

General Chemistry I Laboratory

Chemistry 120L

Spring 2020

WEEKLY SCHEDULE

Week	Date	Activity	Due Date
1	Jan 13	Pre-Lab: Introduction to Inquiry-Based General Chemistry Lab Information Cards Problem Session: 2. <i>Significant Figures, Accuracy, and Precision</i> Accuracy and Precision in the Laboratory Problem Session: 3. <i>Dimensional Analysis</i> In-Lab: Group and Equipment Drawer assignments Investigation 1 <i>Safety Concerns in the Laboratory</i>	 In PreLab Week 3 In PreLab Week 3 In Lab Week 3
2	Jan 20	Pre-Lab: PreLab will not meet this week. In-Lab: Installing and testing the Vernier LoggerPro software. One or more participants from every lab team must come to lab with their laptop computer to install software that will be used in General Chemistry lab. Expect to be in lab for about an hour. Monday Lab Only. Your alternate days are as follows: If your last name starts with A-M Wednesday 2 pm, N-Z Wednesday 6 pm. Permission to attend an alternate section is given for conflicts.	
3	Jan 27	Pre-Lab: Presentation: <i>Writing the Laboratory Report</i> Reading: Laboratory Manual Section C pages 9-13 and Section D pages 15-20 In-Lab: Quiz*: accuracy, precision, safety Investigation 3 <i>Determination of Density</i>	 In Lab Week 4
4	Feb 3	Pre-Lab: Chromatography Nomenclature In-Lab: Quiz: Nomenclature, intrinsic/extrinsic properties Investigation 4 <i>Chromatography of Food Dyes in a Candy?</i> Problem Session: <i>Nomenclature 4A, B</i>	 In Lab Week 5 In PreLab Week 5

Week	Date	Activity	Due Date
5	Feb 10	Pre-Lab: Composition and Chemical Formula In-Lab: Quiz: Nomenclature, formulas, composition Investigation 5 <i>Determination of a Chemical Formula</i>	In Lab Week 6
		Problem Session: <i>Nomenclature 4C, D</i>	In PreLab Week 6
6	Feb 17	Pre-Lab: Chemical Reactions In-Lab: Quiz: Nomenclature, composition, stoichiometry Investigation 6 <i>What's in the Bottles?</i>	In PreLab Week 7
7	Feb 24	Pre-Lab: Quantitative Analysis: Titration In-Lab: Quiz: chemical reactions, stoichiometry, nomenclature Investigation 7 <i>Measuring the Acidity of Vinegar by Titration</i>	In Lab Week 9
8	Mar 2	SPRING BREAK: No Lab	
9	Mar 9	Pre-Lab: Gas Laws: A Review Problem Session: <i>Spreadsheets in Chemistry</i>	In PreLab Week 10
		In-Lab: Quiz: chemical reactions, composition Experiment 8 <i>The Gas Laws</i>	In Lab Week 10
10	Mar 16	Pre-Lab: Quantitative Analysis: Gravimetric Analysis In-Lab: Quiz: Chemical reactions, percentage composition, gas laws Investigation 9 <i>How Much is a Penny Worth?</i>	In Lab Week 12
11	Mar 23	No Lab. Faculty and students will be presenting research at the National Meeting of the American Chemical Society.	

Week	Date	Activity	Due Date
12	Mar 30	Pre-Lab: First Law of Thermodynamics and Calorimetry In-Lab: Quiz: Chemical reactions, thermodynamics, heat, combustion reactions, calorimetry Investigation 11 <i>A Comparison of Automobile Fuels</i>	In Lab Week 13
13	Apr 6	Pre-Lab: Electromagnetic Radiation: Introduction In-Lab: Quiz: Electromagnetic radiation, light absorption, Beer's law, concentration Investigation 12 <i>Factors affect the intensity of color</i>	In Lab Week 14
14	Apr 13	Pre-Lab: Quantitative Analysis: Spectrophotometry In-Lab: Quiz: electromagnetic radiation, atoms, Beer's law, concentration, absorption and emission, spectrophotometry Investigation 14 <i>The Determination of NOx in Cigarette Smoke Part I (Dilutions, Standards, Beer's Law Plot)</i>	Part I is combined with Part II and due on Monday of finals week
15	Apr 20	Pre-Lab: Quantitative Analysis: Spectrophotometry In-Lab: Quiz: electromagnetic radiation, atoms, Beer's law, concentration, absorption and emission, spectrophotometry Investigation 14 <i>The Determination of NOx in Cigarette Smoke Part II (Analysis of Cigarette Smoke)</i>	Due Monday of Finals week. Location to be announced.
16	Apr 27	FINALS WEEK -- no lab	

*Information given for each **Laboratory Quiz** is only a general overview of material which may be covered. Quizzes can cover prior laboratories and will always cover information in the prelab presentation. Quizzes are taken individually in lab prior to starting the investigation.