
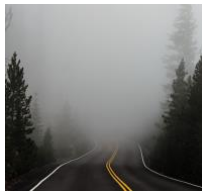









**Lab Schedule – Fall 2021 (subject to change)**  
 [SYNCHRONOUS ONLINE in brackets – begin work by 2:15]

	<p><b>DON'T FORGET</b>                  Safety goggles                  No open-toed shoes                  Lab notebook                  Pre-lab Quiz (80% score by 2:00)</p> <p><b>LAB GROUPS A/B:</b> for lab content on specific weeks  <b>LAB SHIFTS 1/2:</b> 2:00-3:20 and 3:30-4:50, or as indicated</p>	
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Dates	Experiment and Preparative Material	Instrumentation and Analysis	Due Date
T 8/24 W 8/25	[ONLINE: Introduction, Volume of Coasters – Notebook and Post-lab only]	Accuracy and Precision; Random Error; Propagation	
T 8/31 W 9/1	Density of Coins (A) Determination of the Gas Constant (B) (Shift 1 at 2:00-3:50; Shift 2 at 3:00-4:50)	Accuracy and Precision; Systematic and Random Error; Propagation; Error Bars; Graphing; Slope Error	T 9/7 W 9/8
T 9/7 W 9/8	Density of Coins (B) Determination of the Gas Constant (A) (Shift 1 at 2:00-3:50; Shift 2 at 3:00-4:50)	Accuracy and Precision; Systematic and Random Error; Propagation; Error Bars; Graphing; Slope Error	T 9/14 W 9/15
T 9/14 W 9/15	Heat Capacity Ratio (Shift 1 at 2:00-3:20; Shift 2 at 3:30-4:50)	Gas expansion; Systematic and Random Error; Propagation	T 9/21 W 9/22
T 9/21 W 9/22	Heat of Combustion Experimental (A) [ONLINE: Computational Heat of Combustion (B)] (coupled) (NO Shifts – all students 2:00-4:50)	Bomb Calorimeter; Propagation; Spartan Modeling Software	
T 9/28 W 9/29	Heat of Combustion Experimental (B) [ONLINE: Computational Heat of Combustion (A)] (coupled) (NO Shifts – all students 2:00-4:50)	Bomb Calorimeter; Propagation; Spartan Modeling Software	T 10/5 W 10/6
T 10/5 W 10/6	Heat of Hydration (A) Thermal Analysis of Sodium Sulfate Hydrate (B) (coupled) (Shift 1 at 2:00-3:20; Shift 2 at 3:30-4:50)	Solution Calorimeter; Differential Scanning Calorimeter (DSC); Propagation	
T 10/12 W 10/13	Heat of Hydration (B) Thermal Analysis of Sodium Sulfate Hydrate (A) (coupled) (Shift 1 at 2:00-3:20; Shift 2 at 3:30-4:50) 	Solution Calorimeter; Differential Scanning Calorimeter (DSC); Propagation	*W 10/20 *R 10/21
T 10/19 W 10/20	No Lab; Fall Break MT 10/18-19		
T 10/26 W 10/27	Na <sub>2</sub> SO <sub>4</sub> -H <sub>2</sub> O Phase Diagram (Shift 1 at 2:00-3:20; Shift 2 at 3:30-4:50)	Differential Scanning Calorimeter; Error Bars; Graphing	
T 11/2 W 11/3	Na <sub>2</sub> SO <sub>4</sub> -H <sub>2</sub> O Phase Diagram (Shift 1 at 2:00-3:20; Shift 2 at 3:30-4:50)	Differential Scanning Calorimeter; Error Bars; Graphing	T 11/9 W 11/10
T 11/9 W 11/10	Partial Molar Volume (Shift 1 at 2:00-3:20; Shift 2 at 3:30-4:50)	Quantitative Methods; Error Bars; Graphing; Intercept Error	T 11/16 W 11/17
T 11/16 W 11/17	Experimental Saponification of Ethyl Acetate (A) [ONLINE: Computational Modeling of Ethyl Acetate (B)] (NO Shifts – all students 2:00-4:50)	Spartan Modeling Software; Conductance; Error Bars; Graphing; Slope Error	
T 11/23 W 11/24	No Lab; Thanksgiving Break 		
T 11/30 W 12/1	Experimental Saponification of Ethyl Acetate (B) [ONLINE: Computational Modeling of Ethyl Acetate (A)] (NO Shifts – all students 2:00-4:50)	Spartan Modeling Software; Conductance; Error Bars; Graphing; Slope Error	*T 12/8 *W 12/9
*W 12/8 *R 12/9	Final Exam (001: Wed 11:30, 002: Thu 3:00)		