

# Honour Chemistry (*Distant Learning*) Unit 5 Outline: Chemical Kinetics and Equilibrium

**\*\*Only do Even-Numbered HW Questions**

*Green Fonts - \*Asynchronous*

*Blue Fonts - \*\*Optional Video Lessons*

## Chapter 14: Chemical Kinetics

Wk/Class	Topics	Suggested Reading	✓	Assignments	✓
April 12 / Day 2	Reaction Rates, Collision Model, Factors Affecting the Collision Model (Activation Energy, Temperature, Particle Size, Concentration, Catalyst, Inhibitor)	14.4 & 14.6: Activation Energy, Temperature Dependence on Reaction Rates & Catalyst (pg. 471 to 473; pg. 480 to 486) <i>[14-4 &amp; 14-6 Video Lesson – 35:12]</i>		pg. 489–491 #27, 30, 31, 49 to 52, 75a, 75c, 76	

## Chapter 15: Chemical Equilibrium

Wk/Class	Topics	Suggested Reading	✓	Assignments	✓
April 19 / Day 2	Chemical Equilibrium, Properties of Chemical Equilibrium, Law of Mass Action, Equilibrium Expression, Equilibrium Constant ( $K$ ), Homogeneous Equilibria, Equilibrium Expressions of Partial Pressures ( $K_p$ ), Equilibrium Position, Heterogeneous Equilibria, Multiple Equilibria, Reverse Equilibrium Reactions and Multiplying Equilibrium Reactions	15.1: The Concept of Equilibrium (pg. 497 to 499)  15.2: Ways of Expressing Equilibrium Constants (pg. 500 to 507) <i>[15-1 &amp; 15-2 Video Lesson – 61:31]</i>		pg. 520 #1 to 4  pg. 520 #5 to 9	
April 26 / Day 1	Relationship Between Rate Constants and Equilibrium Constants and Expressions, Applications of Equilibrium (The Extent of a Reaction, Reaction Quotient, $Q$ , Calculating Equilibrium Pressures and Concentrations – ICE Box)	15.3: What Does the Equilibrium Constant Tell Us? (pg. 507 to 512) <i>[15-3A Video Lesson – 55:11]</i> <i>[15-3B Video Lesson – 52:05]</i>		pg. 520–525 #11 to 26, 27 to 38, 54, 58, 60, 62, 78	
	<b>Chapter 14 &amp; 15 Take-Home Quiz (on 14.4, 14.6, 15.1 &amp; 15.2) (B &amp; D Blocks: April 29, Thursday)</b>			<b>Ch 14 &amp; 15 Take-Home Quiz Due: (B &amp; D Blocks: May 3, Mon)</b>	
April 26 / Day 2	Le Châtelier's Principle (Effects of a Change in Concentration, Pressure, and Temperature)	15.4: Factors That Affect Chemical Equilibrium (pg. 512 to 519) <i>[15-4 Video Lesson – 49:47]</i>		pg. 522–523 #39 to 52	
May 3 / Day 1	<b>Lab #9: Chemical Equilibrium (B &amp; D Blocks: May 3, Monday)</b>	<b>Lab #9 Handout</b> <i>[Lab #9 Video – 37:22]</i>		<b>Lab Reports #9 Due: (B &amp; D Blocks: May 13, Thurs)</b>	
	<b>Unit 5 Test (covers Sections 14-4 &amp; 14-6 and Chapter 15) (B &amp; D Blocks: May 10, Monday)</b>	Unit 5 Practice Test		<i>14-4 &amp; 14-6 &amp; Chapter 15 HW Due (B &amp; D Blocks: May 6, Thurs)</i>	