Chemistry 1142 Syllabus
General Chemistry 2
Spring 2017

Instructor: Dr. Andrew Napper

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Office hours: M 9:00 AM – 10:50 AM
TW 9:00 AM – 9:50 AM

Lecture: MWF 1:00 PM – 1:50 PM (Massie 020)

Lab: MWF 2:30 PM – 4:50 PM (Massie 339)

Attendance policy: Attendance at lectures is strongly recommended—however it is not required. Attendance at laboratories is required. *Two or more unexcused lab absences will result in a grade of* F *for Chem 1142.*

Excused absence policy In case of illness, accident, family emergency, or university-sponsored activity, you may be excused from labs, quizzes, and/or homework. In case of a missed exam, a make-up exam will be provided.
For university-sponsored activities, an official excused absence slip must be obtained. This must be obtained in advance of the activity and given to the instructor one-week before your absence.
For other absences, suitable documentation (such as a doctor's note, police accident report, etc.) must be provided within one-week of the excused absence.
For absences longer than one week, an academic dean or the dean of students may issue you an excused absence which you can present to your instructor.
Unexcused absences will result in a grade of zero for the assignment.

Required materials: *General Chemistry: The Essential Concepts*, 7/e
—Raymond Chang
McGraw-Hill Connect online homework system
—Either bundled with the textbook or a separate access card
Chemistry 1141 Lab Manual, Spring 2017
A *non-programmable* scientific calculator (such as the TI-30X IIS)
Safety goggles (ANSI Z-87 approved)

Grading:
4 exams..... 45 % (Library 204)
Final exam (Comprehensive) ..... 20 % (Massie 020)
Online homework ..... 10 % (Cyberspace)
LearnSmart..... 5 % (Cyberspace)
Laboratory..... 20 % (Massie 339)
(4 % = pre-labs, 16 % = lab reports)

Final exam: Wednesday, May 3rd, 12:00 PM – 1:50 PM (Massie 020)

Final exam information: The final exam is an American Chemical Society standardized final. It is fully comprehensive, covering material from CHEM 1141 and 1142. The SSU chemistry club sells a study guide for this exam. Please note: any student who scores at or above the 90th national percentile, and has no unexcused lab absences, will receive an "A" in Dr. Napper's sections of CHEM 1142.

Blackboard course-site: Notes, handouts, and other useful pieces of information will be available at the following URLs:
http://blackboard.shawnee.edu
http://chem1142.ssuchemistry.com

Online homework & LearnSmart You should log on and create your account as soon as possible! Online homework (McGraw-Hill Connect) and LearnSmart modules will be assigned on a weekly basis. Each type of assignment will be made available on Friday by 5 PM, and will be due the following Friday by 10 PM.

• You will be able to access both sets of assignment on Blackboard. They are located in the "Online Assignments" tab on the left side of the screen. The first time you take an assignment, you will be required to log onto your Connect/LearnSmart account. After doing so, your account will be linked to SSU's BlackBoard site and you will not have to log in separately.

DO NOT wait until the last minute to take these assignments. See me promptly if you have ANY issues! Note: It is possible to sign up for a 21-day free trial for Connect/LearnSmart.

Cell-phone policy: Cell phones (and other similar electronic devices, such as laptop computers, netbooks, iPads, iPods, etc.) are not permitted to be used during lecture and lab.

Lecture material: We will be covering the following chapters in your textbook:

Chapter 12	Intermolecular Forces and Liquids and Solids
Chapter 13	Physical Properties of Solutions
	Exam 1 (Feb 9 @ 6pm in LIB204)
Chapter 14	Chemical Kinetics
Chapter 15	Chemical Equilibrium
	Exam 2 (Mar 16 @ 6pm in LIB204)
Chapter 16	Acids and Bases
Chapter 17	Acid-Base Equilibria and Solubility Equilibria
	Exam 3 (Apr 13 @ 6pm in LIB204)
Chapter 18	Thermodynamics
Chapter 19	Redox Reactions and Electrochemistry
Chapter 20	The Chemistry of Coordination Compounds*
Chapter 21	Nuclear Chemistry*
	Exam 4 (Apr 27 @ 6pm in LIB204)
***Note:**	*Time permitting.*

Grading scale:

%	Grade	%	Grade	%	Grade
>93	A	77–80	C+	60–63	D–
90–93	A–	73–77	C	<60	F
87–90	B+	70–73	C–		
83–87	B	67–70	D+		
80–83	B–	63–67	D		

Homework problems: Problem solving is an *essential* part of your study of chemistry. As you study, you should be working problems from your textbook on each topic. It is strongly suggested that you work the following problems which will serve as a guide for material for quizzes and exams. The answers and worked-out solutions are available to you in the solutions manual for the even-numbered questions in the book.

Chapter 12	8, 13, 18, 21, 29, 32, 39, 45, 53, 61, 66, 75, 77, 84, 86, 99, 100, 127
Chapter 13	7, 16, 20, 26, 29, 31, 34, 46, 50, 57, 59, 62, 66, 73, 80, 83, 86
Chapter 14	5, 14, 23, 29, 33, 34, 39, 44, 54, 59, 60, 66, 71, 73, 83, 85, 91, 108, 112
Chapter 15	9, 13, 17, 22, 32, 34, 41, 49, 52, 56, 59, 66, 67, 71, 74, 79, 82, 89, 98, 103, 107, 114
Chapter 16	3, 13, 17, 20, 31, 36, 37, 44, 49, 50, 54, 66, 71, 79, 83, 85, 90, 92, 97, 107, 112, 114
Chapter 17	1, 7, 22, 23, 24, 25, 31, 34, 36, 43, 45, 49, 51, 53, 54, 56, 59, 62, 64, 67, 72, 80, 88, 89, 111
Chapter 18	7, 8, 11, 16, 22, 27, 29, 33, 34, 41, 48, 54, 62, 68, 71, 77, 79, 80, 82, 91, 92, 93, 100, 107, 112, 114, 115
Chapter 19	5, 8, 17, 20, 22, 27, 29, 30, 32, 36, 41, 45, 46, 52, 59, 62
Chapter 20	*5, 9, 12, 19, 23, 25, 29, 30*
Chapter 21	5, 11, 13, 17, 18, 33, 35, 38, 40, 41, 42, 43, 49, 50, 53, 57, 60, 64, 70, 75, 84, 86, 96, 101, 109, 113

Study requirements: To be successful in General Chemistry, you will need to study *at least* two hours outside of the classroom, for every hour spent in lecture.

Disabilities: Any student who believes s/he may need an accommodation based on the impact of a documented disability should first contact a Coordinator in the Office of Disability Services, Student Success Center, Massie Hall, 740-351-3276 to schedule a meeting to identify potential reasonable accommodation(s). Students are strongly encouraged to initiate the accommodation process in the early part of the semester or as soon as the need is recognized. After meeting with the Coordinator, students are then required to meet with their instructors to discuss the student's specific needs related to their disability. If a student does not make a timely request for disability accommodations and/or fails to meet with the Coordinator of Disability Services and the instructor, a reasonable accommodation might not be able to be provided.

Order of labs:

Week Beginning	Monday	Wednesday	Friday
January 9th	1		1
January 16th	*No Lab*		
January 23rd	2	2	2
January 30th	3	3	3
February 6th	4	4	4
February 13th	5	5	5
February 20th	6	6	6
February 27th	7	7	7
March 6th	*Spring Break (No Lab)*		
March 13th	8	8	8
March 20th	9	9	9
March 27th	10	10	10
April 3rd	11	11	11
April 10th	12	12	12
April 17th	13	13	13
April 24th	14	14	14

Laboratories:

1. Check-in and safety
2. Intermolecular forces
3. Nine-bottles—An adventure in chemical identification
4. Colligative properties: freezing point depression
5. Kinetics dry-lab
6. Determining a rate law using spectrophotometry
7 Spectrophotometric determination of aspirin content in commercial tablets
8. Determining an equilibrium constant using spectrophotometry
9. pH of acid solutions and salt solutions
10. pHun with buffers!
11. pH titration curves and selecting an acid-base indicator
12. Determining K_{sp} for lead(II) iodide
13. Thermodynamics of KNO_3 dissolving in water
13. Electrochemical cells
14. Check-out

Laboratory information: Safety goggles are required to be worn for all laboratories. They must meet ANSI z87 requirements (normally this information is permanently stamped on the goggles). Laboratory coats are recommended, but not required. Full length pants or full-length skirts are required to be worn in lab. Shoes that cover all parts of your feet are also required. If you are improperly dressed for lab, you will be asked to leave and awarded a zero for the lab assignment.

Lab reports must be turned in at the start of the following week's lab. Late lab reports will not be accepted. Turned in lab reports must have your full name clearly written on the front page to receive a grade.

You must remain in lab with your lab partner until the lab report is turned in. If you leave lab early you will be counted as absent, and will receive a zero.

Pre-labs: Pre-lab reading assignments and quizzes are available on blackboard. Pre-labs will be made available 1-week before the lab exercise on Friday at 5pm, and will be due on the Monday of lab week at noon. **If more than two pre-lab assignments are not completed, you will receive a ZERO for your overall lab grade**.

Disclaimer: All dates and policies are subject to change as announced in class.