

CHEM 322: Organic Chemistry III

Instructors, Contact Info & Office Hours

David R. Mootoo, North 1401, dmootoo@hunter.cuny.edu, 212-772-4356; T 5:30-6:30; W 4-5
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Course Webpage: Hunter Blackboard

Time & Location:

Lecture

Pre-requisites: CHEM 224 (Organic Chemistry II) or equivalent

Learning Objectives

By the end of this course, students will be able to:

- understand basic concepts in organic chemistry at a higher level of theory
- apply organic chemistry to research problems in biology and materials science
- elucidate complex molecular structures based on spectroscopic data
- critically analyze the literature in organic chemistry
- prepare written and oral commentaries on scientific research articles

Textbook: Handouts, reading references provided by each instructor.

Exams & Grading:

Class participation & Assignments (50 pts) – Lecture discussions and problem solving exercises

PPT presentation (100 pts) – Students will work in pairs. Each pair will give a 15-minute PPT presentation that is to be posted on BB at least 48 hours before presentation to the class. If there are no volunteers, lots will be drawn to determine dates for individual presentations.

Exams (350 pts) - Four exams; Ex 1, 2, 3 (100 pts ea), Ex 4 (50 pts). See course schedule for exam dates and coverage

Total 500 pts

- There are in principle **no make-up** exams. If you miss course requirements, such as exams, for valid reasons (e.g., illness, family emergency, etc.), you need to present verifiable proof in order to be considered for a make-up. Verifiable proof should include contact information (doctor's note, TEL, address, etc.)

Academic Dishonesty: If any form of academic dishonesty is found, involved student(s) will be automatically given F with a note stating "Failed, due to academic dishonesty" on their transcripts. Student(s) will also be subjected to disciplinary actions according to the school guideline.

Policy on Incomplete Grade: Incomplete (IN) grade would be given if a student has a reasonable chance of passing the course but cannot complete it because of a valid reason. In order to be considered for the IN grade, students need to present a verifiable proof.

Course Withdrawal: Last day to withdraw with a grade of W: Friday Nov 10.

Policy on CR/NC Grade: The CR/NC request will not be accepted once Exam 4 starts.

Course Outline & Exam Schedule

Date	Topic	INSTRUCTOR
Fri Aug 25	Module 1: Carbohydrate Chemistry: Background & basics	Mootoo
Tue Aug 29		Mootoo
Fri Sept 1	<i>Carbohydrate reactions & transformations</i>	Mootoo
Tue Sept 5		Mootoo
Fri Sept 8	<i>Glycoside synthesis</i>	Mootoo
Tue Sept 12		Mootoo
Fri Sept 15	<i>Glycobiology</i>	Mootoo
Tue Sept 19	<i>No class – Thurs Schedule</i>	Mootoo
Fri Sept 22	<i>No classes scheduled</i>	Mootoo
Tue Sept 26	<i>Class Presentations 1 (x 2)</i>	Mootoo
Fri Sept 29	<i>No classes scheduled</i>	Mootoo
Tue Oct 3	<i>Class Presentations 1 (x 2)</i>	Mootoo
Fri Oct 6	<i>Exam 1</i>	Mootoo
Tue Oct 10	Module 2: Metal Catalyzed C-C Bond Forming Reactions <i>Cross coupling: General Principles, Heck, Stille Reaction</i>	Mootoo
Fri Oct 13	<i>Suzuki, Sonogashira Reactions</i>	Mootoo
Tue Oct 17	<i>Olefin metathesis: History & Mechanism, RCM</i>	Mootoo
Fri Oct 20	<i>CM, ROMP</i>	Mootoo
Tue Oct 24	<i>Class Presentations 2 (x 2)</i>	Mootoo
Fri Oct 27	<i>Class Presentations 2 (x 2)</i>	Mootoo
Tue Oct 31	<i>Exam 2</i>	Mootoo
Fri Nov 3	Module 3: Asymmetric Synthesis – General Principles	Mootoo
Tue Nov 7		Mootoo
Fri Nov 10		Mootoo
Tue Nov 14		Mootoo
Fri Nov 17		Mootoo
Tue Nov 21 (Fri schedule)	<i>Class Presentations 3 (x 2)</i>	Mootoo
Fri Nov 24	<i>No Class (College is closed – Thanksgiving)</i>	Mootoo
Tue Nov 28	<i>Class Presentations 3 (x 2)</i>	Mootoo
Fri Dec 1	<i>Exam 3</i>	Mootoo
Tue Dec 5	Module 4: NMR Spectroscopy & Structure Determination	Kawamura
Fri Dec 8	<i>COSY, HSQC, DEPT, HMBC</i>	Kawamura
Tues Dec 12	<i>Application to complex molecules</i>	Kawamura
Tue Dec 19	<i>Exam 4</i>	Kawamura

Hunter College required statements for syllabi

1. Academic Integrity Statement: “Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.”
2. ADA Statement: “In compliance with the ADA and with Section 504 of the Rehabilitation Act, Hunter College is committed to ensuring educational access and accommodations for all its registered students. Hunter College’s students with disabilities and medical conditions are encouraged to register with the Office of AccessABILITY for assistance and accommodation. For information and appointment contact

the Office of AccessABILITY located in Room E1214 or call (212) 772-4857 /or VRS (646) 755-3129.”

3. Hunter College Policy on Sexual Misconduct “In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.
 - a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).
 - b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link: <http://www.cuny.edu/about/administration/offices/ia/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf>”