

Fall 2018

CHEM 243-001: Organic Chemistry I

A Castro

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Organic Chemistry I
Fall 2018 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: The preparation and properties of the various classes of organic compounds are discussed, with attention given to industrial sources such as coal and petroleum. Also covers the commercial utilization of these materials in the synthesis of useful products used in areas such as foods, cosmetics, textiles, plastics, and pharmaceuticals.

Number of Credits: 3

Prerequisites: Chem 123 or Chem 126 with a grade of C or better.

Course-Section and Instructor

Chem 243-001 Dr. A. Castro

Lecture: Kupfrian Hall (KUPF 117) T/F: 1-2:20 pm

Office: Tiernan (TIER) 323A Email: castroa@njit.edu

Office Hours: T, F: 12:30-1 pm. And by appointment.

Required Textbook: Organic Chemistry by Wade and Simek, 9th edition (2017); Pearson, Glenview, IL.

An inexpensive set of molecular models is highly recommended and models cannot be used during exams.

University-wide Withdrawal Date: The last day to withdraw with a **W** is Monday, November 12, 2018. It will be strictly enforced.

Learning Outcomes:

Upon completion of the course you should have a facility in accomplishing the following:

1. Understand the fundamental principles that govern organic chemistry reactions.
2. Assign IUPAC names to given structures and draw correct structures from given names.
3. Draw correct structures of products expected for a given set of reactants.
4. Apply fundamental principles to rational design of synthetic routes for organic compounds.
5. Write mechanisms for the reactions covered, including Nucleophilic Substitution and Elimination.
6. Improve logical reasoning ability, and to learn to integrate seemingly unrelated properties into patterns.

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 1 - 100 points

Exam 2 - 100 points

Exam 3 - 100 points

The lowest of the three exams will be dropped.

Final Exam - 100 points

The final exam will be partially cumulative with an emphasis on the understanding of fundamental concepts applied to a variety of systems. Specific questions on the chapters covered after Exam 3 will be emphasized.

Online Homework from www.masteringchemistry.com -100 points (Course ID: MCCAstro96996)

(In order to receive credit for their work, students must complete the assignments by the posted due date. Deadline extensions will only be given in case of documented medical reasons or emergency reasons approved by the Dean of Students. Extensions will not be granted because of website difficulties, internet being down, or your own computer problems)

The final grade will be calculated from a total of 400 points. The final exam and the online homework will not be dropped.

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

A (90-100%), B+ (85-89%), B (84-80%), C+ (79-75%), C (74-70%), D (69-65%), F (below 64%)

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.” Students are responsible for all the material covered and announcements made in class. All email communication should be done using the “njit.edu” domain.

Make-up Exam Policy: There will normally be **NO MAKE-UP EXAMS** during the semester. In the event that a student has a legitimate reason for missing an 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.

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

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 **A**ccessibility **R**esources and **S**ervices (*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 2018 Academic Calendar, Registrar](#))

Date	Day	Even
September 4, 2018	T	First Day of Classes
September 10, 2018	M	Last Day to Add/Drop Classes
November 12, 2018	M	Last Day to Withdraw
November 20, 2018	T	Thursday Classes Meet
November 21, 2018	W	Friday Classes Meet
November 22 - 25, 2018	R - Su	Thanksgiving Break - University Closed
December 12, 2018	W	Last Day of Classes
December 14, 2018	F	Reading Day
December 15 - 21, 2018	F - R	Final Exam Period

Course Outline

Chapter 1: Structure and Bonding

Chapter 2: Acids and Bases; Functional Groups

Chapter 3: Structure and Stereochemistry of Alkanes

Exam 1

Chapter 4: The Study of Chemical Reactions

Chapter 5: Stereochemistry

Chapter 6: Alkyl Halides, Nucleophilic Substitution

Exam 2

Chapter 7: Structure and Synthesis of Alkenes; Elimination

Chapter 8: Reactions of Alkenes

Chapter 9: Alkynes

Exam 3

Chapter 10: Structure and Synthesis of Alcohols

Chapter 11: Reactions of Alcohols

Final Exam