

CHEMISTRY 101 Lab/Recitation

NOTES and SCHEDULE

Sections 572-580

Dr. Joy Heising

Fall 2001

Required Materials:

- 1) "General Chemistry", Whitten, Davis and Peck, 6th Edition, 2000.
- 2) "Experiences in Chemistry - 1", by L. Peck and V. Williamson, Hayden-McNeil Publishers, 2001.
- 3) The lab notebook (8 1/2" x 11", perforated alternating white and yellow pages).
- 4) Approved eye protection. University and Departmental Regulations require that splash-proof, chemical goggles be worn by everyone present any time any experimentation is being conducted or any time chemicals or equipment are being moved by anyone in the laboratory. Failure to wear goggles will result in expulsion from the laboratory for the experiment involved. The Graduate Chemistry Fraternity will be at the labs the first week of lab to sell suitable goggles. The cost is \$5, cash or check.

Optional Materials:

- 1) Calculator suitable for use on lecture exams and in the lab: non-programmable without alphanumeric capabilities. Some of the acceptable/unacceptable calculators are listed on the bulletin boards.
- 2) Laboratory apron or a nonflammable lab coat. An apron or lab coat will be required in the laboratory if your shorts or skirt do not cover your knees.

Policy on Safety and Breakage

Before working in this laboratory/recitation portion of the course, every student must read the "Laboratory Safety" rules in the laboratory manual plus any Departmental Rules and agree in writing to abide by these rules. It is imperative for your safety that you and everyone around you strictly adhere to the Safety Rules.

Failure to comply with the safety regulations (*e.g.*, by not wearing eye protection at all times; by wearing open-toed shoes; by wearing short skirts or shorts without also wearing a lab coat or apron; by running an unauthorized experiment; or by removing chemicals or equipment from the lab) may result in dismissal from this portion of the course or deduction of points on your reports.

You will be utilizing equipment furnished by the Chemistry Department. It is your responsibility to properly maintain the equipment while it is in your care. If equipment that has been entrusted to you is not returned in satisfactory condition, you will be held responsible for it.

Lab/Recitation Grading and Absence Policy

Absences: The following schedule gives the date that each experiment, quiz, recitation activity, etc., is to be completed. Excused absences must be reported to your instructor in a timely manner. Only the instructor can arrange make-up sessions for students who missed due to a university approved reason.

Data Sheets: A data sheet must be submitted at the end of the lab period to receive a grade for that day's experiment. The data sheet may not be graded in some sections; however, the Report Form for the corresponding experiment will not be graded if the data sheet is not submitted the day the experiment is conducted.

PreLabs, Reports, and PostLabs: For each experiment you will receive a total score between 15 and 0. Normally, PreLabs are worth 3 points, lab reports are worth 10 points, and post labs are worth 2 points (unless otherwise stated). The PreLab Exercises associated with each experiment are due before you start the experiment. Data sheets are due at the end of the experiment. Report Forms and PostLabs are due the week after the experiment was run. The Report Form **must reflect information obtained by you** while in the laboratory and recorded on your data sheets. Neatness and completeness of your data sheets, PreLabs, Report Forms, and PostLabs may be considered when points are assigned. Points will be deducted for materials not submitted on the date due. Materials more than two weeks late will not be graded.

Lab/Recitation Quizzes: Quizzes (15 points each, usually 3 or 4 points per question) are scheduled at various times during the semester. The quizzes will reflect what you should have gained from previous weeks' experiments, what you should master before beginning the current week's activities, your ability to utilize techniques and concepts, and your understanding of the recitation topics discussed in lab.

Grades: At the end of the semester the scores on all quizzes, prelabs, reports, postlabs and written (30 points) and practical (10 points) finals will be totaled for each student and multiplied by a factor so that the class average will be between 80 and 86. Adjusted averages of greater than 100% will be treated as if they are exactly 100%.

CHEMISTRY 101 LABORATORY SCHEDULE FALL 2001 S. 572-580 Dr. Joy Heising

Dates	Laboratory experiment	Materials Due (start of lab)	Tentative Recitation Topic	Quiz	Lecture Exam
8/27-8/30	NO Lab/Recitation Meeting this week. Double check your schedule. Schedule conflicts need to be resolved.				
9/3-9/5 (Mon-Wed)	Lab Check-in and Lecture on Safety. Read the safety rules and agree in writing to follow them before beginning any experimentation.		Math Review: Significant Figures, Standard Deviation (Chapter 1, lecture textbook)		
9/6 (Thurs.)	Lab Check-in and Lecture on Safety. Read the safety rules and agree in writing to follow them before beginning any experimentation. Experiment #2 – Cost of a Chemical Product (A Guided Exp.) Epsom Salts will be provided	#2 PreLab	Math Review: Significant Figures, Standard Deviation Writing Chemical Formulas & Composition Stoichiometry (Chapters 1&2, lecture textbook)		
9/10-9/12	Experiment #2 – Cost of a Chemical Product (A Guided Exp.) Epsom Salts will be provided	#2 PreLab	Writing Chemical Formulas & Composition Stoichiometry (Chapter 2, lecture textbook)		
9/13-9/19 (Thurs-Wed)	Experiment #1 – Density Measurements (A Guided Exp.) Work in partners	# 1 PreLab #2 Report Form* & PostLab	Chemical Eq. & Reaction Stoich. Review for Exam 1 (Chapter 3, lecture textbook)		EXAM 1 (9/20)
9/20-9/26 (Thurs-Wed)	Experiment #3 – Are Labels Accurate or Precise? (An Open Inquiry Exp.)	# 3 PreLab #1 Report Form* & PostLab	Chemical Reactions (Chapter 4, lecture textbook)		EXAM 1 (9/20)
9/27-10/3 (Thurs-Wed)	Experiment #5 – Reactions of Calcium (A Guided Exp.)	# 5 PreLab #3 Report Form* & PostLab	The Structure of Atoms (Chapter 5, lecture textbook)	Quiz 1	
10/4 (Thurs)	Convocation NO Lab/Recitation Meeting this week.				
10/8-10/11 (Mon-Thurs)	Experiment #9 – Mass Relationships in Reactions (An Open Inquiry Exp.)	# 9 PreLab #5 Report Form* & PostLab	Molecular Structure & Dot Formulas Chemical Periodicity (Chapters 6&7, lecture textbook)		
10/15-10/18	Experiment #10 – Shapes of Molecules and Ions (A Guided Exp.)	# 10 PreLab #9 Report Form* & PostLab	VSEPR Theory: Practice & Application (Chapter 8, lecture textbook)	Quiz 2	
10/22-10/25	Experiment #8 – Analysis of a Carbonated Beverage (A Guided Exp.)	# 8 PreLab #10 Report Form* & PostLab	Acids, Bases, and Salts Acids, Bases and Titration (Chapters 10&11, lecture textbook)		EXAM 2 (10/25)
10/29-11/1	Experiment #14 – Spectrochemical Analysis (A Guided Exp.)	# 14 PreLab #8 Report Form* & PostLab	Spectroscopy	Quiz 3	
11/5-11/8	Experiment #11 – The Fuel in a Bic Lighter (A Guided Exp.)	# 11 PreLab #14 Report Form* & PostLab	Gas Laws & Chemical Calculations (Chapter 12, lecture textbook)		
11/12-11/15	Experiment #13 – Freezing Points of Solutions (A Guided Exp.)	# 13 PreLab #11 Report Form* & PostLab	Colligative Properties (Chapter 14, lecture textbook)	Quiz 4	
11/19-11/22	Thanksgiving NO Lab/Recitation Meeting this week.				EXAM 3 (11/20)
10/26-11/29	Written (30 points) and Practical (10 points) Finals . <i>TA Evaluations</i> . All missing work, make-up finals, requests for the grade of “incomplete”, make-up of prior incomplete grades, etc., must be completed and all forms submitted before 5 PM Dec. 6.	#15 Report Form*	Written & Practical Finals <i>TA evaluations</i> .	Written & Practical Finals	

*Report form must be signed by your instructor before you leave the lab.