

## CH302 COURSE OUTLINE

Lecture	Day	Date	Topic	Lecture number Worksheet number	Quizzes and Exams
<b>Physical and Chemical Equilibria, Intro to Aqueous Equilibria</b>					
1	T	1/19	Physical Equilibria—Vapor Pressure	L1 and W1, W1a	
2	H	1/21	Phases and Phase Transitions	L2 and W2	
3	T	1/26	Solubility	L3	
4	H	1/28	Colligative Properties, Binary Mixtures	L4 and W3	
5	T	2/2	Reactions at Equilibrium, Mass Action Law	L5,6 and W4	Quiz 1
6	H	2/4	Equilibrium and Stress, Van't Hoff Equation	L6,7	
7	T	2/9	Aqueous Equilibria: Water autoprotolysis	L8 and W5	
8	H	2/11	Aqueous Equilibria: Solubility	L9 and W8	
9	T	2/16	Aqueous Equilibria: Monoprotic acids and bases	L10,11 and W6	Quiz 2
<b>Complex Aqueous Equilibria and Electrochemistry</b>					
10	H	2/18	Buffers Systems and Neutralization	L12 and W7	
11	T	2/23	Titrations	L13	
	H	2/25	Overview of material on for Exam 1		
	H	2/25	Exam 1 from 7:30 till 9 pm		Lectures 1 - 9
12	T	3/2	A stepwise approach to pH calculations	L14	
13	H	3/4	Solving Complex Equilibria: Dilute Species	L15	
14	T	3/9	Polyprotic Acids	L16	Quiz 3
15	H	3/11	Balancing Redox Reactions	L17 and W9	
16	T	3/23	Electrochemical Cell Convention and Famous Batteries	L17	
17	H	3/25	Standard Cell Potentials	L17 and W10	Quiz 4
18	T	3/30	More advanced electrochemistry calculations	L18	
	H	4/1	Famous batteries and an overview of exam material	L24	
	H	4/1	Exam 2 from 7:30 till 9 pm		Lectures 10 - 18
<b>Kinetics, inorganic chemistry and organic chemistry</b>					
19	T	4/6	Reaction rates	L19 and W11	
20	H	4/8	Differential and Integrated Rate Laws	L20,21 and W12	
21	T	4/13	Kinetic Theory	L22	
22	H	4/15	Reaction Mechanisms and Famous catalysts	L22,23	Quiz 5
23	T	4/20	Famous Examples of Group I-IV Chemistry	L25 and W14	
24	H	4/22	Famous Examples of Group V-VIII Chemistry	L25 and W15	
25	T	4/27	Organic Chemistry-Hydrocarbons	L 26 and W13	Quiz 6
26	H	4/29	Organic Chemistry-Functional Groups	L 26	
27	T	5/4	Polymers and Biopolymers	L 27	
	H	5/6	Overview of material on Exam 3		
	H	5/6	Exam 3 from 7:30 till 9 pm		Lectures 19-27