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General Chemistry I Lab

CHM 2045L

Spring 2018

Laboratory
W 9:00 - 11:50 am
Building 50, Room 2714
Office Hours
W 1-5 pm, F 4-5 pm

Course Information and Requirements

Web Sites for Additional Information:

<http://www.unf.edu/~michael.lufaso/chem2045L/> and <http://canvas.unf.edu/>

Required Materials:

Lab Manual: "CHM2045L Spring 2018 *General Chemistry I Laboratory Manual*", 23rd ed.

Homework Companion: MasteringChemistry online tutorial and homework student access kit or code, either purchased with the 14e textbook or purchase and register separately through the Canvas 'MyLab and Mastering' link.

Calculator (Scientific): For lab quizzes, the use of calculators capable of communications is prohibited. Suggested calculators should be capable of scientific notation, log, and exponential functions. Examples: TI-30,-34,-36X; Sharp EL-509,531; Casio FX-250,260,280; HP 20S, 32SII.

Safety: Glasses with side shields or goggles, shoes that cover the top of the foot, and either long pants to the ankle or a lab coat must be worn in lab at all times. You will not be permitted to start the lab without the proper safety gear. Safety glasses will not be provided, but may be borrowed with a 10% reduction in the lab report score. Failure to wear safety glasses will first result in a warning and 10% penalty to the lab report score, and a second offense will result in dismissal from the lab and no credit for that day's lab. You are reminded to maintain medical insurance coverage through UNF health service or a private agency. No food or drinks are allowed inside the laboratory.

Prerequisite: CHM 1025,1025L or H.S. chemistry with B or better, MAC1105. Co-req.: CHM 2045

Attendance: You must attend every scheduled lab session. Laboratory sessions begin promptly at 9 am. The quiz starts promptly at 9 am and you may not start the quiz late. A 5% penalty will be applied to the lab report for arriving late to lab. If you miss the lab and safety discussion, you will not be able to perform the experiment. It is assumed all students will be in lab on time and remain until dismissed. There is a limit of only two excused and three total absences for the entire semester. If you miss a lab, you must contact me within 48 hours; otherwise, the absence is unexcused. Lab absences will be excused only for unavoidable circumstances and with appropriate documentation (e.g. doctor's note, police report). If you are unable provide documentation for your absence, it will be considered unexcused and a score of zero for the lab report will be assigned.

Lab Technique: Laboratory neatness and cleanliness are important. It is your responsibility to maintain your lab station in a neat and clean condition. Always clean your labware and place it in the proper location before leaving the lab. A 2% penalty is assessed on your lab report (data sheet) if your lab station is left untidy.

Lab Partners: When performing experiments in the lab, it will be necessary for you to work with an assigned partner (not more than one partner). Your partner's name should be written at top of your data sheet. All data sheets, pre/post lab problems, and analysis should be performed independent of your partner and any lab study group. Duplication of lab report submissions will result in severe penalty for both partners (lab group).

Lab Reports: All lab submissions must be organized and written neatly. Grading of reports will take into account the neatness and clarity of the reports. All assignments (i.e. data sheets, quiz answers, lab reports) must utilize the correct number of significant digits, correct unit and boxed or circled for full credit. All work must be clearly shown in order to receive full credit. If no calculations are shown, no points will be awarded, even if the correct answers were obtained.

Grading and late assignments: Pre-lab assignments are due the night before each lab and laboratory reports (the data sheets, clearly shown work, and post-lab questions) are due at the beginning (9:00 am) of the lab session one week after completion of the experiment. The materials must be stapled. Any reports and assignments received after first 3 minutes of the lab session are considered late and will be penalized for being late. Late assignments may be turned in with 5% penalty for each hour late, rounded up to the nearest hour. It is the responsibility of the student to keep track of all the assignments due and turn them in on time.

Tutoring: The Academic Center for Excellence offers free peer-assisted tutoring in many subjects can be reached at <http://www.unf.edu/ace/>, 620-2766 or ACE@unf.edu. No appointment is necessary, but please refer to their tutoring schedule to ensure that a chemistry tutor is available. Please seek assistance if you are having difficulties in the class. Do not wait until the last minute.

Grading and Evaluation:

Performance and the final grade in the course will be evaluated on the basis of distribution total points earned. Weekly quizzes account for 10% of the score, pre-labs 10%, and the experiment data sheet, calculations, and questions account for 70%, and the lab practical exam accounts for 10% of the final score. There will be no extra credit work given in this lab. No quiz grade or any other assignment grade will be dropped.

The course will be graded so that A: 90 - 100%; A-: 88 - 90%; B+: 86 - 88%; B: 80 - 86; B-: 78-80; C+: 76 - 78%; C: 67 - 76%; D: 54 - 67%, F: <54%. +/- final grades will be assigned. Retain all graded papers so that you can present them if you become aware of a grade recording error. Ethical behavior is expected in all work inside and out of class. Penalties for academic misconduct are severe, up to and including zero (grade of "F") for the course and additional sanctions allowed by University regulations.

Academic Misconduct:

Any material submitted in General Chemistry must represent your own work and follow the Academic Integrity Code. Students supplying materials for others to "look at" (e.g. lab reports) may be charged with academic misconduct. Copying another student's work may be regarded as a violation of academic standards. Apparent violations of this standard will be referred to the Registrar's Office and Office of Academic Affairs. Punishment for cheating may range from receiving an F grade for the assignment to receiving an F for the course and possibly suspension and/or expulsion from the University. Students may appeal the instructor's decisions through university channels. More details are available at:

http://www.unf.edu/president/policies_regulations/02-AcademicAffairs/EnrollmentServices/2_0640P.aspx

Students with Disabilities

Students with disabilities who seek reasonable accommodations in the classroom or other aspects of performing their coursework must first register with the UNF Disability Resource Center (DRC) located in Building 57, Room 1500. DRC staff members work with students to obtain required documentation of disability and to identify appropriate accommodations as required by applicable disability laws including the Americans with Disabilities Act (ADA). After receiving all necessary documentation, the DRC staff determines whether a student qualifies for services with the DRC and if so, the accommodations the student requires will be provided. DRC staff then prepares a letter for the student to provide faculty advising them of approved accommodations. For further information, contact the DRC by phone (904) 620-2769, email (drc@unf.edu), or visit the DRC website (<http://www.unf.edu/drc/>).

Military and veteran students who return from combat exposure may be utilizing the post 9/11 GI bill to continue postsecondary education goals and may need both physical and academic accommodations. Contact Ray Wikstrom, Director of Military and Veterans' Resource Center by phone (904) 620-2655, email (ray.wikstrom@unf.edu).

Schedule:		Tentative laboratory schedule	
<i>Week</i>		<i>Topic</i>	<i>Exp. #</i>
1	Jan 10	Syllabus, Lab Safety, SIG-FIGS, & Safety Video	1
2	Jan 17	Dimensional Analysis, Measurement & Density	2
3	Jan 24	Separation of Components of a Mixture	3
4	Jan 31	Chemical Reactions I: Empirical Formula	4
5	Feb 7	Limiting Reactant: Synthesis of a Ni(II) Complex	5
6	Feb 14	Chemical Reactions II: Activity Series	6
7	Feb 21	Molarity & Dilution of Solutions	7
8	Feb 28	Titrations of Neutralization Reactions	8
9	Mar 7	Types of Chemical Reactions and Copper Cycle	9
10	Mar 14	Enthalpies of Reaction	10
11	Mar 21	Spring Break	
12	Mar 28	Chemical Reactions III	11
13	Apr 4	Drawing & Understanding Lewis Structures	12*
14	Apr 11	Charles' Law: Volume & Temperature	13
15	Apr 18	Lab Exam & Practical	

*Deadline to withdraw is April 6, 2018.

Satisfactory/Unsatisfactory Grades: For freshmen midterm grades, late withdraw forms, and other instances where a satisfactory/unsatisfactory grade is required, grades of C and above will be considered satisfactory, and grades of D and below will be considered unsatisfactory.

Grading Disputes: If you wish to dispute a score for an assignment, you must meet during office hours prior to the start of the next laboratory. In other words, you have a week after the assignments are returned to you. Grades will be considered final outside of this window. You must put your dispute in writing and point to specific instances in which you believe the evaluation of the assignment is incorrect.

Final Grade:

The grading scheme is listed on the second page of this syllabus, which contains a prebuilt "curve". I may adjust it slightly to benefit the student, but this is at my discretion. Your final grade is not negotiable and final grades may not be communicated over e-mail. Explanations of how many hours you spent studying, or how desperately you need a certain grade for a specific reason, or requests for extra credit, rounding up, or additional curving will not improve your grade at the end of the semester. E-mails of this type will not receive a response.

Purposes, Objectives, General Education Goals and Outcomes:

At the end of this course, students will be able to:

- Demonstrate basic comprehension of general chemistry through hands on experience of performing experiments;
- Familiarize and apply proper laboratory safety and standard laboratory techniques i.e. weighing, titration, etc.
- Produce and interpret scientific data and derive conclusions from these results;
- Communicate results and conclusions orally and through written reports.

I. Skills: Students should be able to:

A. think critically, reason soundly, and argue effectively, as demonstrated by the ability to:

- use systematic processes, including the collection and analysis of evidence, to form and support conclusions
- read and analyze complex texts

II. Knowledge: Students should know:

A. The natural and designed world,

- demonstrating a general knowledge of current scientific understanding of the history and nature of the universe, the earth, and of life forms
- demonstrating a general knowledge of the methods and traditions of analysis in the natural sciences

D. Mathematical and Quantitative Reasoning

- demonstrating proficiency in solving problems using mathematical concepts and quantitative reasoning