

Chemistry 116 - Fall 2021
Dr. Audrey Dell Hammerich
9 - Week of October 17
Solutions, Colligative Properties

NOTE: Monday, October 25 is the second midterm exam covering everything since the first exam: Chapters 13, 5, 16.1-16.2, 16.10-16.11, and 17.

NOTE: You are not responsible for any of the thermodynamics in this chapter (ΔG , ΔH , ΔS), mostly in Section 17.2.

NOTE: The in-person lab this week, H_Exp 8, will be done with lab partners. Since one lab partner will perform H_Exp 6 while the other does H_Exp 8 good communication will be needed so that the procedures and objectives of both experiments are clearly understood. Individual lab reports will be turned in by each lab partner with shared data and observations.

LAB ASSIGNMENT: H_Exp 8: Analysis of a Mixture of Carbonate and Bicarbonate (7-1–7-2). This lab will be done with lab partners with one partner performing the first two steps of the procedure and the other the third step. LP

LECTURE ASSIGNMENT: Online OWL assigned homework due on Monday, October 25 at noon (day of exam) except "W" problems are due Friday, October 22 at noon.

Monday, October 18

Reading Assignment: Z Ch 16.11 [finish phase diagrams]; Z Ch 17.1, 17.3 - 17.4 [use mass percent, mole fraction, molarity, and molality in problems; know general trends in how structure, pressure, and temperature affect solubility; be able to apply **Raoult's law** to vapor pressure lowering problems with both a nonvolatile solute and a volatile solute (binary liquid solution)]

Wednesday, October 20

Reading Assignment: Z Ch 17.4 - 17.5 [be able to work with a mixture of volatile components; **Henry's law**; know how a nonvolatile solute effects the boiling point and freezing point of a solution and to calculate molar mass from bp elevation and fp depression]

Friday, October 22

Reading Assignment: Z Ch 17.6 - 17.7 [**osmotic pressure**; use a determination of osmotic pressure to calculate molar mass; know how to do **colligative property** calculations for **vapor pressure lowering, boiling point elevation, and freezing point depression** for dissociating and nondissociating solutes; **van't Hoff factor** (*i*)]