lab/recitation instruction per week for sixteen weeks during the Spring 2024 semester. Please plan for a minimum of nine hours of out-of-class work (or homework, study, assignment completion, and class preparation) each week.

Support

Resources to support study skill and time management are available through

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. 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.

Resources to support study skills and time management are available through Student Learning Support at the Center for Teaching and Learning.

Title IX

Our classroom and our university should always be spaces of mutual respect, kindness, and support, without fear of discrimination, harassment, or violence. Should you ever need assistance or have concerns about incidents that violate this principle, please access the resources available to you on campus. Please note that, because UNM faculty, TAs, and GAs are considered "responsible employees" any disclosure of gender discrimination (including sexual harassment, sexual misconduct, and sexual violence) made to a faculty member, TA, or GA must be reported by that faculty member, TA, or GA to the university's Title IX coordinator. For more information on the campus policy regarding sexual misconduct and reporting, please see: https://policy.unm.edu/university-policies/2000/2740.html.

Title IX Policy

Support

LoboRESPECT Advocacy Center and the support services listed on its website, the Women's Resource Center and the LGBTQ Resource Center all offer confidential services and reporting.

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

Citizenship/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 be incorrect or misleading. 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 CO9). 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 PASOS (Pathways to Articulation and Sustainable Opportunities for Students), TRIO Student Support Services, and Student Learning Support at the Center for Teaching and Learning.

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. Two 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.

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.

Your advisor, staff at the resource centers and I can help you find the right opportunities for you.

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, or email. I can 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 symptoms or those of any other contagious infection, 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. 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.

TimelyCare: Free 24/7 virtual care services (medical, emotional support, health coaching, self-care, basic needs support. Go to http://timelycare.com/unm.

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

Academic Integrity

Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. Here is the link to the UNM Academic Dishonesty Policy:

Academic Integrity Policy

https://policy.unm.edu/regents-policies/section-4/4-8.html. or scan the QR code above:

The policy states: *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 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.