Chemistry 42 Course Syllabus
Intro to Chemistry

Santa Rosa Junior College Fall 2024

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Lecture	T, Th	1:30-3:00, Lindley 303
Lab (taught by Dr. Maprathu)	Th	9:00 am–12:00 pm, Lindley 395
Office Hours	T, Th	12:30–1:30, Lindley 316 (322)

This syllabus is to be considered as an agreement. Continued registration in this course means that you agree to the policies and procedures outlined in this syllabus. This syllabus is intended to give the student guidance in what may be covered during the semester and will be followed as closely as possible. However, the instructor reserves the right to modify, supplement and make changes as the course needs arise.

Important Dates

Sunday, Sep. 1 – Last day to drop with full refund
Sunday, Sep. 8 – Last day to drop without a W (or add w/approval)
Sunday, Nov. 17 – Last day to withdraw with a W
Thursday, Dec. 19 1:00-3:45 - Final exam

Course Description

A basic introduction to fundamental laws and principles of the composition of matter, physical and chemical changes, atomic and molecular structure, chemical equilibria, intermolecular forces, solutions, and qualitative and quantitative theory and techniques. This course is a pre-requisite for Chemistry 3A.

Course Requirements

Required: Math 155 ("Intermediate Algebra") completed or two years of HS algebra or its equivalent.
Recommended: Eligibility for, or completion of, English 1A or its equivalent.

Course Materials Required:

(a) Required Lecture Text – Introductory Chemistry, Nivaldo J. Tro, 6th Edition, Pearson, ISBN: 978-0321687939
(b) Required Laboratory Text – Chem 42 Lab Manual – Fall 2024), SRJC Chemistry, Arbor Crest, available only in SRJC Bookstore.
(c) A simple scientific calculator with exponential & logarithmic capabilities

(d) Protective eyewear and apron must be used in the laboratory **at all times** as required by California State law. This semester only, these items will be available for free on the first day of lab,
(e) Laboratory Notebook, black composition – type notebook (more information in lab)

Student Learning Outcomes
Students should be able to solve problems involving fundamental processes in chemistry, including basic atomic theory, structure and bonding, chemical reactions, equilibrium, and the various forms of matter. They should be able to state concise explanations which demonstrate a basic understanding of the above fundamental processes in chemistry and how the scientific method was used to develop the theories behind these processes. They should be able to interpret and utilize the vocabulary and nomenclature that is specific to a basic level of general and organic chemistry, follow fundamental safety procedures in a laboratory environment, perform simple chemical experiments and associated calculations efficiently and accurately, and use fundamental processes in chemistry to investigate phenomena in the applied sciences. Furthermore, that should be able to arrange, sort, and graphically represent chemical data, recognize the use of experimental chemistry in a variety of professional fields and recognize the role of chemistry in history and today's society

Grading
Your semester grade is based on four unit exams, 4 quizzes, laboratory reports, and the final exam.

Unit exams	600 points
Final exam	150 points
Quizzes/homework	50 points
Labs	200 points
Maximum Possible	1000 points

Grades are neither bestowed upon students by instructors, nor are they an entitlement, but are entirely *earned* by students. Realize that both objective factors (such as exam scores and problem/homework scores to which numerical values can be assigned) and subjective factors (such as effort, improvement, initiative, honesty, participation, academic growth, etc., which cannot be easily tagged with a number) will be taken into account at the end of the semester when letter grade assignments are made. Borderline cases will be decided after taking into consideration such factors as: *academic growth, classroom participation, initiative, attendance, punctuality, positive attitude and individual motivation*.

Approximate Scale for Letter Grades

A (88-100%) B (77 – 87%) C (66 – 76%) D (50 – 65%) F (Below 50%)

Make-up Policy
There will be no guarantee to be able to take early or late exams. All exams will be given at the scheduled time and make-up exams can be arranged under certain circumstances. Missed exams due to medical and family emergencies will be addressed on an individual basis; however, valid documentation must be provided. There are no make-up labs.

Unit Exams 600 points
Each of the four unit exams will be based on material covered in classroom, laboratory and homework completed to that date.

Final Exam 150 points
The final exam will be a comprehensive, primarily multiple choice exam covering all topics covered during the semester. The grade on one low scoring unit exam can be replaced with a better score in the corresponding unit in the final exam.

Quizzes/Homework 50 points
Quizzes will be given online and will be announced in advance. Homework may be assigned during the course and announced in lecture.

Laboratory 200 points
The lab section of the course will be used to perform experiments, to discuss experimental results and for problem solving activities.
Each experiment will require preparation time prior to the start of lab, and additional work after lab to complete the report.

Attendance
Your regular attendance in lecture highly encouraged and laboratory is MANDATORY. Class attendance is a critical component of the learning process. A large amount of material will be covered in class and you are putting yourself at a disadvantage by missing class. In each class, understanding new concepts is dependent on your grasp of material covered in previous classes. Any undue number of absences from lecture (3 or more per semester unless cleared by me – preferably ahead of time) may result in an individual being dropped from the course, or in a significant reduction of that student's course grade. Students are expected to notify the instructor of any anticipated absences or late/missed assignments prior to the due dates by email. Class meetings start on the hour. Conversations should end at that time, and you should be prepared to commence taking notes and working on practice problems. If you arrive late, please enter the room quietly. All students should bring a calculator (phone/laptop calculator is acceptable for regular lecture, but NOT during quizzes or exams) and be prepared to work on problems in class.

Student Expectations

Academic Decorum

All students are expected to know the Student Conduct Code (http://www.santarosa.edu/for_students/rules-regulations/scs/section1.shtml) and adhere to it in this class. Inappropriate behavior in the classroom will result in a referral to the Vice President of Student Services for disciplinary due process.

Each student is expected to be considerate and polite to fellow students and instructor. Please turn off all potentially disruptive electronic devices before start of class. If arriving late, please enter quietly. If you must leave due to exigent circumstances, please seat yourself such that you can exit with minimal disruption to other students and the instructor.

Academic Integrity

Students are expected to complete all assignments, lab reports and examinations with total honesty. Although working together on these assignments is allowed, each student must do their own work and use his/her own words. **Copying another student's work or laboratory assignments is considered cheating and both students will receive a ZERO for the assignment.** Please read the college policy/procedure on academic integrity at: http://www.santarosa.edu/polman/3acadpro/3.11P.pdf Students who violate the district standards of academic honesty by engaging in cheating, plagiarism, impersonation, mis-representation of facts or committing other acts of dishonesty will be dismissed and a grade of "F" will be assigned, regardless of their level of performance up to that point in the semester.

Good Labkeeping

Maintaining a tidy work area in the lab and cleaning up after yourself are requirements for (1) participating in and (2) leaving the laboratory. The stockroom staff is friendly and helpful, but they do not have time to clean up after everyone. After each lab, the counters, floors, sinks and balances should be clean, equipment in its proper location, and chemical waste disposed of in the correct container. All students in a section will be held accountable for cleaning up the lab, regardless of who made any messes. The lab will be clean when you come in, so please show consideration for your colleagues by leaving it in *better* condition than when you arrived.

Course Policies

Re-evaluation of Graded Work

> If you believe that your work has been graded incorrectly, please attach a brief note explaining the suspected error and submit it to me within two weeks of the day it was returned to the class. Do not write on any work that you are submitting for a re-grade. If you are comparing your graded materials with that of other students, both your work and that of your colleague must be submitted together for

consideration. The entire submission will be re-evaluated, and the score may be adjusted up, down, or not at all.

Recording of Lectures

The lectures in this course are for you to learn from and take notes from. They may not be recorded in video form. They may be recorded in audio form only with permission of the instructor, and then only for your personal use in studying for the class.

Drops, Withdrawals, and Incompletes

Please be aware, it is the students' responsibility to drop any course that they do not intend to complete and accept a grade. The instructor may drop any student enrolled in a course that is not present or has not made prior arrangements with the instructor by the second class roll call.

Safety and General Information

Laboratory Safety

Safety in the laboratory is of primary importance. While in the laboratory, you must be appropriately dressed in long pants and closed-toed shoes. Backpacks and other loose articles must be stored in the cubbies provided, not on the floor. If you have long hair, it must be tied back. When anyone in class is working on chemistry, everyone must be wearing safety goggles. These may be worn over prescription glasses. Food and drink are strictly prohibited in lab. More complete safety instructions will be given to you in lab.

Emergency Information

In case of natural disasters, emergencies, or fires, we may need to evacuate the building. In the event of an evacuation, turn off any flame or heat source you are using and exit the building quickly and orderly. Do not stop for personal items. Find the nearest exit for the building and exit the building. Assemble at the triangular lawn on the west corner of the campus near the creek until your instructor takes roll and provides you with instructions. In case of an earthquake, hide under the desk or otherwise seek cover from falling overhead objects. Brace yourselves and hold on for the duration of the quake. Once the quaking has stopped, quickly exit the building. In case of a major chemical spill or if the chemical spill alarm is triggered, leave everything and evacuate the building. If you are a student with a disability who may need assistance in an evacuation, please see me during my office hours as soon as possible so we can discuss an evacuation plan. Copies of the red *Emergency Preparedness Handbook* are posted throughout the building and have more detailed information and procedures for most imaginable emergencies. Any type of emergency can be reported to the District Police Dispatcher at (707) 527-1000.

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 letter from the Disability Resources Department (DRD) to your instructor as soon as possible. You may also speak with me privately during office hours about your accommodations. Please fill out any paperwork for testing accommodations in advance of the exam, and keep me informed of what you need. I am happy to provide accommodations, but I do appreciate having a few days' advance notice. If you do not have authorization from DRD, contact the office directly (527-4278).

Recommended Study Procedures

a) Check the Lecture-Laboratory Schedule and website frequently, and budget sufficient time to prepare for upcoming class activities and assignments.

b) When readings in a new chapter are assigned, begin by skimming the entire chapter once and read the Key Concepts and Key Terms list or similar. Then go back and carefully study the pages of assigned reading.

c) Look up the meanings of new terms in the Glossary and jot down questions to ask your instructor either during the lecture or outside of class. **Work as many on-line, in-chapter exercises and end-of-chapter problems as possible** before coming to the lecture on that material. These attempted and corrected solutions should be organized in a notebook for easy reference prior to examinations. If you have purchased the "Solutions Manual", always try to work each problem without first referring to the set-up and answer provided. Use the manual mainly to check your strategies and answers or to furnish help when you are truly drawing a blank.

d) After the lecture, ask questions from your list that remains unanswered during your instructor's scheduled office hours or make an appointment. Also plan to use slack laboratory time to seek clarification from your instructor on any aspect of the course.

e) As soon as possible after the lecture, re-copy or refine your notes, re-read the textbook and work additional end-of-chapter or on-line problems while the lecture is still fresh in your mind.

f) Before examinations, study the text and review your notes and solutions once again. Get plenty of rest and don't forget to bring some sharpened pencils with erasers and a scientific calculator.

g) After the exam, study those areas you were weakest in. Re-work the exam problems until you obtain the correct answers. Use the posted exam key if necessary. Always study the posted key even if you earned a respectable score, and copy the correct solutions to provide useful strategies in solving future problems. The answer keys will only be posted for about two weeks following each exam.

h) If you start falling behind in the class, double your efforts, and seek help from your instructor before it is too late.

Chem 42 Class Calendar Fall 2024

Week	Day	Date	Lecture Topics	Lab This Week
1	T	8/20/2024	Lecture Intro/Ch. 1	
	Th	8/22/2024	Ch. 2 Measurements/Problem Solving	Lab Intro
	Su	8/25/2024	Last day to register/add w/o instructor's signature or add code	
2	T	8/27/2024	Ch. 2 Measurements/Problem Solving	
	Th	8/29/2024	Ch. 3: Matter & Energy	Calculations and Dimensional Analysis
	Su	9/1/2024	Last day to drop semester length class and be eligible for a refund	
3	M	9/2/2024	**Labor Day Holiday**	
	T	9/3/2024	Ch. 3/Ch. 4: Atoms	
	Th	9/5/2024	Ch. 4: Atoms	No Experiment
	Su	9/8/2024	Last day to add w/instructor's add code; Last day to drop without a "W"	
4	M	9/9/2024	First Census Day	
	T	9/10/2024	Ch. 5: Molecules & Compounds	
	Th	9/12/2024	Ch. 5: Molecules & Compounds	Measurements and Density
5	T	9/17/2024	Review	
	Th	9/19/2024	**Exam 1**	Separation of a Ternary Mixture
6	T	9/24/2024	Ch. 6: Chemical Composition	
	Th	9/26/2024	Ch. 6/Ch. 7: Chem Reactions	Ionic and Molecular Compounds
	F	9/27/2024	**Native American Day Holiday**	
7	T	10/1/2024	Ch. 7: Chemical Reactions	
	Th	10/3/2024	Ch. 8: Quantities in Chemical Reactions	The Copper Cycle
8	T	10/8/2024	Ch. 8/Ch. 9: Periodic Table	
	Th	10/10/2024	Ch. 9: Periodic Table	Precipitation Reactions
9	T	10/15/2024	Review	
	Th	10/17/2024	**Exam 2**	Synthesis of Luminol
10	M	10/21/2024	Midterm progress indicators posted in student portal	
	T	10/22/2024	Ch. 10: Chemical Bonding	
	Th	10/24/2024	Ch. 10/Ch. 11: Gases	Formula of Epsom Salt
11	T	10/29/2024	Ch. 11: Gases	
	Th	10/31/2024	Ch. 12: IMF	Atomic Spectra
12	T	11/5/2024	Ch. 12/Ch. 13: Solutions	
	Th	11/7/2024	Ch. 13: Solutions	Lewis Structures and Molecular Geometry
13	M	11/11/2024	**Veteran's Day Holiday**	
	T	11/12/2024	Review	
	Th	11/14/2024	**Exam 3**	Gas Laws
	Su	11/17/2024	Last day to drop with a "W"	
14	T	11/19/2024	Ch. 14: Acids & Bases	
	Th	11/21/2024	Ch. 14: Acids & Bases	Solutions
15	T	11/26/2024	Ch. 15: Equilibrium	
	Th	11/28/2024	**Fall Break**	
	F	11/29/2024	**Fall Break + PD 1/2 Flex Day**	
	Sa	11/30/2024	**Fall Break**	
16	T	12/3/2024	Ch. 16: Redox/Ch. 17 Nuclear Chemistry	
	Th	12/5/2024	Review	Titration of Acetic Acid
17	T	12/10/2024	**Exam 4**	
	Th	12/12/2024	Review	Locker Checkout and Lab Cleanup
18	Th	12/19/2024	**FINAL EXAM: 1:00 - 3:45**	
	Fr	1/3/2025	Final Grade Rosters Due	
	Sa	1/4/2025	Fall semester processing finalized	
	12/21/23-1/12/24		Semester Break	