This syllabus is provided as a general informational guide. Some of the information may vary depending on the specific course section and instructor. Different sections of the same course may require different textbooks. Verify the section specific textbook information in the CUNY’s Academic Course Schedule Web Page. Modifications of the grading system presented here will be communicated by the instructors of the sections when they meet the class.

BOROUGH OF MANHATTAN COMMUNITY COLLEGE
City University of New York

Department of Science

Title of Course: Organic Chemistry II
CHE 240
Semester:
Credits: 5
Class hours: 3
Lab hours: 4
Instructor:
Phone:
Email:

Course Description

This two-semester course sequence is the study of the structure and properties of the fundamental classes of organic compounds with emphasis on reactivity, reaction mechanism, stereochemistry, electronic theory and applications to allied fields.

Basic Skills: RDG 062, ENG 088 or ESL 062, and MAT 051

Prerequisites/Co-requisites: MAT 056, CHE 201, CHE 202, and CHE 230.

Student Learning Outcomes

Students will be able to discuss and show proficiency in topics related to:

- Structure determination using Infrared and Proton Nuclear Magnetic Resonance Spectroscopy.
- Conjugated dienes and their reactivity, the Diels-Alder reaction.
- Benzene, Aromaticity, and Hückel’s 4 n + 2 and 4 n rules.
- Chemistry of Benzene: electrophilic and nucleophilic aromatic substitution reactions such as Friedel-Crafts alkylation/acylation, aromatic halogenation, nitration, sulfonation, etc.
- Structure, reactivity, reactions and synthesis of alcohols, phenols, ethers, and epoxides.
- Structure, reactivity, reactions and synthesis of carbonyl containing compounds such as aldehydes, ketones, carboxylic acids, esters, anhydrides, and amides.
- Nucleophilic addition reactions of aldehydes and ketones.
- Carbonyl alpha-substitution reactions.
- Organic transformations of carboxylic acids and nitriles.
- Synthetic organic techniques for the building of small and large molecules and to show their relationship with biological structures.
- Organic laboratory techniques and skills to synthesize, separate, purify and characterize (by chemical and spectroscopic techniques) organic compounds.

Assessment: Exam questions, homework and laboratory assignments

Evaluation & Requirements of Students

Each semester there will be a minimum of three examinations, a comprehensive final examination, and fulfillment of laboratory requirement. The average of your lecture exams and final exam grades must be greater than 60% to permit a passing grade, regardless of your laboratory grade.

Below are the college’s general education learning outcomes, the outcomes that are checked in the left-hand column indicate goals that will be covered and assessed in this course.
This syllabus is provided as a general informational guide. Some of the information may vary depending on the specific course section and instructor. Different sections of the same course may require different textbooks. Verify the section specific textbook information in the CUNY’s Academic Course Schedule Web Page. Modifications of the grading system presented here will be communicated by the instructors of the sections when they meet the class.

### Required Text & Readings


### Other Resources (Highly recommended)

2. Lab coats or aprons
3. Molecular modeling kit

The laboratory will be evaluated in preparation, work, and report. A student who is absent from more than one laboratory session seriously jeopardizes his/her grade for the course.

The students are encouraged to work as many problems found at the end of the chapter until the main content of the chapter is mastered. The use of the molecular models is recommended to visualize the stereochemistry and the three-dimensional aspect of the organic compounds. The *Student Study Guide and Solutions Manual* is useful for checking your answers to homework and practice questions.
This syllabus is provided as a general informational guide. Some of the information may vary depending on the specific course section and instructor. Different sections of the same course may require different textbooks. Verify the section specific textbook information in the CUNY’s Academic Course Schedule Web Page. Modifications of the grading system presented here will be communicated by the instructors of the sections when they meet the class.

**Outline of Topics**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Lecture Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td><strong>Synthesis</strong></td>
</tr>
<tr>
<td>13</td>
<td><strong>Alcohols and Phenols</strong></td>
</tr>
<tr>
<td>14</td>
<td><strong>Ethers and Epoxides; Thiols and Sulfides</strong></td>
</tr>
<tr>
<td>15</td>
<td><strong>Infrared Spectroscopy</strong></td>
</tr>
<tr>
<td>16</td>
<td><strong>Nuclear Magnetic Resonance Spectroscopy</strong></td>
</tr>
<tr>
<td>17</td>
<td><strong>Conjugated Pi Systems and Pericyclic Reactions</strong></td>
</tr>
<tr>
<td>18</td>
<td><strong>Aromatic Compounds</strong></td>
</tr>
<tr>
<td>19</td>
<td><strong>Aromatic Substitution Reactions</strong></td>
</tr>
<tr>
<td>20</td>
<td><strong>Aldehydes and Ketones</strong></td>
</tr>
</tbody>
</table>
This syllabus is provided as a general informational guide. Some of the information may vary depending on the specific course section and instructor. Different sections of the same course may require different textbooks. Verify the section specific textbook information in the CUNY’s Academic Course Schedule Web Page. Modifications of the grading system presented here will be communicated by the instructors of the sections when they meet the class.

21 Carboxylic Acids and Their Derivatives

22 Alpha Carbon Chemistry, Enols and Enolates

College Attendance Policy
At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. For example, you may be enrolled in a three-hour class. In that class, you would be allowed 4 hours of absence (not 4 days). In the case of excessive absences, the instructor has the option to lower the grade or assign an F or WU grade.

Academic Adjustments for Students with Disabilities
Students with disabilities who require reasonable accommodations or academic adjustments for this course must contact the Office of Services for Students with Disabilities. BMCC is committed to providing equal access to all programs and curricula to all students.

BMCC Policy on Plagiarism and Academic Integrity Statement
Plagiarism is the presentation of someone else’s ideas, words or artistic, scientific, or technical work as one’s own creation. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has guides designed to help students to appropriately identify a cited work. The full policy can be found on BMCC’s web side, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).