

Honour Chemistry (*Distant Learning*) Unit 6 Outline: Acids and Bases

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

*Green Fonts - *Asynchronous*

*Blue Fonts - **Optional Video Lessons*

Chapter 16: Acids and Bases

Wk/Class	Topics	Suggested Reading	✓	Assignments	✓
May 3 / Day 2	Physical and Chemical Properties of Acids and Bases, Arrhenius Concept, Brønsted-Lowry Model, Hydronium Ion, Conjugate Acid, Conjugate Base, Conjugate Acid-Base Pair, Acid Dissociation Constant (K_a), Base Dissociation Constant (K_b), Autoionization of Water, pH and pOH Scales, $\text{pH} = -\log [\text{H}_3\text{O}^+]$, $\text{pOH} = -\log [\text{OH}^-]$, $K_w = [\text{H}_3\text{O}^+][\text{OH}^-]$, $\text{pH} + \text{pOH} = 14$	16.1: Brønsted Acids and Bases (pg. 530 to 531) 16.2: The Acid-Base Properties of Water (pg. 531 to 533) 16.3: pH-A Measure of Acidity (pg. 533 to 536) <i>[16-1 to 16-3 Video Lesson – 54:36]</i>		pg. 568 #1 to 8 pg. 568–569 #9 to 24	
May 10 / Day 2	Strong Acid, Weak Acid, Relative Strength of Acids and Conjugate Bases, Monoprotic Acids versus Diprotic Acids, Amphoteric Substances, Common Strong Acids, Major Species of Strong Acids, pH of Strong Acids, Oxoacids, Organic Acids, Carboxyl Group, Using Approximation to calculate $[\text{H}_3\text{O}^+]$ of Weak Acids, pH of Weak Acids, Percent Dissociation (Ionization) = $\frac{[\text{H}_3\text{O}^+]}{[\text{HA}]} \times 100\%$, K_a and % Dissociation, Polyprotic Acids, Diprotic and Triprotic Acids, pH of Polyprotic Acid, Amphoteric Species of Weak Polyprotic Acids	16.4: Strength of Acids and Bases (pg. 536 to 540) <i>[16-4 Video Lesson – 45:35]</i> 16.5: Weak Acids and Acid Ionization Constants (pg. 540 to 530) <i>[16-5 Video Lesson – 38:03]</i>		pg. 569 #25 to 36; pg. 571 #86 pg. 569–570 #37 to 52; pg. 571 #93	
May 17 / Day 1	Strong Bases, Slaked Lime, Lime-soda Process, Weak Bases, pH of Strong and Weak Bases, $K_w = K_a \times K_b$, Using Approximation to calculate $[\text{OH}^-]$ of Weak Bases, Salt, Salt as Weak Bases, Hydrolysis and Percent Hydrolysis, Salts that produces Acidic Solutions	16.6 & 16.7: Weak Bases and Base Ionization Constants & The Relationship Between the Ionization Constants of Acids and Their Conjugate Bases (pg. 551 to 554) <i>[16-6 & 16-7 Video Lesson – 46:52]</i> 16.9: Acid-Base Properties of Salts (pg. 557 to 560) <i>[16-9 Video Lesson – 30:22]</i>		pg. 570 #53 to 58; pg. 571 #94 pg. 570–571 #65, 68, 71 to 74	
	Chapter 16 Take-Home Quiz (on 16.1 to 16.7) (B & D Blocks: May 20, Thursday)	<i>Chapter 16 Homework Due (B & D Blocks: May 27, Thursday)</i>		Ch 16 Take-Home Quiz Due: (B & D Blocks: May 25, Mon)	

(Continue on Next Page)

Chapter 17: Acid-Base Equilibria

Wk/Class	Topics	Suggested Reading	✓	Assignments	✓
May 17 / Day 2	Buffered Solution, pH (Titration) Curve, Equivalence Point, Buffer Zone of a Titration Curve, millimol (mmol), Titrations between (Strong Acid with Strong Base, Weak Acid with Strong Base, Weak Base with Strong Acid), Acid-Base Indicators and their pH Ranges, Phenolphthalein, Bromothymol Blue, End Point and Colour Change, Weak Acid and Weak Base Equilibria, Acid Rain, Smog	17.2: Buffer Solutions (pg. 575 to 576) <i>[17-2 Video Lesson – 33:53]</i> 17.3: A Closer Look at Acid-Base Titrations (pg. 580 to 586) <i>[17-3 Video Lesson – 80:15]</i> 17.4: Acid-Base Indicators (pg. 586 to 589) (Extra Notes): Environmental Issues of Acids & Bases <i>[17-4 Video Lesson – 25:56]</i>		pg. 604 #1, 5 and 6 pg. 604 #17 to 20a pg. 604 #21 to 24	
May 24 / Day 1	Lab #10: Weak Acid (Aspirin) & Strong Base Titration (B & D Blocks: May 25, Monday)	Lab #10 Handout <i>[Lab #10 Video – 77:11]</i>		Lab Reports #9 Due: (B & D Blocks: June 4, Friday)	
	Unit 6 Test (covers Ch 16 and Sections 17-2 to 17-4 + Acid Rain) (B Block: June 3, Thursday) (D Block: June 1, Tuesday)	Unit 6 Practice Test		Chapter 17 Homework Due (B & D Blocks: June 4, Friday)	