

Chemistry 1142 Syllabus

General Chemistry 2

Spring 2019

Instructor: Dr. Andrew Napper

Office: Massie 323

Telephone: 351.3100

E-mail: anapper@shawnee.edu

Office hours: M 10:00 AM – 11:50 AM, W 9:00 – 9:50 AM, F 2:00 – 2:50 PM

Lecture: MWF 1:00 PM – 1:53 PM (Massie 020)

Lab: M 2:00 PM – 4:53 PM (Massie 339) – **Section 01**
W 2:00 PM – 4:53 PM (Massie 339) – **Section 02**
F 9:00 AM – 11:53 PM (Massie 339) – **Section 03**

Attendance policy: Attendance at lectures is strongly recommended. Attendance at laboratories is required. Two or more unexcused lab absences will result in a grade of F for CHEM1142. It is mandatory that you attend laboratory during your assigned section each week. In order that you are present for the pre-lab presentation by your laboratory instructor, you should plan to be in the assigned laboratory on time. Students who are more than 10 minutes late for lab will have an unexcused absence for the laboratory session.

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: *Chemistry: A Molecular Approach, 4/e*
—Nivaldo Tro
Mastering Chemistry
—Bundled with the textbook or a separate access card
Chemistry 1142 Lab Manual, Spring 2019
—Dan Finnen, Wendi Fleeman, Derek Jones & Andy Napper
A non-programmable scientific calculator (TI-30XIIS)
Safety goggles or visorgogs (ANSI Z-87 approved)

Grading: 4 exams..... 45 % (Library 204)
 Final exam (Comprehensive) 20 % (Massie 020)
 Online homework 15 % (Cyberspace)
 Laboratory 20 % (Massie 339)

Final exam: Wednesday, May 1st, 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.

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		

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>

MasteringChemistry You should log on and create your account as soon as possible! Online homework will be assigned on a weekly basis. The homework set may consist of tutorials, homework problems, and review problems. **Each homework set will be made available on Friday by 5 PM, and will be due the following Wednesday by 11 PM**

- You will be able to access online assignments 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 MasteringChemistry account. After doing so, your account will be linked to SSU’s BlackBoard site, and you will not have to log in separately.
- The inclusive-access course-fee provides you with access to the textbook and an account with MasteringChemistry at a significant cost savings. The access-code for MasteringChemistry (for students who do not opt out of the inclusive-access plan) is:
PSSTAE-ATOLL-INANE-TOGUE-SPEIR-NONES

Cell-phone policy: Cell phones (and other similar electronic devices, such as laptop computers, netbooks, Chromebooks, iPads, Surfaces, smart watches, etc.) are not permitted to be used during exams and laboratory exercises.

General education program: Chemistry 1142 counts towards the Natural Science component of the General Education Program (GEP) and addresses *Scientific Reasoning*.

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.

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

Chapter 11 Liquids, Solids, and Intermolecular Forces

Chapter 12 Solids and Modern Materials

Chapter 13 Solutions

Exam 1 (Feb 14 @ 6pm in LIB204)

Chapter 14 Chemical Kinetics

Chapter 15 Chemical Equilibrium

Exam 2 (Mar 21 @ 6pm in LIB204)

Chapter 16 Acids and Bases

Chapter 17 Aqueous Ionic Equilibrium

Exam 3 (Apr 11 @ 6pm in LIB204)

Chapter 18 Free Energy and Thermodynamics

Chapter 19 Electrochemistry

Chapter 20 Radioactivity and Nuclear Chemistry* (time permitting)

Exam 4 (Apr 25 @ 6pm in LIB204)

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. In addition, it is strongly recommended that you work all of the problems from the Self-Assessment Quizzes at the end of each chapter.

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 Accessibility Services, Hatcher Hall, 740-351-3106 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 instructor's during the instructor's office hours to discuss their specific needs related to their disability. The accommodation letter will be sent to the instructor and student via e-mail prior to the semester start date. Any questions regarding the accommodations on the letter should be addressed to the Coordinator of Accessibility Services. If a student does not make a timely request for disability accommodations and/or fails to meet with the Coordinator of Accessibility Services and the instructor, a reasonable accommodation might not be able to be provided.

Order of labs:

Week Beginning	Monday	Wednesday	Friday
January 14th	1	1	1
January 21th	<i>No Lab</i>		
January 28rd	2	2	2
February 4th	3	3	3
February 11th	4	4	4
February 18th	6	6	6
February 25th	7	7	7
March 4th	8	8	8
March 11th	<i>Spring Break (No Lab)</i>		
March 18th	9	9	9
March 25th	10	10	10
April 1st	11	11	11
April 8th	12	12	12
April 15th	13	13	13
April 22nd	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. pH titration curves and selecting an acid-base indicator
11. pHun with buffers!
12. Determining K_{sp} for lead(II) iodide
13. Thermodynamics of KNO_3 dissolving in water
14. Electrochemical cells
14. Check-out

Laboratory information:

Safety goggles or visorgogs 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. **Unless otherwise stated, only one lab report should be turned in per lab group.**

You must remain in lab with your lab partner(s) until the lab has been completed. If you leave lab early you will be counted as absent and will receive a zero.

Grading errors:

If you notice a grade error on BlackBoard for quizzes, exams, etc—you need to bring it to the instructor's attention in writing within one week of the due date (for an online assignment) or one week from the assignment being handed back (lab/exam assignments).

Who should take this course? The typical audience for this course are: science, engineering, pre-pharmacy, pre-medicine, and science education majors. You may also be taking this course if you are interested in chemistry (yay!), are seeking to satisfy the natural sciences general education category, or curious about how things work.

Is chemistry hard? Yes. But not impossible. Consider setting aside several hours a week to practice end-of-chapter homework problems, forming a study group, re-reading your MasteringChemistry assignments, reading the textbook, and quizzing yourself. Reviewing old material every few weeks has been shown to dramatically improve retention of material in college!

Do I have to attend every lecture? Not attending lecture tends to correlate with doing poorly in chemistry. Do not get into the habit of missing class if you can possibly avoid it. At mid-term I will be reporting your expected grade and attendance to the Registrar. This information will be provided to your academic advisor(s), as well as student support services.

What should I do if I need help? If you need help—don't wait too long before you seek it out! The following is a partial list of options that are available to you:



- Chemistry study center—free 1-on-1 tutoring to all chemistry students. Offered in MAS329. The schedule is posted on my course website.
- Student success center (SSC) tutoring. Stop by the SSC and sign up for a *free* tutor!
- Browse my course website for chapter objectives, old exams, lec. notes, quizzes, etc.
- eTutoring is available 24 hours a day, 7 days a week through a consortium arrangement offered to universities in Ohio. You can access the link through MySSU—or ask in the success center.
- YouTube. Amazing selection of videos on any topic you can think about. The *Khan Academy* videos are an excellent place to start.
- Office hours. I hold four office hours a week over three days. Stop by if you have any questions about the course!

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