CHEM 1225L: General Chemistry II for STEM Majors Laboratory

Fall 2019 – Section 501 – CRN 64810

Instructor: Dr. Jerry Godbout

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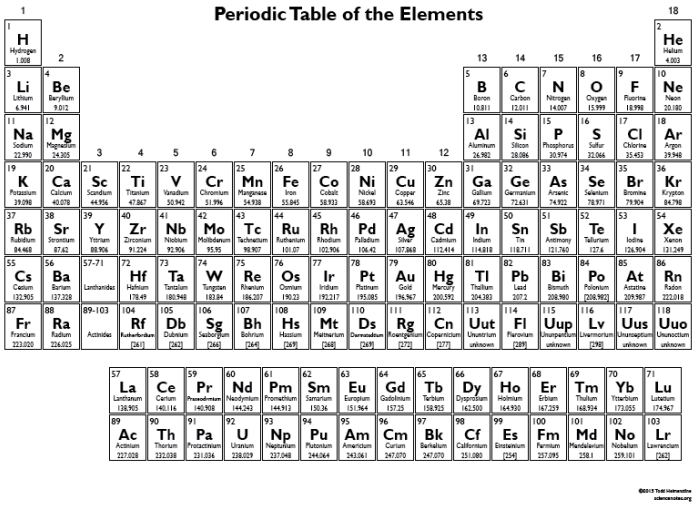
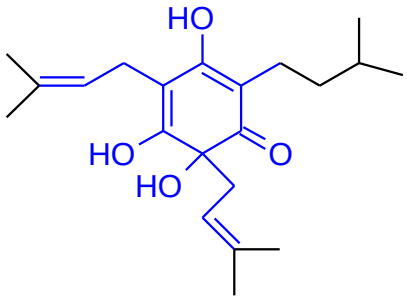
Office Hours: Monday 1:00 pm – 4:00 pm, Tuesday, 3:30 – 4:30 pm
Wednesday 3:00 pm – 4:00 pm, Thursday 9:00 am – 10:00 am,
and anytime by appointment

Meeting Times: Wednesday 10:30 am – 1:15 pm, VAAS 128

Course Description: General Chemistry II Laboratory for Science Majors is the second of a two semester sequence of laboratory courses designed to complement the theory and concepts presented in General Chemistry II lecture. The laboratory component will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.





COURSE/INSTRUCTOR COMMUNICATIONS

- Email is the most effective. Electronic communication for this course **MUST** be through your UNM email.
- When requesting an appointment (which I am always happy to schedule), please propose three (3) times that work for you in your initial request. This will simplify and quicken the process
- It is the responsibility of the student to keep up with course announcements. ***Check your UNM email and Blackboard Learn daily!***

WHAT YOU'LL NEED (Required Resources)

- Chemistry: A Molecular Approach (3rd or 4th ed)
- Safety goggles, Lab Coat, Lab Notebook (CHEM 123L notebook may be used)
- Calculator (non-graphing) with log/antilog and exponential functions
- Internet Access: *Blackboard Learn* and *UNM email address* ***must be checked daily!***

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

- **Instructor**: Office hours, STEM Center Hours, email
- **STEM Center**: Tutors*, molecular modelling kits, Laptops, textbooks

*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	Points
Experiments & Activities	8	240
Project Proposal	1	40
Project Poster	1	80
Project Presentations	1	80
Final Exam	1	15 %
Total		**100 %**

* Approximate values

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

Important Dates & Holidays	
Fri 30 Aug 2019	Last day to register, ADD sections, and change credit hours Enrollment cancellation for non-payment
Mon 02 Sep 2019	University Holiday – Labor Day
Fri 06 Sep 2019	Last Day to DROP without "W" grade and 100% tuition refund on LoboWEB, Last Day to CHANGE grade option
Thu 10 Oct 2019	University Holiday – Fall Break
Fri 08 Nov 2019	Last Day to withdraw **WITHOUT** Dean's Permission
Thu 28 Nov 2019	University Holiday – Thanksgiving
Fri 06 Dec 2019	Last day to change grading options Last Day to withdraw **WITH** Dean's Permission

WHEN WE LEARN THIS STUFF?

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

Week	Activity
1 21 Aug	• Safety, Lab Notebook, Measurements • 121 Review Games
2 28 Aug	Activity TBA
3 04 Sep	Colligative Properties of Candles
4 11 Sep	Solution Spectroscopy
5 18 Sep	Kinetics of Food Coloring Bleaching
6 25 Sep	Hard Water Titration
7 02 Oct	Le Châtelier's Principle
8 09 Oct	Independent Project Part I
9 16 Oct	K_a Determination for a Weak Acid
10 23 Oct	Mole Day – Stay Tuned!
11 30 Oct	Independent Project Part II – Experimentation
12 06 Nov	Independent Project Part II – Experimentation
13 13 Nov	Independent Project Part II – Analysis
14 20 Nov	TBA
15 27 Nov	Final Project PowerPoint Presentation
16 04 Nov	Project Poster Session
Final Exam Week - no assignments, no lab	

Course-Level Student Learning Outcomes

By the end of the course, students will be able to…

1. Demonstrate and apply 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 with the correct units, 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. Prepare solutions with an acceptable accuracy to a known concentration using appropriate glassware.
5. Perform basic laboratory operations related to, but not limited to, gas behavior, colligative properties of solutions, calorimetry, chemical kinetics, chemical equilibria, acid/base titrations, electrochemistry, metal reactivity, and qualitative analyses of ions.
6. Draw conclusions based on data and analyses from laboratory experiments.
7. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes, as required.
8. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.
9. Design experimental procedures to study chemical phenomena

Independent Research Project

- The independent research project for CHEM 124L has three components: the research proposal, the lab poster, and the research presentation (powerpoint).
- Each lab group will develop their independent research proposal. It must involve non-alcoholic liquids (ie. cola, milk, tea, coffee, fruit juice, well water, etc.). The proposal must be approved by Dr. Godbout. No two groups will test the same hypothesis or do the same experiments.
- The research proposal is due week 8. Turn in 1 per lab group. Include the hypothesis, a COMPLETE list of materials required, a proposed method (refer to a published laboratory procedure), and references. You will be graded on originality, organization, completion, sound scientific ideology and proper grammar.
- After approval of your research proposal, you will conduct the experiments during week 10 through week 12. No unauthorized experiments should be conducted at this time. If an unauthorized experiment is conducted, you will receive a zero on all components of the independent research proposal.
- If experimentation is completed during weeks 10-12, lab time on week 13 should be used to begin to compile data, discuss interpretation with Dr. Terry, and create the lab poster and presentation.
- The research presentation will occur in class during week 15, the poster is also due at this time.
- The poster session will occur in the hallway outside of lab during week 16.

Other Things That Aren't Chemistry, But Are Still Important
(University Policies)

Equal Access Services

If you have a documented disability or psychological/medical condition that may affect your performance in this class, please register with Equal Access Services as soon as possible so I can provide your accommodations in a timely manner. EAS can provide a quiet place to take exams, additional time, and additional services if there is a documented need. For more information, please see their website at https://valencia.unm.edu/students/advisement-and-counseling/equal-access-services.html, or scan the QR code at right:

Equal Access Services

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:

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

Academic Integrity Policy

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.

Sexual Misconduct and Gender Discrimination

In an effort to meet obligations under Title IX, UNM faculty, teaching assistants, and graduate assistants are considered "responsible employees." by the Department of Education (see page 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report made to a faculty member, TA, or GA regarding sexual misconduct or gender discrimination must be reported to the Office of Equal Opportunity and the Title IX Coordinator. For more information on this policy, https://policy.unm.edu/university-policies/2000/2740.html or scan the QR Code at right:

Title IX Policy