

**Course Syllabus for Advanced Organic Chemistry II**  
**CHEM 5322 (CRN 26718)/CHEM 6322 (CRN 26719)**  
**Spring Semester 2024**

Meeting time:	MWF 7:30 am – 8:20 am My Monday lectures will be in person at CCSB 1.0204, and my Wednesday and Friday lectures will be synchronously on-line on Blackboard. All lectures will be recorded.
Format:	Before spring break, I will lecture partially in person, and partially synchronously on-line. After spring break, students will present. Each student will present a selected topic, and an original proposal idea. Each student will present twice. These presentations can be in person or synchronously on-line.
To join the class on-line:	Go to our course home page on Blackboard, and click "on-line lecture". Password: OCHEM
To watch a lecture recording:	Go to our course home page on Blackboard, and click on "Lecture Recordings".
Location of in-person meetings:	CCSB 1.0204
Instructor:	Dr. Katja Michael
Office:	CCSB 2.0414
Email:	<a href="mailto:kmichael@utep.edu">kmichael@utep.edu</a> (preferred method of contact)
Phone:	(915)747-5240
Office hours:	after appointment
Texts:	"Organic Synthesis with Carbohydrates" Geert-Jan Boons, Karl H. Hale, Blackwell Science, 2000, ISBN 0-6320-4508-6, "Organic Chemistry" by Janice Gorzynski Smith, 5 <sup>th</sup> edition, McGrawHill (textbook plus Solutions Manual); "Carbohydrate Chemistry" by Benjamin G. Davis and Anthony J. Fairbanks, Oxford Science Publications, ISBN 0-19-855833-3, as well as original articles.
Course objective:	Students will become familiar with some advanced aspects and topics of organic chemistry that go beyond undergraduate curricula. Topics that will be covered are: carbon-carbon bond forming reactions, polymers, green chemistry, and aspects of carbohydrate chemistry, such as orthogonal protecting group strategies, glycosidic bond formation, and stereoelectronic effects, amino acids peptides, and proteins. Students will also practice their oral communication skills in science by presenting a paper or topic, and they will also learn how to construct a hypothesis-driven research proposal.
Curriculum:	<ol style="list-style-type: none"><li>1. Carbon-carbon bond forming reactions (Smith book, chapter 26)</li><li>2. Introduction to polymers and green chemistry (Smith book, chapter 30)</li><li>3. Carbohydrate Chemistry (Smith book, chapter 28; Boons &amp; Hale book; Davis &amp; Fairbanks book)</li><li>4. Amino acids and proteins (Smith book, chapter 29)</li><li>5. Student presentations on various topics [Click chemistry, DNA-encoded libraries, stapled peptides, antibody-drug conjugates (ADC), proteolysis targeting chimeras (PROTACs), phage-display libraries, aptamer technology, solid phase carbohydrate synthesis, solid phase nucleic acid synthesis, native chemical ligation (NCL), retroinverso peptides]</li><li>6. Student research proposals</li></ol>
Homework:	Homework will be assigned after most lectures. Go to our course homepage and click on "Homework". The homework is due before the next class, but will not be turned in.
Homework quiz:	After each lecture there will be a brief time-sensitive homework quiz. Go to our course homepage and click on "Homework quiz". You will have two tries, and need to get 80% correct to earn an extra credit point that will be applied to one of your exams where it is needed the most.

Important Dates and Policies

01/17/2024	First day of this class
01/31/2024	Census day
<b>02/12/2024</b>	<b>Exam 1 (Extra credit available) - in person at CCSB 1.0204 (about the first quarter of the class material)</b>
03/11/2024 – 03/15/2024	Spring break, no classes
<b>03/18/2024</b>	<b>Exam 2: (Extra credit available) - in person at CCSB 1.0204 (about the second quarter of the class material)</b>
03/28/2024	Course drop deadline (last day to drop class with W)

According to UTEP and College of Science policies, no requests for a withdrawal will be approved after that date. Students can always petition the Registrar for a complete withdrawal from all courses pending documentation.  
Cesar Chavez Day; Spring Study Day – no classes  
Last class of this course

03/29/2024  
05/01/2024  
**05/10/2024**

**Final Exam: (Extra credit available) - in person at CCSB 1.0204 (about the second half of the class material)**

- Grading: Students will be graded based on exam 1 (10%), exam 2 (10%), their topic presentation (30%), their proposal presentation (30%), their final exam (10%), and their in-class participation (10%).
- Disability: If you have a disability, please contact UTEP's Center for Accommodations and Support Services. For those who qualify, there are certain mechanisms of assistance in place.
- Infectious Diseases If you have an infectious disease such as COVID 19 or the flu, please stay home and attend class on-line, or watch the recording.