

Fall 2021

CHEM 605-101: Advanced Organic Chemistry Structure and Mechanism

Tamara Gund

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**Chemistry 605 Advanced Organic
Chemistry Structure and Mechanism**
Fall 2021 Course Syllabus

NJIT Academic Integrity Code: All Students should be aware that the Department of Chemistry & Environmental Science (CES) takes the University Code on Academic Integrity at NJIT very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the Instructor.

COURSE INFORMATION

Course Description: This is a one semester course in Advanced Organic Chemistry for graduate students. The course will focus on structure and mechanisms of organic molecules. Topics that will be included are atomic and molecular structure, stereochemistry, conformational analysis of acyclic and cyclic molecule, organic reaction mechanisms, nucleophilic substitution, as well as polar addition and elimination reactions. We will also cover concerted pericyclic reactions. If time permits we will cover aromaticity.

Number of Credits: 3

Prerequisites: Undergraduate organic chemistry

Course-Section and Instructors

Course-Section	Instructor
Chem 605 - 101	Dr. Tamara Gund

Office Hours M 4 - 5 and Th 4 - 5 pm

EMAIL: gund@njit.edu

PHONE: 973-596-3669

Required Textbook:

Title	Advanced Organic Chemistry, Part A: Structure and Mechanisms
Author	Francis A. Carey, Richard J. Sundberg
Edition	4 th or 5 th edition,

Publisher	Kluwer /plenum or Springer (5 th)
ISBN #	

Supplementary Textbooks:

Supplementary Texts: (1) Smith and March, "March's Advanced Organic Chemistry", 6th ed., Reactions, Mechanisms, and Structure, John Wiley Publishers, NY (2) Bruckner "Advanced Organic Chemistry", Hartcourt/Academic Press, NY 2002 (3) Isaacs "Physical Organic Chemistry", 2nd ed Addison Wesley Longman, England 1996

University-wide Withdrawal Date: The last day to withdraw with a **W** is November 10, 2021. It will be strictly enforced.

POLICIES

All CES students must familiarize themselves with, and adhere to, all official university-wide student policies. CES takes these policies very seriously and enforces them strictly.

Grading Policy: The final grade in this course will be determined as follows:

Exam I	100points
Exam II	100 points
Exam III	100 points

Your final letter grade in this course will be based on the following tentative curve:

A	87%	C	60
B+	82	D	50
B	75	F	Below 50
C+	68		

Attendance Policy: Attendance at classes will be recorded and is **mandatory**. Each class is a learning experience that cannot be replicated through simply "getting the notes."

Homework Policy: Homework is an expectation of the course. It is difficult to do well if you don't do the homework.

Makeup Exam Policy: There will normally be **NO MAKE-UP QUIZZES OR EXAMS** during the semester. In the event that a student has a legitimate reason for missing a quiz or exam, the student should contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the CES Department Office/Instructor that the exam will be missed so that appropriate steps can be taken to make up the grade. A makeup if granted should be taken during specified

makeup hours.

Cellular Phones: All cellular phones and other electronic devices must be switched off during all class times. Such devices must be stowed in bags during exams or quizzes.

ADDITIONAL RESOURCES

Chemistry Tutoring Center: Located in the Central King Building, Lower Level, Rm. G12. Hours of operation are Monday - Friday 10:00 am - 6:00 pm. For further information please click [here](#).

Accommodation of Disabilities: Office of Accessibility Resources and Services (*formerly known as Disability Support Services*) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you are in need of accommodations due to a disability please contact Chantonette Lyles, Associate Director at the Office of Accessibility Resources and Services at 973-596-5417 or via email at lyles@njit.edu. The office is located in Fenster Hall Room 260. A Letter of Accommodation Eligibility from the Office of Accessibility Resources Services office authorizing your accommodations will be required.

For further information regarding self-identification, the submission of medical documentation and additional support services provided please visit the Accessibility Resources and Services (OARS) website at:

- <http://www5.njit.edu/studentsuccess/disability-support-services/>

Important Dates (See: [Fall 2021 Academic Calendar, Registrar](#))

September	1	Wednesday	First Day of Classes
September	4	Saturday	Saturday Classes Begin
September	6	Monday	Labor Day
September	8	Wednesday	Monday Classes Meet
September	8	Wednesday	Last Day to Add/Drop a Class
September	8	Wednesday	Last Day for 100% Refund, Full or Partial Withdrawal
September	9	Thursday	W Grades Posted for Course Withdrawals
September	15	Wednesday	Last Day for 90% Refund, Full or Partial Withdrawal - No Refund for Partial Withdrawal after this date
September	29	Wednesday	Last Day for 50% Refund, Full Withdrawal
October	20	Wednesday	Last Day for 25% Refund, Full Withdrawal
November	10	Wednesday	Last Day to Withdraw from Classes
November	25	Thursday	Thanksgiving Recess Begins
November	28	Sunday	Thanksgiving Recess Ends

December	10	Friday	Last Day of Classes
December	11	Saturday	Saturday Classes Meet
December	12	Sunday	Sunday Classes Meet
December	13	Monday	Reading Day 1
December	14	Tuesday	Reading Day 2
December	15	Wednesday	Final Exams Begin
December	21	Tuesday	Final Exams End
December	23	Thursday	Final Grades Due

From Carey and Sundberg 4th ed.

Chapter 2 – Principles of Stereochemistry

Chapter 3 – Conformational, Steric and Stereoelectronic Effects

Exam 1 -October

Chapter 4 – Study and Description of Organic Reaction Mechanisms

Chapter 5 – Nucleophilic Substitution

Exam 2 - November

Chapter 6 – Polar Addition and Elimination Reactions

Chapter 11 - Concerted Pericyclic Reactions

Chapter 9 – Aromaticity (If time permitting)

Exam 3 – Will cover chapters 6 and 11 - December

There will be three exams. Two will be given during the semester and the third during final week. Each exam is worth 100 points. Grades will be made up out of 300 points. Problems at the end of the chapter are assigned.

Academic misconduct: The NJIT Honor Code will be upheld. Any student that participates in any form of academic dishonesty or cheating will receive a zero for the exam. If a person is caught a second time, a final grade of “F” will be given for the course. Any violations will be brought to the immediate attention of the Dean of Students, who may impose further penalties