

CHEMISTRY 1A – General Chemistry I (Sections #0285, 0288)

Santa Rosa Junior College – Fall 2018

Instructor: John C. Branca, Ph.D.

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Office hours: Tuesday, Thursday 3:30 – 4:30 PM, Wednesday 12:00 – 12:30 PM (Bech 1916)

Course Information:

Lecture: All sections: Bech 1999. Tuesday and Thursday, 4:30 – 6:00 PM.

Laboratory Section 0285: Bech 1910. W, 8:00 – 9:00 AM.

Lecture: Section 0288: Bech 1999. Th, 6:00 – 7:00 PM.

Laboratory: Section 0285: Bech 1980. W, 9:00 AM – 12:00 PM.

Section 0288: Bech 1980. Th, 7:00 – 10:00 PM.

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

Description:

First semester of a one-year program of general chemistry. General principles of chemistry, including atomic theory, bonding, stoichiometry, kinetic molecular theory of gases, properties of mixtures, the periodic table, and thermochemistry. Laboratory emphasizes chemical methods and quantitative work. 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. Collect accurate data in the laboratory and analyze with methods such as graphical and error analysis.
3. Communicate the findings of laboratory work in written laboratory reports.

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

https://portal.santarosa.edu/SRWeb/SR_CourseOutlines.aspx?ck=CHEM1A

Required material:

- 1) Textbook – Silberberg, M. and Amateis, P., *Chemistry: The Molecular Nature of Matter and Change, 8th Edition*. (ISBN: 9781260201680) **NO “ACCESS” CARD REQUIRED**
- 2) Lab manual – *Chemistry 1A Laboratory Manual*. Santa Rosa Junior College (Fall 2018).
- 3) Study Guide: Crowley, J. P., *Chemistry 1A Survivor Guide*. First Edition (2017).
- 4) Bound, self-copying laboratory notebook.
- 5) Scientific calculator. Must be able to do logs and square roots.
- 6) Safety goggles and laboratory apron. These can be obtained from the stockroom during the first two weeks of lab or bring your set from Chemistry 42 lab to receive a fee refund to your student account.
- 7) USB flash drive (for laboratory work).

Grading and Assignments:

Lab:	25%
Exams (including the final):	65%
Quizzes:	10%

Homework from the textbook and study guide will be assigned regularly but not collected for points. Frequent in-class **quizzes** will account for 10% of the overall grade. There will be three **midterm exams** (worth 15% each) plus a **final exam** (20%). The lab score is based on the quality of results and technique as well as the quality and completeness of **laboratory reports**. Due dates and formats for lab reports will vary; the specific requirements for each report will be explained throughout the semester. A schedule of lab activities and tentative exam dates will be provided.

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

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

Note: You **must** pass the lab and lecture to pass the course. In other words, if you get less than 56% of the possible points in lab or in lecture, you will receive an F in the course.

Attendance:

Attendance is required. Since the laboratory is very important to this course, missing more than three labs, unexcused, will result in a **course grade of F**.

Excused absences **require** documentation of a serious and compelling reason, for example, a doctor's note. If you miss one exam due to an **excused** absence, that exam score will be replaced by the average of your other two exam scores. If you miss a lab due to an **excused** absence, the number of points for that lab will be subtracted from the number of points possible, so that you will not be penalized. **This applies to no more than two lab days.** I reserve the right to drop any students from the roster (or the wait-list) if they are absent more than 10% of class time without contacting me.

Late work:

Quizzes and exams will generally not be given late. Lab reports will be accepted late with a penalty of 20% per school day (Saturday and Sunday excluded).

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. It is located in the Bertolini Student Center (527-4278). 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 another student's laboratory data without permission, using unapproved information that is programmed into a calculator or cell phone, etc. Even though we will do many experiments with partners, the written work that you turn in must be your own (unless you've been specifically asked to turn in a group report). If you're 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 lecture and during exams. No exceptions are allowed without prior authorization. To use your device during lecture, you must leave the room. You will be responsible for any material you miss during your absence from lecture for this purpose. Please, do not ask questions about what you may have missed when you return to lecture.

Schedule
CHEM 1A
 SRJC, Fall 2018, Branca

Week	Day	Date	Lab Activity	Notes on Lecture
1	Wed	Aug 22	Safety	
	Thurs	Aug 23	Safety	
2	Wed	Aug 29	Locker Check-In; 1: Measurement and Density	
	Thurs	Aug 30	Locker Check-In; 1: Measurement and Density	
3	Wed	Sep 5	<i>Labs cancelled (Mon. Labor Day, Tues. PDA Day)</i>	Sep 2: Last day to drop for refund
	Thurs	Sep 6	<i>Labs cancelled (Mon. Labor Day, Tues. PDA Day)</i>	Sep 9: Last day to drop without "W"
4	Wed	Sep 12	2: Estimation of Avogadro's Constant	Sep 10: 1 st census day
	Thurs	Sep 13	2: Estimation of Avogadro's Constant	
5	Wed	Sep 19	3: Determination of the Empirical Formula of a Compound	
	Thurs	Sep 20	3: Determination of the Empirical Formula of a Compound	
6	Wed	Sep 26	4: Synthesis of Strontium Iodate Monohydrate	Exam 1 on Tuesday, September 25
	Thurs	Sep 27	4: Synthesis of Strontium Iodate Monohydrate	
7	Wed	Oct 3	5: Six Solutions	
	Thurs	Oct 4	5: Six Solutions	
8	Wed	Oct 10	6: Determination of R: The Gas Constant	
	Thurs	Oct 11	6: Determination of R: The Gas Constant	
9	Wed	Oct 17	7: Measuring Heat Capacities with Calorimetry	
	Thurs	Oct 18	7: Measuring Heat Capacities with Calorimetry	
10	Wed	Oct 24	8: Hess's Law: Neutralization of Citric Acid	Exam 2 on Tuesday, October 22
	Thurs	Oct 25	8: Hess's Law: Neutralization of Citric Acid	
11	Wed	Oct 31	12: Determination of the Molar Mass of an Unknown Diprotic Acid	
	Thurs	Nov 1	12: Determination of the Molar Mass of an Unknown Diprotic Acid	
12	Wed	Nov 7	9: The Atomic Spectrum of Hydrogen	
	Thurs	Nov 8	9: The Atomic Spectrum of Hydrogen	
13	Wed	Nov 14	11: Analysis of Aspirin	Exam 3 on Thursday, November 14
	Thurs	Nov 15	11: Analysis of Aspirin	
14	Wed	Nov 21	<i>Tues.-Thurs. labs cancelled (Thanksgiving week)</i>	Nov 18: Last day to drop with a "W"
	Thurs	Nov 22	<i>Tues.-Thurs. labs cancelled (Thanksgiving week)</i>	
15	Wed	Nov 28	10: Lewis Structures and VSEPR	
	Thurs	Nov 29	10: Lewis Structures and VSEPR	
16	Wed	Dec 5	13: Intermolecular Forces and Evaporation	
	Thurs	Dec 6	13: Intermolecular Forces and Evaporation	
17	Wed	Dec 12	<i>Locker Check-Out</i>	
	Thurs	Dec 13	<i>Locker Check-Out</i>	
18		Dec 18	Finals Week – No Labs	Tuesday, December 18, 4 – 6:45pm