Chemistry 108 – Introduction to General, Organic, and Biochemistry
Course Syllabus and Schedule

Instructor: Dr. Zoval
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Office hours:
Monday 12-1 PM in SM240 (lab room)
Tuesday 12-1 PM and 3:50 - 4:50 in SM240 (lab room)
Wednesday 12-1PM and 3:50 - 4:50 in SM240 (lab room)

Class web site: www.saddleback.edu/faculty/jzoval

Course Description:
A study of inorganic, organic, and biochemistry for health pre-professionals and non-science majors. Ideal for students planning to enter nursing and dental hygiene programs. Designed as the first chemistry course to assist students in biology and health-related professions. The focus is on the biochemistry of the human body. Health, nutrition, and basic laboratory techniques are included.

May be taken for a grade or on a pass–no pass basis (a ‘C’ is required for credit). Please see the precautions for taking a class credit-no credit in the catalog if you wish to select this option.

Required Texts and Supplies:
• “General, Organic, and Biological Chemistry: An Integrated Approach” by Kenneth W. Raymond, 2\textsuperscript{nd} Edition
  • New hard copy $131.50 (used copies are about $10!!!, but must be 2\textsuperscript{nd} edition)
  • Book is also available on DVD $70.50
• See homework section below for information on purchasing//registering for on-line homework access from Sapling Learning ($29.99).
• Lecture note package (available at bookstore)
• The lab handouts will be provided to you.
Scientific calculator, access to a Web browser, an e-mail account, and the latest version of Adobe Reader. (http://www.adobe.com/products/acrobat/readstep2.html)

Classroom etiquette:
It is absolutely required that each of us respects the rights of everyone else. Cell phones or pagers must be off or on vibration mode. If you arrive late for class, be quiet as you enter the room. Respect the right of others to ask questions and feel free to ask questions anytime. There is a division policy of no eating or drinking in the classroom facility. If you wish to use a lap-top during lecture, please sit in the back row.
Homework:
See homework handout or the class website for problems assigned. Homework is due at the times shown on the Sapling Learning online homework website. Late homework will not be accepted unless the student can provide documented evidence that they were unable to complete the homework on time because of a circumstance beyond their control. Excuses of illness will only be valid with a note from your doctor specifically stating that the student was unable to complete classwork while under his/her care because of the medical condition. Students wanting extensions, for the above reasons only, must email the instructor.

You must register/purchase access ($29.99) from Sapling Learning as follows:
1. Go to http://saplinglearning.com

2a. If you already have a Sapling Learning account, log in then skip to step 3.
2b. If you have Facebook account, you can use it to quickly create a Sapling Learning account. Click the blue button with the Facebook symbol on it (just to the left of the username field). The form will auto-fill with information from your Facebook account (you may need to log into Facebook in the popup window first). Choose a password and time zone, accept the site policy agreement, and click "Create my new account". You can then skip to step 3.
2c. Otherwise, click "Register here". Supply the requested information and click "Create my new account". Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email.

3. Find your course in the list (you may need to expand the subject and term categories) and click the link.

4. Select a payment option and follow the remaining instructions.

Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments. During sign up - and throughout the term - if you have any technical problems or grading issues, send an email to support@saplinglearning.com explaining the issue. The Sapling support team is almost always more able (and faster) to resolve issues than your instructor.

20% of your homework grade will be from your “Student Generated Learning Content Projects”. See class website (homework page) for details, grading rubric, and due date.

Participation:
We will do many in-class problems in groups. Your attendance is important not only for you, but for the person(s) in your group. Your participation grade will be based on attendance. Sign-in sheets are posted at the beginning of lecture sessions; if you are late or miss class you will not get the participation credit for that day. Everyone starts with 100%, students missing more than 2 participation credits will lose 15% and 7% more for each additional missed participation credit.
Exams:
There will be 3 exams and one final exam. The final exam will cover chapters 13, 14, & 15 (~60%) and comprehensive over the semester (~40%). If you have a significant reason for missing an exam, let me know in advance. Missing an exam without prior notification will result in you receiving a zero for the exam. If you are going to miss an exam, I expect an email or some form of prior notification. See the course schedule for exam dates. Bring a form 882, green scantron for each exam and the final

- On exam #1 and #2, you may use a 4x6 inch note card with notes written on front and back.
- On exam #3, you may use a single sheet of paper (standard size 8.5 x 11 inch) with notes written on front and back.
- Final exam is open book and open notes.

FINAL EXAM: The final will be held in the classroom where we normally meet (SM 204). Final exam is open book and open notes.

Laboratory:
Material from labs may be on the exams. Lab reports are due at the end of the lab period, unless otherwise directed. No lab is accepted more than one week late without special permission. You must do both the lab work and turn in the report to get a grade. The reports will be carefully graded. A student who misses more that 3 lab periods or does not turn in 3 lab assignments will not pass the course. See the course schedule at the end of this document for the lab dates.

Safety: Laboratory safety goggles will be issued to you and must be worn at all times that chemicals are used in the lab. You must wear closed-toe and closed-heel shoes to lab. Food and beverages are not permitted in the laboratory.

Pre-labs: Pre-labs will test you on your preparation for the experiment, and will provide valuable information for understanding the lab and answering questions on your lab data sheet. Pre-labs must be completed prior to coming to lab. You will lose 25% of your lab report score if the pre-lab is not completed/attempted. The bottom line: get those pre-labs done! The pre-labs are available at the class website and are contained at the end of the lecture note package. It is your responsibility to print and complete the pre-lab before the beginning of the lab period.

Lab Reports: Lab reports will consist of completed worksheets, or completed data sheets filled out with the measurements and observations you make in lab, and with answers to questions regarding explanations or conclusions. Lab report handouts will be given out at the beginning of the lab period and, for students that wish to see them before lab, are also available on the class website. Lab reports must be handed in at the completion of the lab.

Procedure for lab make-up: If you miss one lab, you can make it up by finding an article in a journal or newspaper (on-line resources OK) that deals with a concept that we have covered in lecture or lab. You must write a typed, one-page, double-spaced summary including a paragraph that summarizes the article and a paragraph that relates the topic to a concept covered in this course. The makeup paper is due upon your return to lab and will not be accepted late. Missing more labs will result in zeros for those reports unless special arrangements are made with the instructor. The maximum score for a make-up lab is 18/20.
Course Grading:
The course grade is calculated using a “weighted average” of exam scores, final exam score, homework, participation, and lab. Each category has a different "weight" or importance toward your total score. The first 3 exams count toward 55% of your grade, the homework is 10%, the labs are 10%, participation is 5%, and the final exam is 20%.

You can calculate your total % as follows:

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\text{Course}\% = [0.1 \times (\text{homework}\%)] + [0.55 \times (\text{average exam}\%)] + [0.2 \times (\text{final exam}\%)] + [0.1 \times (\text{lab}\%)] + [0.05 \times (\text{participation}\%)]
\]

To do the calculations in terms of the scores shown on Blackboard you can use the grade calculator program that is available on our class Blackboard Website. Go to the main page and click on “grade calculator”. In addition, a weighted, running total is always displayed in your Blackboard grade center.

Grades will be determined on the following scale:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
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<tr>
<td>80-89%</td>
<td>B</td>
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<tr>
<td>70-79%</td>
<td>C</td>
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<tr>
<td>60-69%</td>
<td>D</td>
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<tr>
<td>0-59%</td>
<td>F</td>
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Attendance Policy:
It is your responsibility to attend lectures. You should attend every meeting to get the best grade possible. See participation section above!

Academic Dishonesty:
Students who violate college standards of academic integrity are subject to disciplinary sanctions, including failure in the course. Since dishonesty in any form harms the individual, other students, and the college, policies on academic integrity are strictly enforced. Please review the department’s policy on academic integrity: http://www.saddleback.edu/mse/documents/integrity.pdf
General Learning Objectives for Chemistry 108:
1. Define and apply the scientific process to: meter system, measurement units, atoms, chemical bonds, chemical reactions, equilibrium, gases, oxidation and reduction, and solutions, electrolytes, acids and bases, buffers, organic structures, organic families.
2. Describe the relationship of physical properties, structure, and the ways drugs affect human bodies.
3. Identify carbohydrates, lipids, proteins, enzymes, and nucleic acids.
4. Describe the metabolism of carbohydrates, fats, and proteins.
5. Perform some of the basic manipulative techniques of experimental chemistry.
6. Properly use burettes, pipettes, and laboratory balances.

Specific Educational Goals and Student Learning Outcomes (SLO’s) will be specified for each chapter. They will be listed in one of the first slides of the chapter lecture and given on the first page of your lecture notes handouts. These educational goals/ SLO’s are the basis of what you will be tested on.

Special Services:
Students requiring accommodations for a disability that may affect class performance are requested to schedule an appointment during the first week of the semester with a staff member in Special Services so that accommodations and an academic adjustment can be authorized. You are invited to set up a private appointment with me if you would like my help in getting started with this service or you may contact Special Services directly. Special Services is located in the Student Services Center, SSC 113, phone 582-4885. The Special Services website is: http://www.saddleback.edu/dsps/

How to Succeed in this Course
You will have to work hard to succeed in this course! You should plan to spend at least 12 hours per week studying for this course. This includes reading from the assigned list above, doing homework, and preparing for lab. Students often ask for advice about how to study and learn chemistry. There is no single best method, but here are a few suggestions.

1. Study chemistry every day. You are encouraged to cover the material three times: read the assigned material once before lecture, attend every lecture, and read the assigned material again before doing the homework. Points for homework are designed to motivate you for studying chemistry every day.

2. Read the Book. Reading a chemistry book is not the same as reading a novel. Review the textbook’s "Preface", this section maps out the features of the text and how they are designed to help you study the material and get the most out of your efforts. Take notes while you read; work through calculations on your own; do the in-chapter problems on paper as you encounter them in your reading. After you read a chapter, make an outline of the material that contains all of the important concepts, terms, and equations. Be an active reader, not a passive reader. And for further enrichment and enjoyment, take a look at the Health Link and Biochemistry Link boxes scattered through the text. These describe how the chemistry in the chapter applies to the world around you (application), and how professionals in all different fields use it.

3. Attend every lecture. Do not attempt to write down every spoken word in lecture. It is more important to pay attention than it is to take notes. Try to take as few notes as possible: do not write down definitions that are taken directly from the book; do not write down lists of data or information that is also usually taken from the book. You can (1) use the fill-in lecture notes handout provided by myself; or (2) write a few notes that you want for later reference on
a print out of the PowerPoint lecture slides that you have printed out before lecture (hard copies will be provided for the first two weeks, after that it is your responsibility to print them before lecture if you choose to use them). I have provide the lecture Power Point notes in pdf format on the class website; to save printer ink you can print out 6 slides per page from the print menu in Adobe Reader. See me if you need help with printing multiple slides per page.

4. Work many problems from within the chapter and the worksheets and COME TO OFFICE HOURS. Homework problems alone may not be enough to prepare you for examinations. You should do as many problems as possible. Do the supplemental worksheets that are available on the website. The exams will be very similar to the homework and worksheets.

5. Do not spend more than about 10-15 minutes on any one problem. If you haven’t solved the problem in this time, you are missing something and further effort is an inefficient way to use valuable study time. Go on to other problems and return to the difficult ones when you have had a bit more practice. Come to myself or classmates for help with difficult problems. See me at office hours and during or after lab for help with homework problems, don’t be too shy to come for help, I enjoy tutoring students one-on-one.

6. Form study groups. A small group of students working together can often exchange ideas and concepts to the benefit of everyone.

7. Think atoms and molecules. An important hint is to think about atoms and molecules at all times. Every chemical process takes place at the molecular level. One of the goals of this course is to help you learn to think about chemistry in terms of atoms and molecules.

The best single piece of advice I can give you is: DO NOT FALL BEHIND!

I ENJOY SPENDING TIME WITH STUDENTS DURING OFFICE HOURS, PLEASE COME AS OFTEN AS YOU WISH. USUALLY THERE ARE SEVERAL STUDENTS PRESENT AND WE DO HAVE A FUN TIME IN THESE OFFICE HOUR SESSIONS.