

CHEMISTRY 3AL – General Chemistry I Laboratory (Section #4923)

Santa Rosa Junior College – Spring 2022

Instructor: John C. Branca, Ph.D.

Office: Bech 1916 (No meetings allowed in office)

Phone: (707) 535-3771 (not likely to be answered in a timely manner)

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Office hours: M 1:00 to 2:30 PM (in-person only) Bech Hall Room 1910

Course Information:

Lab Lecture: **All lab lectures will be held in-person.**

Lab sessions: **All lab sessions are in-person.**

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. Graded only.

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) Lab notebook – any type of permanently bound notebook, not loose leaf, is acceptable. Pages must be sequentially numbered, and space left at the beginning of the notebook for a table of contents.
- 2) Goggles and apron for lab sessions – may be purchased at the bookstore or, if available from a prior chemistry class, you may reuse the set you own.
- 3) Scientific calculator. Must be able to do logs and square roots.
- 4) Laboratory manual purchased from the SRJC bookstore.

Grading and Assignments:

Lab reports 85% Lab Final Exam 15%

Lab reports must be typed and submitted electronically. Your grade depends upon the quality of the lab report and how closely you adhere to the published “Lab Report Guidelines” available in Canvas. **Consult these documents before writing your lab reports.**

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

A – 90-100% B – 80-89% C – 70-79% D – 60-69% F – <60%.

Attendance:

Attendance during weekly office hours is recommended. **Office hours will be offered in-person only on Mondays from 1:00 to 2:30 PM in Bech Hall Room 1910.**

Excused absences from lab sessions **require** documentation of a serious and compelling reason, for example, a doctor's note. 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 lab session times. **There will be NO makeup for any lab sessions missed, unless the student asks the instructor, IN ADVANCE, for an alternate lab time that same week, AND, the instructor of that lab session accepts your attendance.**

Late work:

Lab reports may be turned in up to one week late with a 20% penalty. Points will not be given for labs submitted more than one week late. All reports will be submitted electronically, and date and time stamped upon submission.

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: for example, copying another student's lab report or portions of a lab report, downloading lab reports from a website, buying reports from an online service, etc. If you are not sure, ask for approval in advance.

Portable Electronic Devices Policy: Unless previously approved by the instructor, the use of all types of portable electronic devices is prohibited during in-person lab sessions. No exceptions are allowed without prior authorization. **Calculators ONLY may be used.**

CHEM 3AL

SRJC, Spring 2022, Branca

Lab Schedule – Subject to change depending upon pandemic status / conditions

All lab sessions will be held in Bech Hall 1980 from 8:40 – 11:40 AM on Mondays

Lab Lectures will be held from 7:40 – 8:40 AM on Mondays IN-PERSON (Bech 1980)

| Week | Day | Date | Lab Activity |
|------|-----|--------|--|
| 1 | M | Jan 17 | No classes - holiday |
| 2 | M | Jan 24 | Excel Training |
| 3 | M | Jan 31 | Intro to CHEM 3AL. Safety Training |
| 4 | M | Feb 7 | Density and Measurements |
| 5 | M | Feb 14 | Analysis of a Hydrate |
| 6 | M | Feb 21 | No classes - holiday |
| 7 | M | Feb 28 | Estimation of Avogadro's Number |
| 8 | M | Mar 7 | Stoichiometry of Chemical Reactions |
| 9 | M | Mar 14 | Synthesis of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ |
| 10 | M | Mar 28 | Gases: Density and Number Density |
| 11 | M | Apr 4 | Thermochemistry: Heat Capacities |
| 12 | M | Apr 11 | Thermochemistry: Hess's Law |
| 13 | M | Apr 18 | Atomic Spectroscopy |
| 14 | M | Apr 25 | Lewis Dot Diagrams and VSEPR |
| 15 | M | May 2 | Titration of a Diprotic Acid |
| 16 | M | May 9 | The Eleven Solutions Problem |
| 17 | M | May 16 | Intermolecular Forces and Evaporation & Checkout |
| 18 | M | May 23 | Final Exam – Monday, May 23 - 7:00 – 9:45 AM (online) |