CHEM 1215L: General Chemistry I for STEM Majors Laboratory

Spring 2020 – Section 501 – CRN 50458

Instructor: Dr. Jerry God	bout	Office: VAAS 102A Email: jgodbout@unm.edu Phone: 505.925.8611	
Office Hours:	Monday 1:00 pm – 4:00 pm, Tuesd and anytime by appointment	ay, 2:00 – 4:00 pm	
Meeting Time:	Wednesday 10:30 am – 1:15 pm, V	AAS 128	
Catalog Description:	This course provides practice in laboratory glassware and instrume information, and in performing che	is course provides practice in laboratory measurements, using ooratory glassware and instrumentation, communicating scientific formation, and in performing chemical calculations.	
Catalog Description:	Introduction to basic chemical labo Meets New Mexico Lower Division Curriculum Area III: Science. Prere or MATH 1240 or MATH 1250 or M MATH 1512 or MATH 1522 or MAT Math Section =>590. Pre- or corequ	oratory principles and techniques. General Education Common Core quisite: MATH 1220 or MATH 1230 4ATH 1430 or MATH 1440 or FH 2530 or ACT Math=>25 or SAT uisite: 1215 or 131.	

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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!*

COURSE REQUIREMENTS (Resources and Conduct)

- Chemistry: A Molecular Approach (3rd or 4th ed)
- Safety goggles, Lab Coat, Lab Notebook
- Calculator (non-graphing) with log/antilog and exponential functions
- Internet Access: *Blackboard Learn* and *UNM email address* **must be checked daily!**
- Mandatory laboratory clothing: GOGGLES, closed toed flat shoes (no high heels, no exposed toes, no exposed heels), and LAB COATS are all REQUIRED FOR MOST LABS. Students without proper personal protective equipment will not be allowed in lab
- Laboratory **SAFETY AND CLEANLINESS WILL BE CLOSELY MONITORED.** (Safety Rules may be found in the first lab worksheet.) Points will be deducted for safety violations (food in lab, not wearing goggles properly, improper disposal of chemicals, etc.) and for improper treatment of lab equipment

How Is Your Grade Determined?

(Exams, Quizzes, Homework, and the Like)

	How Many*	Points
Experiments & Activities	10	300
Quizzes	6	10
Infographic Proposal and Draft	1	40
Final Infographic	1	80
Final Exam	1	100
Total		530

* Approximate values

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**.

WHAT DO I NEED FOR AN A?

(What's the grading scale?)

Earn This Many Points	Get This Grade
519	A+
488	А
477	A-
466	B+
440	В
424	B-
413	C+
387	С
366	С-
355	D+
329	D
318	D-
290	F+
0	F

The exam will consist of three components: a question/answer component, basic measurements, and developing a procedure based on previous labs. A 15 pts Bonus will be earned for no lab safety violations

Student Learning Objectives

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. 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. Demonstrate mastery in experimental techniques, such as pressure measurements, calorimetric measurements, and spectrophotometric measurements.
- 7. Draw conclusions based on data and analyses from laboratory experiments.
- 8. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.
- 9. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.
- 10. Design experimental procedures to study chemical phenomena.

Tentative Schedule – Check UNM Learn and email for updates

Meeting	CHEM 1215L Schedule	Required	
1 20 Jan 2020	Laboratory Introduction (Schedule, Syllabus, Safety, Lab Notebook, Measurements, Unit	Nothing yet	
2 29 Jan 2020	Conversion Activity) It's All About the Weight (Density, Precision, Accuracy, Significant Figures) Friday, Feb 3rd – Last day to drop with full refund	BBL Quiz PreLab: Sci Method Lab coat, goggles, closed-toe shoes	
3 05 Feb 2020	TBD	Watch this space	
4 12 Feb 2020	Pottery and Pigments (Reactivity of Ionic Compounds)	Lab coat, goggles, closed-toe shoes Lab Notebook (no prelab)	
5 19 Feb 2020	Chemical Reactions of Copper (Reaction Stoichiometry and Percent Yield)	Lab coat, goggles, closed-toe shoes Lab ntbk with completed pre-lab Turn in Pottery & Pigments Lab	
6 26 Feb 2020	Acid Base Titration (Reaction Stoichiometry)	Lab coat, goggles, closed-toe shoes Lab ntbk with completed pre-lab	
7 04 Mar 2020	Synthesis of Biodiesel	Lab coat, goggles, closed-toe shoes Lab ntbk with completed pre-lab	
8 11 Mar 2020	The Automobile Airbag (Gas Stoichiometry)	Lab coat, goggles, closed-toe shoes Lab ntbk with completed pre-lab	
18 Mar 2020	Spring Break		
9 25 Mar 2020	Calorimetry Lab – Heat of Combustion of Biodiesel	Lab coat, goggles, closed-toe shoes Lab ntbk with completed pre-lab	
10 01 Apr 2020	 Infographic: Background Assign topics to lab groups Discuss infographic requirements Begin research and background information 	Bring laptops if you have them (not required).	
11 08 Apr 2020	Atomic Spectra (instrument calibration) Atomic Trend Activity	Lab coat, goggles, closed-toe shoes Lab ntbk no prelab due Turn in Atomic Spectra Lab before leaving.	
12 15 Apr 2020	Electron Configuration Activity	Infographic First Draft due via email	
13 22 Apr 2020	LDS/VSEPR/IMF Activity	Lab ntbk with completed pre-lab Infographic Final Draft due via email	
14 29 Apr 2020	Lab Practical and Final Exam	Lab coat, goggles, closed-toe shoes Lab ntbk for reference.	
15 06 May 2020	Infographic Presentations		

Important Dates & Holidays		
Mon, 20 Jan 2020	University Holiday – Martin Luther King Day	
Fri, 31 Jan 2020	Last day to register, ADD sections, and change credit hours on LoboWeb	
	Enrollment cancellation for non-payment	
Fri, 07 Feb 2020	Last Day to DROP without "W" grade and 100% tuition refund on LoboWEB,	
Fri, 14 Feb 2020	Last Day to CHANGE grade option	
Sun, 15 Mar 2020	University Holiday – Spring Break (through Sat, 22 Mar 2020)	
Fri, 17 Apr 2020	Last Day to withdraw WITHOUT Dean's Permission	
Fri, 08 May 2020	Last Day to withdraw WITH Dean's Permission	

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/advisementand-counseling/equal-access-services.html, or scan the following QR code:



Equal Access Services

A complete list of student services available in the UNM Valencia campus may also be found on the course UNM-Learn page.

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 a QR code and link to the UNM Academic Dishonesty Policy:



Academic Integrity Policy

https://policy.unm.edu/regents-policies/section-4/4-8.html. 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 misrepresenttation 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 below:



Title IX Policy