

CHEM 221 FUNDAMENTALS IN ORGANIC CHEMISTRY

Description This distance-learning course is designed to bridge the gap between general and organic chemistry and to prepare students better for CHEM 322a. The material and pace are designed to develop a foundation in organic chemistry (as opposed to the majority of American college sophomores who receive little or no exposure). CHEM 221 is also recommended for those who struggled with general chemistry or who may have not taken it for a few years. This class will focus on problem-solving skills and understanding the language of organic chemistry.

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Office Hours Virtual office hours will be held exclusively online via Skype Mondays and Wednesdays from 2:45 – 4:00 pm. Follow the instructions on the course website to register your Skype name (and to download and install Skype if need be) by clicking on “Office Hours”. Do not arrive in person at Dr. Bertolini’s office since he will likely not be there.

Course Website <https://chemmac1.usc.edu/221/>

Web and Technical Issues Dr. Bruno Herreros
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Prerequisite A passing grade in CHEM 105b (second semester general chemistry) or equivalent course.

Credit 2 units, P/NP; this course cannot be taken for major or general education credit.

Lecture MTWTh 1:00 – 2:35 pm, exclusively online

Computing An internet connection and Flash are required. Webcam, headset and microphone are suggested for use during office hours on Skype. Online assignments are submitted exclusively via the course website. Further computing details can be found on the course webpage.

Materials There is no required textbook for this class. All required materials are provided electronically.

Optional Materials i. Organic Chemistry I: Translating the Basic Concepts, by Klein
ii. Any molecular modeling kit

The Klein text is very inexpensive and highly recommended. Dr. Bertolini also recommends it to his CHEM 322a class because many students prefer it to the course text. Molecular models are very useful for understanding stereochemistry **and most professors allow you to use them during exams.**

- Assignments** Assignments include online homework, web quizzes and the final exam. Students who miss three or more assignments or who miss the final will automatically receive a grade of No Credit for the course regardless of their performance.
- Polling** Daily in-class participation will be monitored using our **online** (no clicker is needed) polling system. Students receive 5 points for every lecture in which they participate in the polling, regardless if answers are correct. Responses will only be recorded if you are logged-in live during the class; you will not be awarded points if you view the video of the lecture at a later time.
- Homework** Homework is assigned Mondays through Wednesdays and reflects material covered in lecture each day. Homework assignments unlock at the end of a lecture and must be submitted to the class website within 48 hours after they open. Late assignments will not be accepted for any reason.
- Webquizzes** Four weekly multiple-choice webquizzes will be given to assess your understanding of the course material. Webquizzes open on Thursday 2:30 pm and must be submitted by Friday at 11:59 pm PST. **You may only open a webquiz once; once opened a 60-minute countdown immediately begins that cannot be paused, even if you log off.**
- Final Exam** The final exam will be administered online Friday August 9, 2013 from 1:00 pm -3:00 pm PST. You must be logged in **at this time only** in order to take the exam. The final is online and has a multiple-choice format.

Grading	Participation	5 points × 16 classes	80 points
	Homework	20 points × 12 assignments	240 points
	Web Quizzes	40 points × 4 quizzes	160 points
	Final		100 points
	Total		580 points

You must earn 290 points in order to pass this class.

- Bulletin Board** There is a bulletin board found on the course website. Feel free to post course-related questions at any time, so all students can benefit from them. Remember that this is a public forum and personal matters should be directed to instructors by email. Instructors will post a reply to student questions within 24 hours.
- Academic Integrity** USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: <http://www.usc.edu/dept/publications/SCAMPUS/gov/>. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

Disabilities Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to Dr. Bertolini as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Important Dates Last day to add: Wednesday, July 16, 2014
 Last day to drop without a “W”: Wednesday, July 16, 2014
 Last day to drop with a “W”: Friday, August 1, 2014
 Final Examination: online Friday, August 9, 2013 1:00 pm-3:00 pm PST

Tentative Schedule

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
July 14 to July 17	Introduction Lewis Structures HW#1	Hybridization VSEPR Theory HW #2	Structural Formulas HW #3	Molecular Geometry and Polarity QUIZ 1
July 21 to July 24	Arrow Pushing HW #4	Resonance HW#5	Acids and Bases HW#6	Alkanes and Cycloalkanes QUIZ 2
July 28 to Aug 31	Functional Groups HW #7	IUPAC HW #8	Conformations HW #9	Stereochemistry R/S Notation QUIZ 3
Aug 4 to Aug 7	Stereochemistry Isomerism HW #10	Substitution HW #11	Elimination HW #12	NMR QUIZ 4

More Problems The following are suggested practice problems from the Klein text listed by lecture number. These will greatly improve your understanding of the course material, however they will be neither collected nor graded.

1. 1.34 – 45, 1.47 – 52, 1.54 – 1.68
2. 4.2 – 4.8, 4.10 – 4.17
3. 1.2 – 1.11, 1.13 – 1.24
5. 2.2 – 2.12
6. 2.14 – 2.19, 2.21 – 2.28, 2.32 – 2.73
7. 3.2 – 3.5, 3.7 – 3.12, 3.16, 3.19 – 3.31, 3.33, 3.35 – 3.37, 3.39 – 3.46
10. 5.19 – 5.26, 5.29 – 5.34, 5.36, 5.37, 5.47, 5.48, 5.50 – 5.55, 5.57 – 5.59, 5.61, 5.65, 5.66
11. 6.2 – 6.7, 6.9, 6.10 – 6.14, 6.16 – 6.21, 6.24 – 6.29, 6.31 – 6.36, 6.38 – 6.45
- 12,13 7.2 – 7.7, 7.9 – 7.12, 7.14, 7.15, 7.17 – 7.19, 7.21, 7.22 – 7.35, 7.37 – 7.42, 7.44 – 7.47, 7.51 – 7.53, 7.65 – 7.70, 7.72 – 7.74, 7.76 – 7.81
14. 8.9, 8.10, 8.14, 8.23, 8.24, 9.2 – 9.5, 9.7 – 9.10, 9.13 – 9.17, 9.20, 9.22 – 9.24, 9.29 – 9.33
15. 8.11, 8.12, 10.1 – 10.4, 10.6 – 10.9, 10.11 – 10.14, 10.23 – 10.27, 10.29 – 10.31, 10.33 – 10.36