CHE 112 Homework Practice Problems from Jespersen, Brady & Hyslop Textbook

While reading each chapter, always do the imbedded Practice Exercises. Answers are in the back of the textbook. Then, do these Review Problems from the end of the chapter, as minimum practice applying the important concepts. Almost all of these problems have their answers in the back of the textbook. Check your answers and get help promptly if you cannot figure out how to get the right answers. There are many more problems at the end of each chapter. The more practice, the better. Remember, the *Solution Manual* is available for purchase and is on reserve in the library.

Chapter Sections	Topic	Corresponding *Review Problems (end of chapter)*
Chemical Equilibrium		
Chap15.1 – 15.5	Intro	Odd 15: 19 – 43
Chap 15.6	LeChatelier	15: 45, 47
Chap 15.7, 15.8	ICE	Odd 15: 49 – 73
Acids & Bases Part I		
Chap 16.1 – 16.3	Bronsted, Trends	Even 16: 36 – 44
Chap 16.4 -16.5	Lewis, Acid-Base Properties	16: 46, 48, 52
Chap 17.1 – 17.2	K_w, pH, strong acids	Even 17: 40 – 54
Chap 17.3 -17.5	K_a, K_b, ICE	Even 17: 62 – 76
Chap 17.6	pH of Salt Solutions	Even 17: 82 – 86
Chap 17.8	Polyprotic Acids	17: 106
Acids & Bases Part II		
Chap 17.7	Common Ion, Buffers	17: 90, 92, 96, 100
Chap 17.9	Titrations	17: 118, 120, 116
Solubility & Precipitation		
Chap 18.1	K_{sp} Intro	Even 18: 18– 30, 38, 34, 40– 44, 54 – 58
Chap 17.2 – 17.3	Additional Solubility/ppt	18: 60, 64
Complex Ions		
Chap 18.4	K_{form} Intro	Even18: 68 - 72
Chap 18.5	K_{form} w/ K_{sp}	18: 74, 76
Chap 22.1	Complex Ion Chemistry	16: 46
Chap 22.2	Nomenclature	Even 22: 40 - 48
Chap 22.3 – 22.4	Structures, Isomers	Even 22: 50 - 58
Chap 22.5	Bonding	22: 62, 66, 70, 71
Thermodynamics		
Chap 19.1 – 19.3, 19.5	Review; Entropy Intro	Even 19: 46 - 64
Chap 19.4, 19.6	Free Energy	Even 19: 66 – 70, 78
Chap 19.7 – 19.9	Work; Equilibrium	Even 19: 72 – 76, 80 - 84
Chap 19.10	Bond Energy	19: 88, 90
Electrochemistry		
Chap 6.1 – 6.5	REDOX Rxns	Odd 6: 23, 27, 33 – 41, 47, 51
Chap 20.1 – 20.3	Galvanic Cells, Potentials	Even 20: 50 – 64
Chap 20.4, 20.5	Thermo, Nernst Eqn	Even 20: 68 – 74
Chap 20.6	Commercial Cells	
Chap 20.7 – 20.8	Electrolytic Cells	Even 20: 80 - 86, 90
over		

Chapter Sections	Topic	Corresponding *Review Problems (end of chapter)*
Kinetics		
Chap 14.1 – 14.3	Rates & Differential Rate Laws	Even 14: 46 – 62
Chap 14.4	Integrated Rate Laws	Even 14: 66 – 70, 74, 78, 82, 84
Chap 14.5 – 14.7, 14.9	Arrhenius Eqn, catalysis	Even 14: 88 – 92
Chap 14.8	Mechanisms	14: 94, 96
Nuclear Chemistry		
Chap 21.3 – 21.7	Radioactivity, Transmutation	Even 21: 58 – 68, 72 – 76, 84, 86, 90, 94
Chap 21.1, 21.2, 21.8	$E = mc^2$, Binding Energy, Fission, Fusion	21: 50, 54, 56, 98
Organic Chemistry		
Chap 23.1, 23.2	Intro, Hydrocarbons, Isomers	Odd 23: 93, 95, 99 - 103
Chap 23.3, 23.4 (thru p. 1068)	Other Families	
Environmental Chemistry		
Page 262	Water, Climate, …	
Page 370	Sunlight & Skin Cancer	
Page 517	Super Greenhouse Gases	
Acid Rain (US EPA website)	http://www.epa.gov/acidrain/what/index.html	
Climate Change (US EPA website)	http://www.epa.gov/climatechange/	
Water Pollution (US EPA website)	http://water.epa.gov/polwaste/	
Lead Pollution (US EPA website)	http://www.epa.gov/lead/	
Pesticides (US EPA website)	http://www.epa.gov/pesticides/about/index.htm	
Environmental Health Sciences (NIH website)	http://www.niehs.nih.gov/	
Storage of Spent Nuclear Fuel (US NRC website)	http://www.nrc.gov/waste/spent-fuel-storage.html	