

CHEMISTRY 3A – General Chemistry I (Sections #5009)

Santa Rosa Junior College – Spring 2022

Instructor: Janice Crowley

Office: Zoom only (No in-person office hours this semester)

Email: jcrowley@santarosa.edu

Office hours: Tuesday, Noon – 1:30 pm Please utilize office hours for questions you may have.

Course Information:

Lecture: Tuesday and Thursdays 3:00 – 4:30 pm Section 5009 meets in person in Rm 1999

The course material (from the Course Outline of Record):

Description:

General principles of chemistry, including atomic theory, bonding, stoichiometry, kinetic molecular theory of gases, properties of mixtures, the periodic table, and thermochemistry. Lecture portion of the first semester of a one-year program of general chemistry.

Student Learning Outcomes:

After successful completion of this course, a student will be able to:

1. Describe matter, its transformations and corresponding energy changes according to prevailing chemical theories.
2. Interpret and solve problems in a chemical context using quantitative reasoning.

The Complete Course Outline can be found through the SRJC Schedule of Classes:

https://portal.santarosa.edu/SRWeb/SR_CourseOutlines.aspx?ck=CHEM3A

Required material:

- 1) Textbook – Any general chemistry textbook is acceptable. If you need to obtain one at the bookstore, the following is recommended – *Chemistry* by Zumdahl 10th edition
- 2) Study Guide: Crowley, J. P., *Chemistry 1A Survivor Guide*. First Edition (2017).
- 3) Scientific calculator. Must be able to do logs and square roots.

Grading and Assignments:

Exams	55%
Final Exam	15%
Quizzes and Participation:	30%

Homework from the textbook and study guide will be assigned regularly but not collected for points. Participations and frequent in-class **quizzes** will account for 30% of the overall grade. There will be four **midterm exams** (worth 55% of the total grade) plus a **final exam** (15%).

Regrades: If you perceive that the instructor has made a mistake in grading, you must submit that exam within 7 days after receiving it. The exam will be regraded, which could result in a score that is higher than, lower than or equal to the original grade.

Grading scale (I reserve the right to lower the grade cut-off points as appropriate.):

A – 90-100% B – 78-89% C – 67-77% D – 56-66% F – <56%.

Objective Factors (such as exam scores and quizzes) and subjective factors (such as effort, improvement, initiative, honesty, participation, academic growth, completing daily work as recommended, cooperation, following directions, punctuality... which cannot be easily tagged with a numerical score) will be taken into consideration at the end of the semester when letter grade assignments are made.

Attendance:

Attendance on the first day of class is mandatory. Other students will be waiting to enroll if your position becomes available due to your absence.

Excused absences from exams **require** documentation of a serious and compelling reason, for example, a doctor's note that says you were too sick to attend class that day. The documentation must be submitted within one week of absence. Medically excused absences will **ONLY** be granted in the case of emergency visits to a physician. Regularly scheduled office visits, dental visits, etc., will **NOT** be excused. Please schedule these outside normal exam and quiz times. There will be **NO** makeup exams or quizzes.

Late work:

Quizzes and exams will not be given late. There are no other assignments due on a schedule in this class format.

Accommodations for Students with Disabilities:

If you need disability-related accommodations for this class, such as a note taker, test-taking services, special furniture, etc., please provide the Authorization for Academic Accommodations Letter from the Disability Resources Department (DRD) to me as soon as possible. Please fill out any paperwork necessary for testing accommodations in advance of the exam and keep me informed of what you need. If you have not received authorization from DRD, contact the office directly. I will accommodate as required with an Authorization for Academic Accommodations Letter from the Disability Resources Department (DRD) only.

Academic Dishonesty:

The first time a student is caught cheating, that student will receive a score of zero for the assignment, and a report will be filed with the administration. If a second instance of cheating occurs, the student will receive an F in the course, and a second report will be filed. "Cheating" entails any use of unauthorized aid: copying another student's answers on an exam, using unapproved information that is programmed into a calculator or cell phone, etc. If you are not sure, ask for approval in advance. SRJC policy: <https://rightsresponsibilities.santarosa.edu/academic-integrity>

Portable Electronic Devices Policy: Unless previously approved by the instructor, the use of all types of portable electronic devices is prohibited during lectures, exams and quizzes. No exceptions are allowed without prior authorization.

Student Behavior:

Please read the SRJC policy carefully regarding student behavior: <https://student-conduct.santarosa.edu/acts-misconduct>. I will not hesitate to report violations if necessary.

Chem 3A: Spring 2022, SRJC, Classes meet Tuesday & Thursdays in room 1999, 3:00 – 4:30 pm

The lectures are in person and there are some corresponding pencasts as well. The units listed below correspond to the *Chemistry I A Survivor Guide*, not the Zumdahl textbook. Expect daily quizzes over previous material from lecture.

Day	Date	Lecture Topics with description
Th	1/20	Atoms, matter, mole, significant figures, structure of the atom, metric, density...unit 2
T	1/25	Atoms, matter, mole, significant figures, structure of the atom, metric, density...
Th	1/27	Atoms, matter, mole, significant figures, structure of the atom, metric, density...
T	2/1	Quantum numbers, Periodic Table...unit 3
Th	2/3	Atomic and ionic radius size, electronegativity
T	2/8	Ionization energy, isoelectronic...end of unit 3, wavelength type problems later
Th	2/10	Empirical formulas, molecular formulas, hydrates, polyatomic ions unit 5
T	2/15	% composition, empirical formulas, molecular formulas, polyatomic ion quiz, bonding, naming
Th	2/17	PDA day – no classes
T	2/22	Exam 1 over units 2, 3, 5 and oxidation numbers and naming and bonding unit 4
Th	2/24	Electron affinity and Stoichiometry Unit 13
T	3/1	Stoichiometry Unit 13
Th	3/3	Stoichiometry Unit 13 and Lewis Structures
T	3/8	Lewis Structures Unit 14
Th	3/10	Lewis Structures and Gas Laws Unit 12
T	3/15	Gas Laws
Th	3/17	Exam 2 over units 13, 14, and 12
		Spring Break 3/21 – 3/27 No classes nor labs meet
T	3/29	Thermochemistry Unit 15
Th	3/31	Thermochemistry
T	4/4	Thermochemistry, Acids, Bases & Salts Unit 8
Th	4/7	Acids, Bases, Salts
T	4/12	Acids, Bases, Salts
Th	4/14	Acids, Bases, Salts, including gram type titration problems, pH Unit 9 first half
T	4/19	Wavelength type problems from Unit 3, balancing equations
Th	4/21	Finish balancing equations Unit 6
T	4/26	Exam 3 Unit 15, Unit 8, Unit 9 and wavelength type problems from Unit 3, unit 6
Th	4/28	Bonding Unit 4 and parts of unit 7 s,l, g
T	5/3	Net ionics and solubility, redox reactions Unit 10
Th	5/5	IMF Unit 7
T	5/10	IMF Unit 7
Th	5/12	IMF finish any other items
T	5/17	Exam 4 bonding Unit 4, most of Unit 7: net ionics, redox, IMF
Th	5/19	Review
T	5/24	Final Exam 1:00 – 3:45 pm

Zoom Etiquette and Behavior for Office Hours

Be sure to mute your mic (lower-left corner of your screen) as soon as you sign on and whenever you are not speaking. This is important and perhaps the most critical tip to avoid background noise and distraction for others.

Success in Chemistry:

Chemistry is a vertical subject that is best learned in appropriate chunks. As an instructor I have gone to great lengths to not overburden you with an inordinate amount of information per lecture. Therefore, it is imperative that you complete the recommended homework assignments before the next class period to avoid gaps in understanding. Studying on a daily basis (not cramming) increases your ability to retain long-term information and perform more successfully on exams and comprehensive final exams. I will be providing answers to almost all your written assignments so you can double check your work immediately and know whether you are studying and learning what you need to know for proper preparation for the daily work and the exams. Please note that I use Bloom's Taxonomy of questions on the exam which means I will ask recall questions, application questions, and higher order critical thinking questions. Cramming typically will not enable you to perform at the higher levels.

I have enjoyed teaching chemistry at the college level for three decades. Many students have stayed in touch to let me know how they are doing. It is exciting to see students meet their goals in STEM careers. Most people find STEM careers to be intellectually stimulating and financially rewarding. I hope you find joy in learning the fundamentals of chemistry and the rewards of your dedication to doing the necessary work in this class as well as properly preparing for subsequent science classes.

