

**SOUTHERN CALIFORNIA UNIVERSITY OF HEALTH SCIENCES**  
**Accelerated Sciences Division**

**Syllabus Table of Contents**

1. Course Information
2. Learning Outcomes, Objectives, & Alignment
3. Textbooks and Materials
4. Evaluation of Student Learning
5. University, Program, and Course Policies
6. Addendum and Other Course Details

**COURSE INFORMATION**

**Course Number (Prefix Code):** OCHM316

**Course Name:** Organic Chemistry II lecture

**Course Description:**

The course will begin with discussing various types of structural elucidation techniques, and the application of determining unknowns using mass spectrometry, infrared spectroscopy, H<sup>1</sup> and C<sup>13</sup> NMR spectroscopy. The remainder of the course will focus on functional group transformations while emphasizing reaction mechanisms, stereochemical outcomes, and electronic structures. Transformations will include oxidations and reductions of carbonyls, nucleophilic additions to aldehydes and ketones, nucleophilic acyl substitution of carboxylic acids and their derivatives, substitution of carbon compounds at the alpha-position, carbonyl condensations, electrophilic and nucleophilic aromatic substitutions, radical reactions, and various amine reactions.

**Course Delivery Model(s):** Online, Online Interactive

**Time Requirement:**

Lecture Hours per term:	45
Total Hours per term:	45
Course Duration (weeks):	5
Credits:	3

**Credit Hour Verification:**

This list represents the average amount of time a student is expected to spend to successfully complete this course.

	Activity Type	Online-Interactive Hrs/wk	Online (Self-paced) Hrs/wk
<b>Course Time</b>	Lecture	9	0
<b>Academic Engagement</b>	Discussion forums	2.5	2.5
	Audio/Video recordings/ Video Lectures	0	1

<b>Preparation and Study</b>	Supplemental Videos	3	3
	Homework	3	3
	Module Quizzes	.5	.5
	Exam (Exams 1 and 2)	1	1
	Study time (assessment prep)	4	8
	Reading (chapter readings, materials research)	4	8
<b>Total</b>	Total per week	27 hours	27 hours
	Total per course	135 hours	135 hours

**Prerequisites:** CHEM 311 highly recommended.

**Recommended Co-requisites:** OCHM 316L

**This course may be taken again for credit the following number of times (repeatable): 5**

## **LEARNING OUTCOMES, OBJECTIVES, & ALIGNMENT**

### **Student Learning Outcomes**

In successfully completing this course, students will be able to:

<b>SLO</b>
1. Apply the IUPAC rules in order to name organic compounds.
2. Analyze the structure of organic chemicals based on their functional groups and their reactivity.
3. Determine the structure of organic compounds based on nuclear magnetic resonance and infrared spectroscopy data.
4. Describe the fundamental chemical mechanisms and apply the reactions of ketones, aldehydes, carboxylic acids and carboxylic acid derivatives via single and multistep synthesis.
5. Describe the fundamental chemical mechanisms and apply reactions nucleophilic substitution and its various conditions via single and multistep synthesis
6. Describe the fundamental chemical mechanisms and apply reactions of benzene, benzene derivatives, aromatic compounds, and conjugated molecules via single and multistep synthesis
7. Explain the relationship between electronic structure and reactivity patterns of conjugated and aromatic molecules.
8. Describe the basic reactions of organic radicals and amines.

## **TEXTBOOKS & MATERIALS**

**Required Textbook(s):** Organic Chemistry with Biological Topics 6th Edition by Janice Smith and Heidi Vollmer-Snarr ISBN: 1260516393 (Connect©)

## Other Instructional Materials:

**Required Materials:** Working computer with a strong internet connection, camera and a microphone. Scientific calculator.

### Scientific Calculator\*\*

*\*\* Graphics or text-memory calculators are not allowed for use during quizzes or exams. If a student brings one, they will have to take the quiz without a calculator! Students are encouraged to obtain a scientific calculator with exponents and logarithms immediately, rather than the day before a quiz or an exam. It is important to be comfortable with the calculator being used, rather than to be struggling to locate the keys for certain mathematical operations. For example, a TI-30X IIS is acceptable.*

**Provided Materials:** The following materials will be provided:

*Homework and quizzes platform (McGraw-Hill).*

## Technology Requirements

**External resources:** McGraw-Hill

**Learning Management System:** Canvas. If a student is unfamiliar with the Canvas learning management system, please visit the manuals and learning guides available in the Canvas Student Guide. It is important that students are comfortable and competent in using this system, as all course material and communication will be done via Canvas.

Navigating Canvas: The Canvas site has a large set of [Canvas tutorials and videos for students](#).

[Browser and Computer Requirements for Canvas](#): This course requires that students have access to Google Chrome or Microsoft Edge.

**Examination System:** We will be using the Proctorio Online Exam Proctoring Service in this course. Proctorio is a software extension in Chrome that uses your computer's screen, web cam, and microphone to create a remote proctored environment, and enables you to take exams via Canvas in the location of your choice. You must have a strong and stable internet connection for Proctorio to work well. During the exam, you, your computer, and the environment you are taking the exam in may all be recorded.

In addition to the instructor(s) and Teaching Assistants(s) of this course, Proctorio and SCU Proctorio administrators are the only ones who will have access to the recordings. The Chrome browser extension must be installed before students can take any exam, and it can be removed once an exam is complete. There will be a practice exam to become familiar with using Proctorio, and surface any issues you may encounter with Proctorio.

**Suggestions for completing online coursework:** Save work often; this includes backing it up on multiple devices or cloud applications. When submitting final papers on the Canvas learning management system (LMS), ensure that all files have been uploaded properly. Also make sure to keep a hard copy of all papers/projects in case of an unforeseen technological failure or outage.

## EVALUATION OF STUDENT LEARNING

### Grading scale:

Letter grade

A = 90% - 100%

B = 80% - 89.99%

C = 70% - 79.99%

D = 60% - 69.99%

F = 0.0% - 59.99%

### Assessments:

Assessment Name	#	Pts Each	Weight	SLO Linkage
Participation	5-10	10	20%	1-8
Quizzes	5	10	20%	1-8
Homework	5	10	20%	1-8
Reading Assignments (optional)	5	12	0%	1-8
Exams	2	120	40%	1-8
Total			100%	

### Course Topics:

Module	Module Title	Topics/Chapters	Assessment Activity	SLO Linkage
1	Spectrometry, Spectroscopy and Carbonyl Chemistry	Spectr. A: Mass Spectrometry Spectr. B: Infrared Spectroscopy Spectr. C: Nuclear Magnetic Resonance Spectroscopy Ch. 13: Introduction to Carbonyl Chemistry; Organometallic Reagents; Oxidation and Reduction	Homework, Module Quiz 1	1-3
2	Aldehydes and Ketones Carboxylic Acids	Ch. 14: Aldehydes and Ketone Nucleophilic Addition Ch. 15: Carboxylic Acids and Nitriles Ch. 16: Carboxylic Acids and their Derivatives-Nucleophilic Acyl Substitution	Homework, Module Quiz 2	4
<b>Exam 1 (Chapters A, B, C, 13-16)</b>				
3	Carbonyl Condensation Reactions	Ch17: Substitution Reaction of Carbonyl Compounds of alpha carbon Ch18: Carbonyl Condensation Reaction	Homework, Module Quiz 3	5

4	Aromatic Compounds and Benzene	Ch19: Benzene and Aromatic Compounds Ch20: Reaction of Aromatic Compounds	Homework, Module Quiz 4	6-7
5	Radical Reactions and Amines	Ch21: Radical Reactions Ch22: Amines	Homework, Module Quiz 5	8
<b>Exam 2 (Chapters 19-22)</b>				

## **UNIVERSITY POLICIES**

All university policies apply to this course and all others. For full policy information please consult the SCU Catalog. Additionally, program policies apply to students in each program as described in the Catalog and in SCU Health Handbook for clinical courses.

**Drop Date:** It is a student's responsibility to understand when to consider unenrolling from a course. Refer to the [SCU Academic Calendar](#) for dates and deadlines for registration. Also refer to SCU Academic Policies for [information about the drop period](#).

**Incomplete Policy:** Under emergency/special circumstances, students may petition for an incomplete grade. See the [SCU Catalog for Policies about Incomplete Grades](#)

**Academic Integrity:** Students at this university are expected to maintain the highest degrees of professionalism, a commitment to active learning, and display integrity both in and out of the classroom. See the SCU [SCU Academic Integrity Code](#).

**Accessibility Services and Accommodations:** The Office of Student Services provides support to students with disabilities requiring accommodation in concert with the lead faculty for this course. All students are encouraged to request accommodation as far in advance of when the accommodation will be required to allow the University to process the request and provide approved accommodation. To begin the process please request a consultation with the designated Accessibility Services Officer as soon as possible. Once the Office of Student Services approves the request, the letter of accommodation will be provided to the student and lead faculty member via email. The student should be certain to follow-up with the lead faculty member to plan for the specific accommodation needs for the course. Program requirements cannot be modified to accommodate a disability. Please see the catalog for details regarding [Accessibility Services and Accommodations](#).

[A complete list of University Services](#) is available through MySCU, including:

- Tech Support information
- Veterans Support Services
- Resources for Title IX support though the Campus Safety tab
- Student Advocacy and Accountability resources

**Learning Resource Center:** Students can use the library's resources which provide students with an excellent collection of books, journals, electronic databases, and websites as well as consult with the librarian to help with the course.

**Online Etiquette:** In general, behavior in an online classroom should emulate the professional behavior expected in an on-ground classroom with a few additional requirements:

- Avoid using text slang and abbreviations such as "u" (instead of "you"), "TLDR" (Too Long, Didn't Read) or "TBH" (To Be Honest) - not everyone knows what they are. Do not use ALL CAPS for entire sentences or

posts - this is seen as yelling at someone.

- Any form of personal attack or inappropriate response with other students or faculty is unacceptable. We will remove any discussion posts showing this and warn the author.
- If a student disagrees with someone's comments, they should do so respectfully and collegially and provide legitimate examples to support their side.
- Before pressing the submit button review comments, making sure nothing is coming across as defensive, too "know-it-all" or critical, or academically inappropriate. It is easy for someone to misinterpret the meaning when they cannot see facial expressions or hear the tone of voice.
- Avoid short, generic replies such as "I agree!", "I like it!" or "Funny!" – explain why, add another point in support of the idea, or raise a question to continue constructive dialogue.

**Attendance:** [SCU policy](#) defines attendance for all courses and specifies online courses as active, weekly participation in the course as described in the syllabus. Examples of activities could include, but are not limited to:

- Participating in weekly online chats or discussions
- Submitting or completing assignments
- Commenting on other student contributions
- Actively logged on and participating in class at least three times per week

See the Academic Policies page in the SCU Catalog for more details on Attendance Policy.

### **Accelerated Sciences Course Recommendations**

- Read before and after each class. Skim the chapter before it is covered in lecture to become comfortable with some of the terms associated with each topic. Review each chapter after it is covered in class to enhance understanding of the material.
- Do not wait until the night before homework is due to start the assignment. Understanding of concepts will be enhanced if the time is taken to learn them beforehand and later review the material without being rushed.
- Stay focused by finding an environment to study with few distractions.
- Participate during class by taking notes and looking over them afterwards.
- Any topics covered in the course could be presented in subsequent examinations, so it is critical to prepare and learn all presented material.
- Remember that procrastination in an accelerated course can quickly prove disastrous! Failure to learn foundational principles can make all future material seem nearly incomprehensible, so make sure to budget time wisely over the next five weeks.

**Specifically for Online Interactive courses:**

- Ask questions for clarification when not understanding the material being covered.
- *Do not skip class, arrive late, or leave early.* Given the accelerated nature of our courses, every minute of class missed can have a real impact on student success in a course.
- Work on assigned problems as close to the time as when the topic is covered in class to increase understanding of specific concepts.
- Find a group of students to study with. This makes studying more fun and helps learning of the material by teaching to and learning from peers. Explaining these concepts to other students aids in mastery of what is covered.

### **Program Specific Policies**

Please see the [Accelerated Sciences Program Support](#) page for specific policies.

### **Course Specific Policies**

**Participation:** Students are expected to actively participate in the course by completing assignments and activities in the course. To maintain "active participation" you have to complete at least 60% of the assigned work on time, contribute fully to the general activities of the course, and access the course at a level that allows you to succeed in the course.

**Late Assignments and Exams:** Your instructor will post assignments by 12:01 a.m. Pacific Time at the start of each week. You are expected to have all your submissions for the week completed by the due dates and times listed. The instructor reserves the right to make changes to the schedule if necessary.

Late work is not accepted. The online learning environment is an INTERACTIVE environment - your classmates depend on you to submit on time so that they can produce on-time responses to your work.

**Commitment to Honesty and Respect:** In this class, we seek to create a classroom community in which the rights, dignity, and worth of every individual are respected. This includes use of respectful language, paying full attention to the words and works of our peers, exploring our own biases, and giving and receiving feedback as we work and learn together. Please speak up if I or any member of the community behaves in a way that undermines the security and effectiveness of our time together.

## **Teaching Methods & Instruction**

In synchronous classes with scheduled class times, lectures will be delivered in real time/live by the instructor. Students must adhere to the attendance policy set out by the instructor for the class. In asynchronous classes, students will review lecture content on their own time. Due to the individualized nature of the learning, students should expect to spend as much time as needed based on prior knowledge of foundational material and a realistic study schedule. Students should check both their schedule and the Canvas course page to confirm they are correctly enrolled in the chosen course modality.

**Lecture Outline PowerPoints, Supplemental Videos and Support Materials:** The lecture outline is essentially a series of PowerPoint slides on the most important chapter topics that you should review before you begin the Reading Assignment. These slides will also serve as a good reference when completing homework and reviewing for exams. Supplemental videos and support materials contain videos or other items related to some of the most important or interesting topics in the chapter. Some videos show fun applications. Some videos are conceptual, and some videos are designed to help students master the calculations in this course. These are all optional learning materials.

**Reading Assignment (Optional Activity):** Read the assigned sections in the chapter fully and complete any activities embedded in the SMARTBOOK reading assignment. Reading time will vary from module to module. These activities are graded on completion.

**Participation:** Students earn points by completing learning activities. *Attendance is not the same thing as participation.* Students are expected to be involved and engaged in all classroom activities (which may include activities graded on quality of participation).

**Quizzes:** Students will practice the module content covered using interactive study tools. These interactive study tools will help assess progress and identify areas for improvement. Additionally, interactives give students an opportunity to review and apply information presented in the course and in the online textbook before taking quizzes or high-stakes exams.

**Homework:** Students reinforce concepts learned in class by completing the homework assignments. Homework assignments are open-book formative assessments where students can have unlimited attempts to practice problems. The highest score achieved is recorded in the gradebook. Homework must be completed by the due date.

**Exams:** There are two exams in this course (exams 1 and 2). They will have questions that are similar to all quizzes, homework, end of chapter questions and any other activity given. The exams are all on Canvas. Make sure to pay attention to the due dates.

The exams are all on Canvas. Please pay attention to the due dates. Exam 2 and will not be extended. Proctoring is required by the instructor for all exams.

**Note:** Completing assignments open book (book, instructor office hours, tutor, Google, etc.) is different from testing in an exam environment. It is acceptable and encouraged to use all available resources to learn how to complete an assignment; however, the long-term goal should be to pass the exams without any outside aid.