Syllabus

I. General Information

Instructor:	Dr. Piotr Filipczak
Phone/Email:	505-925-8876 / pfilipczak@unm.edu
In-Person Office Hours:	- Monday (8:30 to 9:00 am and 3:00 to 5:00 pm) - Wednesday (8:30 to 9:00 am and 10:30 to 11:00 am) - Thursday (8:30 am to 9:00 am)
Office Number:	VAAS 132A
Course Section:	502
Meeting Room:	VAAS 128
Meeting Time:	Monday (10:30 am to 1:15 pm)

II. Course Description

Prerequisite: MATH 1220 or MATH 1230 or MATH 1240 or MATH 1430 or MATH 1440 or MATH 1510 or MATH 1520 or MATH 2530.

Co-requisite: CHEM 1215.

General Chemistry I Laboratory for Science Majors is the first semester laboratory course designed to complement the theory and concepts presented in General Chemistry I lecture. The laboratory component will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

III. Resources

Instructor will provide lab manuals to students by posting them in Canvas prior to the class on the weekly basis. There is no fee for these manuals, but students have to print them out. In addition, students **must have a pair of laboratory safety googles**, wear closed shoes (no crocks), long sleeve pants and shirt that may be exposed to irreversible damage. Alternatively, students may choose to wear a laboratory coat.

IV. Student Learning Outcomes

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.

V. Course Requirements

Attendance: For as long as the New Mexico state regulations in regards to ongoing COVID-19 pandemic allow, this is on-campus, face-to-face course. Students enrolled in the course are obligated to attend at least **85%** of meetings and complete at least **85%** of lab reports. Thus, missing **3** out of 16 on-campus meetings or not completing **3** out of 13 lab reports may result in a failing grade. Students who missed **15%** of the course will be dropped by the instructor with a W, F or D (depending on the stage of the course).

Compliance and Safety: Students must read, understood 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.

VI. Students Evaluation Criteria

Type of Assignment:	Points per Assignment:	Total Points in this Category:	Contribution to the Final Grade:
Lab Reports(10x)	10 pts	100 pts	33.3%
Quizzes (10x)	10 pts	100 pts	33.3%
Midterm Exam (1x)	40 pts	40 pts	21.43%
Final Exam (1x)	60 pts	60 pts	35.72%
Total		**300 pts**	**100.00%**

- **Lab Reports:** Experimental component to be completed in class. Complete lab report to be turn in within one-week time. Two lowest scores will be dropped from the final grade.
- **Quizzes:** Closed-book assignments to be completed in class. One lowest score will be dropped from the final grade.
- **Midterm and Final Exam:** Closed-book assignments be completed in class during the final week of the course.

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 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, understood 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.

Communication: Instructor will do his best to follow original schedule of this course. However, because of the element of unpredictability caused by ongoing COVID-19 pandemic, some modest changes to the course design such as exact number of assignments, face-to-face meetings or other aspects of the course cannot be completely ruled out. Whenever the modification is applied, it will always be implemented to favor students' success in the course, and will be announced by the instructor as soon as possible. It is the student's responsibility, however, to pay attention to the instructor's communications, and in case of any confusion or conflict, communicate back ASAP. All information important to the course will be passed to students via Canvas: either as announcement posted in the course content, or as an email sent to all students via Canvas, or both. Thus, keep in mind to (i) log in to your Canvas account REGULARLY (at least two times per week) and (ii) remember that all email correspondence will take place via student's @unm.edu address which is associated with your Canvas account (correspondence via other email addresses is not allowed).

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.

Communication on Change in Modality: The university may direct that classes move to remote delivery at any time to preserve the health and safety of the students, instructor and community. Please check your email and your UNM Learn site regularly for updates about our class, and please check https://bringbackthepack.unm.edu regularly for general UNM updates about COVID-19 and the health of our community.

COVID-19 Health and Awareness: COVID-19 Health and Awareness. UNM is a mask friendly, but not a mask required, community. If you are experiencing COVID-19

symptoms, please do not come to class. If you do need to stay home, please communicate with me at pfilipczak@unm.edu; 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. Please be aware that UNM will publish information on websites and email about any changes to our public health status and community response.

Support:

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

Students with Disabilities:

If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodations. I will then discuss the accommodations with you to determine the best learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Yolanda Pino, the coordinator for Equal Access Services at 925-8910 or pinoy@unm.edu.

Equal Opportunity and Non-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. This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html.

VII. Course Schedule

Week	Date	Topic
1	8/21	Safety, Laboratory Equipment and Essential Math
2	8/38	Density of Liquids and Solids
3	**9/4**	**Labor Day, No Class**
4	9/11	Paper Chromatography
5	9/18	Determining Percent Composition of Compounds
6	9/25	Chemical Reactions with Copper
7	10/2	Determining Chromium Concentrations using Spectrometry
8	10/9	**Midterm Exam**
9	10/16	Titration and Acid-Base Neutralization Reactions
10	10/23	Specific Heat of Substances
11	10/30	Gas Evolution Analysis of Alka-Seltzer
12	11/6	Characterizing Elements via Emission Spectra Analysis
13	11/13	Lewis and VSEPR Theories
14	11/20	Analysis of Phosphates Concentration in Water
15	11/27	Course Review
FINAL WEEK	12/4	**Final Exam**