

Syllabus

I. General Information

Instructor:	Dr. Piotr Filipczak
Phone/Email:	505-925-8876 / pfilipczak@unm.edu
Office Hours (on-campus):	Monday and Wednesday, 10:30 am to 11:30 am Tuesday and Thursday, 1:00 pm to 2:00 pm
Office Hours (online):	Tuesday and Thursday, 4:00 pm to 4:30 pm https://unm.zoom.us/j/97696043404 Meeting ID: 976 9604 3404
Office Number:	VAAS 132A
Course Section:	550
Meeting Room:	Online
Meeting Time:	Asynchronous

II. Course Description

Prerequisite: ACT =>22 or SAT =>510 or MATH 1215 or MATH 1220 or MATH 1240 or MATH 1430 or MATH 1440 or MATH 1510 or MATH 1520 or MATH 2530.

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.

III. Resources

- "Chemistry, Atoms First" 2e from OpenStax (*textbook*).
- Canvas (*learning management system for communication, grades entry, resources navigation and selected assignments*).

IV. Student Learning Outcomes

Lecture Student Learning Outcomes:

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 is released or absorbed in a reaction.

8. Describe acid and base behavior.

9. Explain the intermolecular attractive forces that determine physical properties; apply this knowledge to qualitatively evaluate these forces and predict the physical properties that result.

Laboratory Student Learning Outcomes:

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.

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.

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. Student who missed 15% of a class time (which stands for 5 meetings) may be dropped by the instructor with a W, F or D (depending on the stage of the course). Exceptions may be made for documented medical reasons including COVID-19.

Technology & Computer Requirements:

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

VI. Students Evaluation Criteria

Type of Assignment:	Points per Assignment:	Total Points in this Category:	Percentage of the Final Grade:
Homework (5x)	20 pts	100 pts	12.5%
Quizzes (5x)	20 pts	100 pts	12.5%
Lab Reports (8x)	10 pts	80 pts	10.0%
Discussions (4x)	5 pts	20 pts	2.5%
Partial Exams (3x)	100 pts	300 pts	37.5%
Final Exam (1x)	200 pts	200 pts	25.0%
Total	NA	800 pts	100.0%

- **Homework:** To be completed online via Canvas.
- **Quizzes:** To be completed online via Canvas. One lowest score will be dropped from the final grade.
- **Lab Manuals:** To be completed in person during laboratory meetings.
- **Discussions:** Administrated once per month via Canvas. All four discussions count.
- **Partial Exams:** To be completed in class on days indicated in the course schedule.
- **Final Exam:** To be completed in class during the final week of the course.
- **Extra Credit:** Practice final exam, which will be administrated online via Canvas in the second last week of the course, is the only extra credit opportunity that will contribute up to 5% of student's final grade.

Grading scale:

- 100 or higher: A+
- 94-99.99: A
- 90-93.99: A-
- 87-89.99: B+
- 83-86.99: B
- 80-82.99: B-
- 77-79.99: C+
- 73-76.99: C
- 70-72.99: C-
- 60-69.99: D
- below 60: F

VII. Course Policies

Academic Integrity: All homework, quizzes and exams in this course must be completed by students as their original and individual work. No group work is allowed when it comes to completing these assignments. While taking quizzes and exams, only resources listed by the instructor (such as non-graphing calculator, scratch paper, periodic table etc.) are allowed. Use of any other resources such as but not limited to textbooks, unauthorized internet websites, personal notes are forbidden. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. For more details on academic integrity violation examples, please see the UNM Academic Dishonesty Policy: <https://policy.unm.edu/regents-policies/section-4/4-8.html>.

Compliance and Safety: Students must read, understand and obey safety rules while present in chemical laboratory. That will be documented by signing safety contract during the first on-campus meeting. Student who does not obey the safety rules and brings the risk on himself/herself and/or on colleague students, may be suspended from the class by the instructor at any time of the course with the consequent non-passing grade.

Disruptive Behavior: Disruptive behavior will not be tolerated and can lead to being dropped from the course at the instructor's discretion. No "guests" will be allowed unless they are explicitly invited to attend the class by the instructor.

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. When you use a resource in work submitted for this class, document how you used it and distinguish clearly between your original work and the material taken from the resource. For information specifically about AI usage—see <https://airesources.unm.edu/instructors/index.html>. 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 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. 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 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. 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, dis-crimination, 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 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>), the Women's Resource Center (<https://women.unm.edu>), and the LGBTQ Resource Center (<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 CEEO'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 ceo@unm.edu. The CEEO staff will provide you with access to available resources and supportive measures and assist you in understanding your rights. Pregnancy and Parenting Support information is available here. Support: Confidential services for students are available at 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. The Women's Resource Center supports all students, including those who are pregnant or are parents. rights. UNM Pregnancy and Parenting Support information is available. 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.

VIII. Course Schedule

Wk	Date	Topic	Assignment
1	1/20	Essential Ideas, Math and Measurements	
2	1/27	Atoms and Elements	H#1
3	2/3	Periodic Properties of Elements	Q#1
4	2/10	Electron Configurations	H#2
5	2/17	Chemical Compounds	Exam #1
6	2/24	Lewis Model and Molecular Geometries	Q#2
7	3/3	Types of Chemical Reactions	H#3
8	3/10	Reaction Stoichiometry	Q#3
9	3/17	Spring Break, No Activates	
10	3/24	Solutions	Exam #2
11	3/31	Gases	H#4
12	4/7	Thermochemistry	Q#4
13	4/14	Intermolecular Forces and Physical States	H#5
14	4/21	Acids and Bases	Exam #3
15	4/28	Organic Chemistry	Q#5
16	5/5	Course Review	Q#6, PFE
1	5/12	In-Person Final Exam	

Wk – Week of the Course, H – Homework, Q – Quiz, L – Lab, PFE – Practice Final Exam