Chemistry 3A Course Syllabus
General Chemistry Lecture
Santa Rosa Junior College Spring 2024

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Office Hours	Tue, Thu	9:00 AM–10:00 AM
	Wednesday	10:30 AM–12:00 PM

Chem 3A	**Section 4985**	**Mon, Wed 9:00–10:30 AM**	**396 Lindley**	**(Fassler)**
	Section 5000	**Mon, Wed 3:00–4:30 PM**	**396 Lindley**	**(Fassler)**
	Section 4900	Tue, Thu 9:00–10:30 AM	396 Lindley	(Crowley)
	Section 5009	Tue, Thu 1:30–3:00 PM	396 Lindley	(Fontana)

Chem 3AL	Section	Meeting Time		Room	Instructor
Lab Lecture	Section 5109	Mon	8:00–12:00 PM	303/383 Lindley	Fontana
and Lab	**Section 4925**	**Mon**	**11:00–3:00 PM**	**396/383 Lindley**	**Fassler**
	Section 5010	Tue	11:00–3:00 PM	386/383 Lindley	Nelson
(concurrent	Section 4939	Wed	11:00–3:00 PM	396/383 Lindley	Marhenke
enrollment	Section 5096	Thu	8:00–12:00 PM	303/383 Lindley	Fontana
required)	Section 5305	Fri	9:00–1:00 PM	386/383 Lindley	Djamali

Description

Chemistry 3A (formerly Chem 1A) is an introduction to the fundamental principles of chemistry, with an emphasis on chemical calculations. Topics include atomic structure, stoichiometric calculations, reactions, properties of ideal and real gases, kinetic molecular theory, thermochemistry, periodic properties of the elements, properties of solutions, liquids and solids, molecular geometry and models of chemical bonding. Chem 3A is the lecture portion of first semester General Chemistry. You must be concurrently enrolled in the lab course, Chem 3AL. Separate final grades will be awarded for the lab and lecture courses.

Prerequisites / Co-requisite

Completion of Chem 42 or one year of high school chemistry
OR petition / placement through the Chemistry Diagnostic Test
AB705 placement into Math Tier 3 or higher
OR completion of MATH 154, MATH 155 or MATH 156
Concurrent enrollment in Chem 3AL (any section)
College-level prerequisites must be completed with a grade of C or higher.

Each student should be comfortable with algebra, scientific notation, significant figure conventions, graphing, and logarithmic calculations. You should be familiar with metric system conversions, dimensional (unit) analysis, chemical symbolism, nomenclature, balancing equations, and basic stoichiometric calculations.

If you have not already completed Chem 42, you should consider taking the Chemistry Diagnostic Test/Questionnaire. It is intended to help prospective students consider for themselves whether they are fully prepared for Chem 3A. Some students want to finish their classes as fast as possible, but having to retake courses will slow you down and can be more frustrating. Look over the sample questions and/or talk with your instructor to help you make an informed decision.

Learning Outcomes

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.

Required Course Materials

Textbook: Zumdahl and DeCoste, *Chemistry*, 11th Edition (Cengage, 2023)
Online Homework: *OWLv2* (includes eBook access)
Several formats for the textbook and OWLv2 access are available.
A summary of the options (as I understand them) can be found here:
https://srjcstaff.santarosa.edu/~jfassler/chem3A/textbook.html
Scientific calculator

Important Dates

Sunday, February 4th – Last day to drop without a grade
Sunday, April 21st – Last day to withdraw with a W
Monday, May 20th, 1:00 – 3:45 PM – Final exam (PM lecture)
Wednesday, May 22nd, 7:00 – 9:45 AM – Final exam (AM lecture)

Grading

Midterms 450 points

Three midterms (150 points each) will be given in class, and they are the largest component of your overall grade. They will include a mixture of conceptual, short answer and calculation-based problems related to the lecture material and homework. You will need your own scientific calculator. There will be no makeup exams.

Quizzes 100 points

Four quizzes (25 points each) will be given in class to help you check your understanding of the material between tests and to remind you to study.

Homework 144 points

There will be approximately 9 homework assignments (16 points each) corresponding to each chapter covered in the textbook. The homework will be completed and turned in using the *OWLv2* homework system (see above website for registration link). An assignment that has 90% credit online will receive full credit in the grade book. This is to make up for any problems with the website we may encounter throughout the semester. Although the questions on the exams generally

cover the same material, they are not written in the same style as the homework. Aim to learn the concepts!

Final Exam 150 points

The final exam will be comprehensive, and there will be no makeup. Any scheduling conflicts must be resolved before February 4th, the last day to drop without a W.

Final Grades 844 points possible

Letter grades will be assigned based on percentages rather than the number of points earned. The approximate grading scale for the course will be:

≥ 88% A ≥ 76% B ≥ 65% C ≥ 50% D

Course Content

Lectures

Attendance in lecture is essential for success, and you are strongly encouraged to take notes during lectures, participate in class discussions and work on any problems given in class. It is a good idea to read over the material in each chapter before the lecture for that chapter. This will improve your ability to understand and follow the material being presented. It is your responsibility to stay current on the class materials and observe posted due dates for homework and other assignments. If you get sick or have another reason for not being able to complete work on time, please contact your instructor.

Handouts

Course information and materials, including review sheets, will be distributed to you electronically. Generally, you will find handouts and lectures on the course website. The course website is here: https://srjcstaff.santarosa.edu/~jfassler/chem3A

Contacting your Instructor

The simplest way to contact me is by regular e-mail <jfassler@santarosa.edu>. I will attempt to keep track of messages you may send me through Canvas, although I have a harder time finding them and tracking the conversation. If you would like to meet in person, feel free to stop by my office hours. I can also meet over Zoom by appointment.

Student Expectations

Academic Integrity

All work submitted for grading must be your own. You are free to collaborate with other students, discussing questions as you like, but you must turn in only your own work. Work that is found to have been copied or plagiarized will be penalized or given a score of zero, whether it is the original or the copy. I do not hesitate to penalize anyone found cheating or plagiarizing.

Creating a Productive Work Environment

Since you will be spending many hours working this semester, I recommend that you find or create a comfortable and productive study area for yourself. It should be free from distraction as much as possible. Consider and optimize your posture, the lighting and your work surfaces. It is best if you can maintain a regular routine, including a good sleep schedule, stretch breaks, meals and time outside. Good habits (or lack thereof) will impact your learning for better or for worse.

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.

Missed Classes

If you are not able to attend lecture on a particular day, I recommend reviewing the notes posted on the class website and contacting me with any questions. It is your responsibility to stay current on the class materials, and observe posted due dates for homework. If you get sick or have another reason for not being able to complete work on time, please contact your instructor.

General Information

Emergency Information

In the event of an emergency, remain calm and take deliberate action as necessary. If an evacuation is ordered, take your belongings (if there is time) and exit the building in an orderly manner. Wait outside with your class in a safe area that allows access for emergency vehicles. Copies of the *Emergency Preparedness Handbook* are posted throughout the building. Any type of emergency can be reported to the District Police Dispatch at (707) 527-1000.

Accommodations for Students with Disabilities

If you need disability-related accommodations for this class, please provide the Authorization for Academic Accommodations 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 remind me about any testing accommodations at least a day or two before the exam, and keep me informed of what you need. I am happy to provide accommodation for you. If you have not received authorization from DRD, contact their office directly. They can be reached online, or by phone at 527-4278.

Advice on General Chemistry

Having taken Introductory Chemistry before, you should already be familiar with basic chemical calculations and reactions. Your job this semester will be to further expand this vocabulary and use it to analyze chemical systems. This means you will take a problem you have never seen before and use your chemical skills to interpret and analyze what is going on, and most likely do some calculations as well. Thus, your success will depend on understanding chemistry first, and doing calculations second. Memorization will be limited to just a few things, so focus on your skills and understanding. You will need to think hard and work hard to succeed in chemistry. Don't do the same type of problem over and over for practice, but use your creativity and the tools you are provided to understand the ideas behind the questions. My hope is that this semester, you will come to appreciate the beauty and elegance of chemistry in a deeper and more complete way.