Course Syllabus for Chemistry 60 (Chemistry for the Allied Health Sciences)

Santa Rosa Junior College in Petaluma Summer 2021 M-Th 2 hours and 10 minutes daily

Lecture Instructor: Janice Crowley E-mail: jcrowley@santarosa.edu

Refer to the June and July calendars in Canvas for daily course content.

Office hours for Section 8740 are remote only:

Monday, June 14: 1:00 pm – 2:30 pm (required and attendance/participation will be noted)

Sunday, June 20: 2:30 pm – 3:30 pm (attendance is optional)

Tuesday, June 22: 1:00 pm – 2:30 pm (required and attendance/participation will be noted)

Monday, June 28: 1:00 pm – 2:30 pm (required and attendance/participation will be noted)

Additional Office Hours before Exam 2 can be made by appointment use my email to make appt.

Wednesday, July 7: 1:00 pm – 2:30 pm (required and attendance/participation will be noted)

Monday, July 12: 1:00 pm – 2:30 pm (required and attendance/participation will be noted)

Sunday, July 18: 2:30 pm – 3:30 pm (attendance is optional)

Tuesday, July 20: 1:00 pm – 2:30 pm (required and attendance/participation will be noted)

Wednesday, July 21: 2:30 pm – 3:30 pm (attendance is optional)

Office Hours: Students may best utilize office hours by first re-reading class notes and attempting homework problems. I will answer clarifying questions. If you require a lot of one on one help - the Tutorial Center on campus has great tutors and student friendly hours. The tutors typical can provide you with more practice when needed which is extremely helpful for students who have never completed a chemistry course.

Introduction

Chemistry 60 is a prerequisite for physiology and microbiology courses required for health science programs. It is designed for students who are interested in nursing, dental hygiene, radiology or other health care fields, and who have little or no background in chemistry. It will give an overview of basic general, organic and biological chemistry.

This course is intended to help you see the importance of chemistry in the health sciences. Your daily hard work will pay off with better understanding and improved long-term retention.

Required Course Materials

Chemistry 60 Survivor Guide: Notes and assignments study guide
Textbook: James Armstrong, *General, Organic and Biological Chemistry: An Applied Approach*, 2nd Edition (2015)
Lab manual: Tatjana Omrcen, *Chemistry 60 Laboratory Manual*
Basic scientific calculator such as a TI 83…

Important Study Tips for first time taking college chemistry:

You will only remember 20 % of quickly learned material after a thirty-day period, says author Thomas H. Mentos in his book, The Human Mind. He says you lose about 80 % of what you learned because of cramming. Cramming stores information in short-term memory; therefore, doesn't create a long-lasting connection.
Short-term memory is where we process everything in our brain and put it into temporary storage. It's where all the non-important stuff goes, like what you ate for breakfast two days ago and what you wore on Monday. Just because your short-term memory is active during a five-hour study stint, doesn't mean the rest of your brain will be able to reconstruct anything when you need it to. The reason so many people rely on cramming, despite knowing it's an inferior approach, is because it worked for them in the past. Old habits die hard. Chemistry requires a very strong foundation of information that can be retrieved and connected to new concepts. If the chemistry concepts learned were crammed early on, then the material becomes progressively harder for the student to grasp because of the way it was stored in the short-term memory (due to cramming). Studying information learned the same day is best, then practicing (homework) the same day. Also, teaching someone what you learned helps you not only retain 90 – 95 %, but also improves your overall understanding and ability to restate, not just recall, the information later.

Cognitive scientist, Professor Hal Pashler, has two important principles for studying. First principle is the spacing effect, which refers to the observation that a repetition (e.g., studying the material a second time) is more effective when the two presentations are spaced apart rather than consecutive in time. The second principle is the testing effect, which refers to the phenomenon of better retention of the material when the individual has practiced retrieving the information from memory, relative to merely reading the information. In other words, being tested on the material is a potent way to enhance one's retention of the material.

Grading

Exams: 450 points

Three exams (150 points each) will be given in class. The exams will cover lecture material, homework, and reading assignments for the textbook. The exams will reflect the three levels of thinking questions (Bloom's Taxonomy). There will be **no** makeup exams. All exams count – no exams are dropped. Bring your calculator to all exams.

Participation/Attendance, Homework and Quizzes: 150 points

For mandatory office hours, attendance will be taken. Homework will be assigned, but not formally graded. The homework is extremely helpful for doing well on the exams so you want to do 100 % of the homework and check your answers with the keys I provide in Canvas. Quizzes may be announced on short notice.

Laboratory: 250 points (refer to lab syllabus of Dr. John Branca for more details).
Final Exam: 150 points
Final Grades: 1,000 points possible

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.

Final course letter grade will correspond to the following percentages:

A = 90 % or better	900 points minimum
B = 78 % - 89 %	780 points minimum
C = 66 % - 77 %	660 points minimum
D = 54 % - 65 %	540 points minimum
F = below 54 %	

Objective factors (such as exam scores and lab report scores) and subjective factors (such as effort, improvement, initiative, honesty, participation, academic growth, completing reading assignments in lab manual and text, cooperation, following directions etc., 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.

Course Content

Lectures: The lectures will be in the form of pencasts. It is very important that you attend the mandatory office hours so that you will know how to pace yourself in this course. In addition, I provide weekly pacing guides that will be posted in Canvas.

Laboratory: The lab portion of the course is designed to supplement the material you will be learning in lecture. Sometimes the content of the lecture material will precede or and other times the content will succeed the lab. You will be introduced to important practical lab skills and techniques in chemistry which will be helpful in health-related fields. It is important that you make good, detailed observations and keep clear, accurate records in a lab notebook. Each lab is preceded by a mandatory lab lecture that will review or explain the principles in the lab as well as procedural and safety considerations. Prepare for lab by reading the lab carefully beforehand and answer any prelab questions ahead of time.

Student Expectations

Academic Integrity: All work submitted for grading must be your own work. I encourage you to collaborate with other students, discussing questions as you like, but make sure that you understand everything you put down for an answer. While in lab, you must make your own observations. Copying down and dishonesty is unacceptable behavior – it is unfair to other students and hinders your own learning. 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. All exams are individual not collaborative. Action may be taken that could lead to expulsion from the course, with a corresponding grade of "F". No internet use or inter-student communication during exams.

Academic Decorum: Please arrive to class on time. If you arrive late, please enter quietly. If you must leave early, sit where you can leave with the minimal disruption to other students and the instructor. Side conversations are disrespectful to the instructor and make it difficult for other students to hear and concentrate. If you have a question about the lecture, please raise your hand and ask it or write it down on a piece of paper and ask after class. I have additional hand-outs for you on the first day.

Zoom Etiquette: You are not required to turn on your video during the live Zoom meetings, but you are welcome to do so. If you need to move around with your device, please turn off your camera. In addition, please stay in mute mode when not speaking.

Attendance: Attendance is important and expected of all students. In fact, attendance is so vital for your student learning that I have incorporated points into your grade based on your participation. Please do not miss or be consistently late to Zoom meetings. The first five minutes are an incredible overview of what you will be learning. To be fair to all students, there will not be any make-ups on labs or exams for any reason other than a thoroughly explained and correctly dated document from a medical doctor for reasons you were not able to attend lab or exam. If you miss a quiz, it is a zero and no make-ups. In addition, since this is a lab-based course, missing more than 3 labs will result in an "F" for the entire course, regardless of the student's performance in the class (department policy).

Student Conduct: The Sonoma County Junior College District supports a safe, productive learning environment to foster intellectual curiosity, integrity and accomplishment as defined in the District Mission and Goals. The District holds that students shall conduct themselves in a manner which reflects their awareness of common standards of decency and the rights of others. Interference with the District's mission, objectives, or community life shall be cause for disciplinary action. Policy 8.2.8: The full policy may be found here. Procedure 8.2.8P: The full procedure may be found here. Also, refer to policy 3.11 and 3.11 P for academic dishonesty.

The following link will take you to the above policy and procedures:
https://www.boarddocs.com/ca/santarosa/Board.nsf/Public?open&id=policies#

Good Lab-keeping: Maintaining a clutter free 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 does not have time to clean up after everyone individually. 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. Points will be deducted for lab stations that are not properly cleaned up.

Reading Assignments, Pencast Assignments, and Animation Assignments: Any additional assignment be it homework, pencast viewing or animation viewing are an important part of learning in this course. To attain the greatest success in this course, you should always do these recommended assignments the same day they are assigned after you have actively reworked your notes. These assignments are typically found in Canvas.

Homework Assignments: 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 and 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.

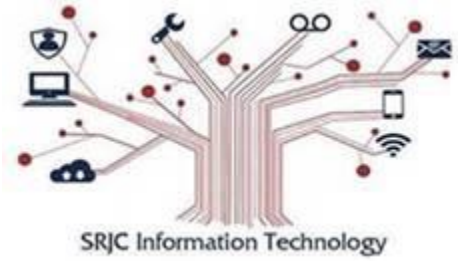
Accommodations for Students with Disabilities: If you need disability-related accommodation for this class, please provide the Authorization for Academic Accommodations Letter from the Disability Resources Department (DRD) to your instructor as soon as possible. You must also speak with me privately about your accommodations through you requesting an appointment through my email. If you have not received authorization from DRD, contact the office directly. It is located in 101 Jacobs Hall in Petaluma (778-2491).

Safety

Laboratory Safety: Safety in the lab is of primary importance. **While in the lab, you must be dressed in long pants and closed-toe shoes.** Backpacks and other loose articles must be stored in the cubbies provided, not on the floor. If you have long hair, you must tie it 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 the lab lecture and in the lab.

Emergency Information: In the event of an emergency, remain calm and take deliberate action as necessary. In an earthquake, seek cover from falling objects and hold on. In most other situations, your instructor will have time to tell you what to do. In the event or an evacuation from lab (Room 208), turn off any flame or heat source you are using and exit using the exterior door if safe to do so. **Do not leave:** your instructor will take roll and give further instructions. Copies of the red Emergency Preparedness Handbook are posted in most rooms on campus and have detailed information and procedures for most imaginable emergencies. Any type of emergency can be reported to the District Police Dispatcher at (707) 527-1000.

IT Help Desk at Santa Rosa Junior College *Help Desk support line, 524-1765*
Information Technology Department (http://it.santarosa.edu)



For the fastest response to a support request, please use the self-service form at https://support.santarosa.edu/WorkOrder.do?reqTemplate=2701
An IT support ticket can also be created by emailing help@santarosa.edu or calling the

Lab schedule is on the following page. Please refer any lab questions to your instructor, Dr. Branca.

Chemistry 60 **Laboratory Schedule**

Summer 2021 **Sections 8740, 8188**

Dr. John C. Branca

Experiment	Lab Date	Report Due Date	In-person	Lab Manual pages
Metric, calculations	June 15	June 22		handout
Lewis Structures	June 16	June 23		pp 113 - 118
Measurements	**June 17**	**June 24**	**X**	**pp 1 - 12**
Energy in a Cashew	June 22	June 29		handout
Stoichiometry	June 23	June 30		handout
Observing Reactions	**June 24**	**July 1**	**X**	**pp 63 - 67**
Molarity Calculations	June 29	July 6		handout
Sugar in Drinks	**June 30**	**July 7**	**X**	**pp 83 - 85**
Gas Law Calculations	July 1	July 8		handout
Naming Hydrocarbons	July 6	July 13		handout
Practice Nomenclature	July 7	July 14		handout
Identifying a Pure Substance	**July 8**	**July 15**	**X**	**pp 25 – 37**
Isomers	July 13	July 18		handout
Chromatography	July 14	July 18		handout
Synthesis of Acetaminophen	**July 15**	**July 20**	**X**	**pp 69 – 71**
Label Reading	July 20	July 21		pp 119 - 127

PLEASE NOTE: All lab reports must be posted electronically to the appropriate link in Canvas in your lab section, not in the lecturer's Canvas section. Assignments will not be accepted in any other manner. Please, NO emails or paper reports turned in on in-person lab days.

Most in-person labs are held on Thursdays, however, there will be one in-person lab held on Wednesday, June 30. ALWAYS CONSULT THIS SCHEDULE TO BE CERTAIN.

"WORD TO THE WISE": It is expected that several hours per lab day are required to complete the lab itself and the report on your results. DO NOT get behind. It will be exceedingly difficult to "catch up," as you will notice in the cascade of due dates in the schedule above.

Labs must be posted on time to receive full credit. Late labs will receive a 20% late penalty, if received within three days of the due date. NO LAB REPORTS will be accepted after July 21. Per SRJC Department of Chemistry guidelines, no student may pass this class if they fail to complete more than three (3) lab reports during the semester. The term "complete" in the previous sentence means submitting a fully completed lab report. Any in-person lab sessions that are missed will be counted as a "0" and no makeup will be made available.

In general, students tend to find labs easier to attain higher grades than they do on exams or quizzes. This is typical for most students. Labs are worth 25% of the overall grade, while exams and quizzes are worth 75%. Please be sure you are spending the proper amount of time on each to maximize your overall grade. There will be no laboratory final. Concentrate on the lecture exams.