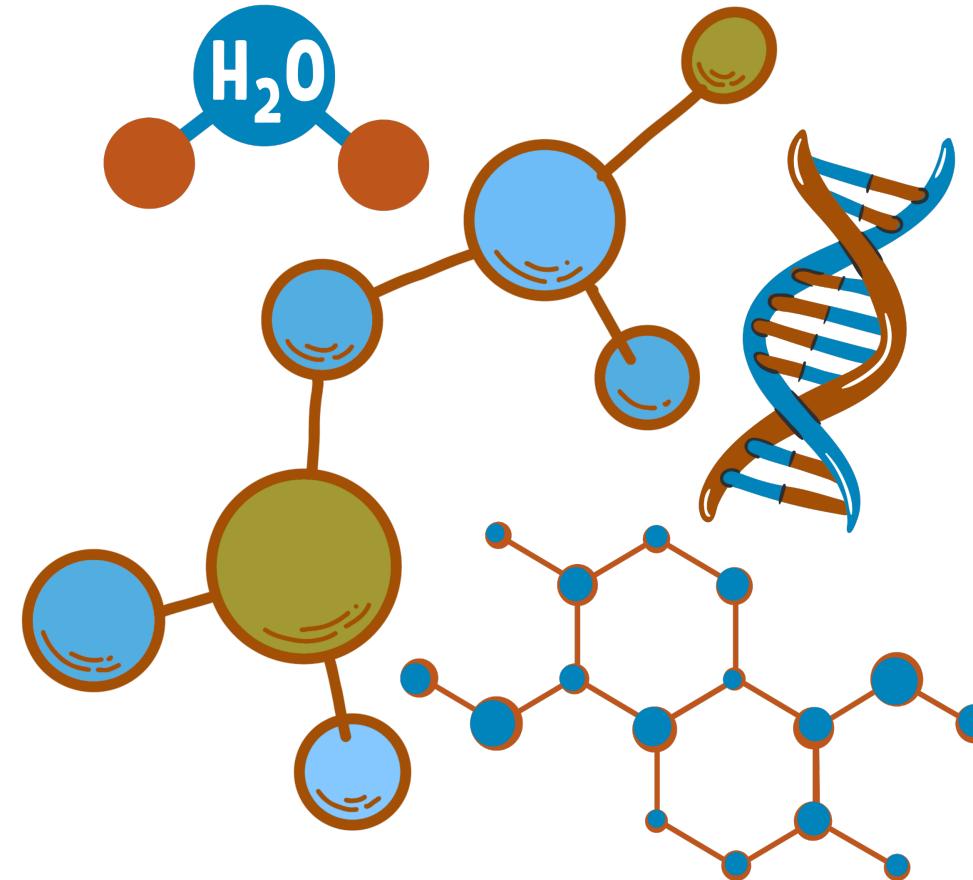


Chapter 0: Syllabus



Course Title and General Information

Course Code	Course Title	Program
CHEM 109	Introduction to Organic Chemistry	The Common First Year (Health track, Applied Medical Sciences, Nursing)

Credit Hours	Department	College
3 (2 Lectures + 1 Practical)	Chemistry Department	Science



Course Content Overview and Reference

Chapter 1	Introduction to Organic Chemistry
This chapter covers the origin of carbon compounds and the development of organic chemistry, along with atomic structure, electron configuration, and molecular orbitals. It also includes chemical bonding, hybridization, molecular geometry, resonance, and electron delocalization.	
Chapter 2	Structure and Classification of Organic Compounds
This chapter presents the structure and classification of hydrocarbons, including alkanes, alkenes, alkynes, cycloalkanes, and aromatic compounds, along with types of isomerism and their stability. It also explains the structure and classification of oxygen- and nitrogen-containing functional groups such as alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amides, amines, and nitriles.	
Chapter 3	Nomenclature of Organic Compounds
This chapter explains the nomenclature of hydrocarbons, including alkanes, alkenes, alkynes, cycloalkanes, and aromatic compounds, using both IUPAC and common systems. It also covers the nomenclature of functional groups containing oxygen and nitrogen, such as alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amides, amines, and nitriles.	



Course Content Overview and Reference

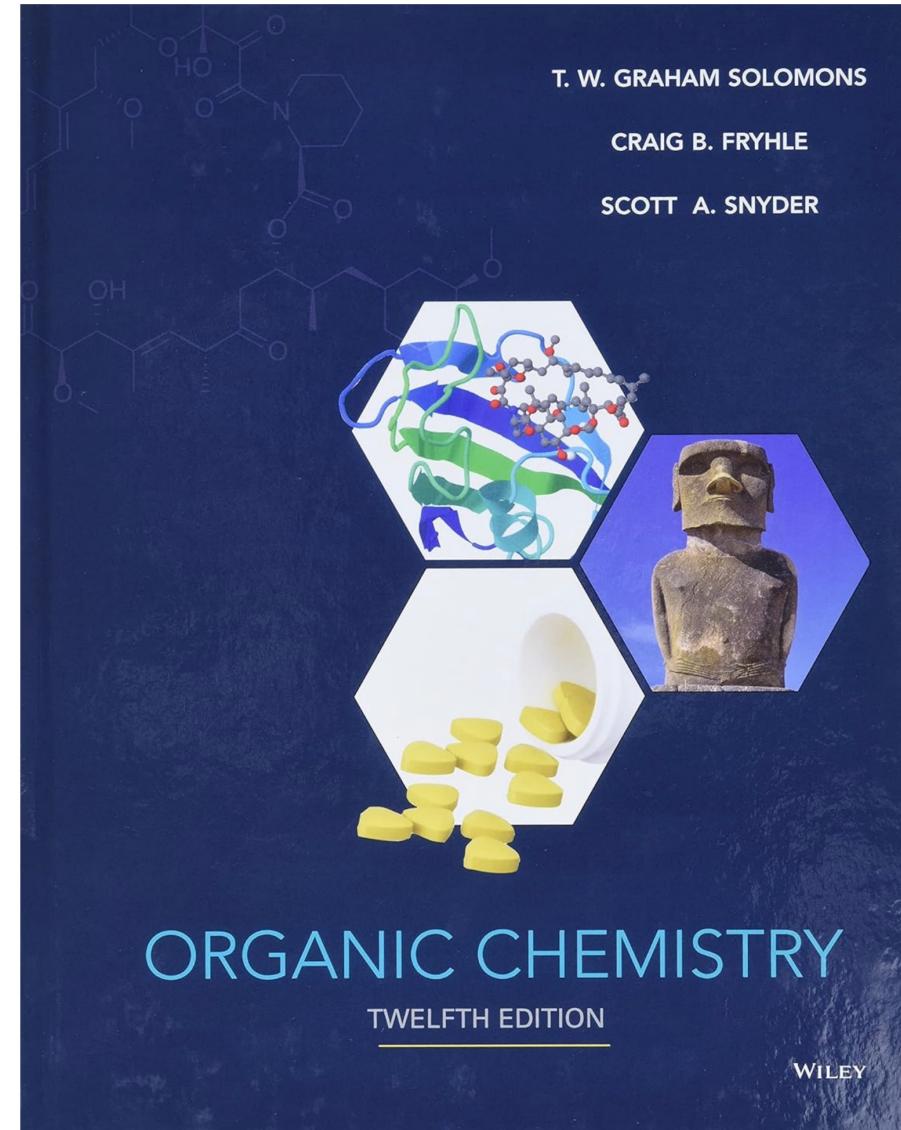
Chapter 4	Physical Properties and Intermolecular Forces
This chapter explains the physical properties of organic compounds such as boiling points, solubility, and acidity in relation to molecular structure and intermolecular forces. It also covers the physical properties of hydrocarbons, alcohols, ethers, carboxylic acids, and amines, including their polarity and basicity.	
Chapter 5	Organic Reactions
This chapter explains the major classes of organic reactions, including acid-base, radical, elimination, electrophilic addition, aromatic substitution, nucleophilic substitution, oxidation-reduction, and functional group transformations. It highlights reaction mechanisms, reactivity patterns, and key examples across hydrocarbons, aromatic systems, and oxygen- and nitrogen-containing compounds.	
Chapter 6	Biomolecules and Their Biological Relevance
This chapter covers the structure, reactions, and biological importance of carbohydrates, lipids, amino acids, proteins, and nucleic acids. It explains their classifications, functional roles, and key biochemical processes such as metabolism, synthesis, and energy storage.	



Reference

Reference

Solomons, T. W. Graham, Fryhle, Craig B., & Snyder, Scott A. (2016). *Organic Chemistry* (12th ed.). Hoboken, NJ: John Wiley & Sons, Inc. ISBN 978-1-118-87576-6.



Course Objectives

<p>Name organic compounds using IUPAC and common names</p>	<p>Recognize and apply functional groups regarding their properties, synthesis, and transformations</p>	<p>Understand the occurrence of organic compounds in nature</p>
<p>Understand basic organic reactions for preparation and reactions</p>	<p>Learn about carbohydrates, amino acids, proteins, nucleic acids</p>	<p>Acknowledge organic chemistry's role in understanding biochemistry principles.</p>



Course Learning Outcomes

Knowledge	Skills	Values
<ul style="list-style-type: none">Identify and describe fundamental concepts of organic chemistry including the structure, bonding, and properties of organic molecules.Explain the reaction rules of key organic reactions such as substitution, addition, elimination, and rearrangement reaction.	<ul style="list-style-type: none">Apply organic chemistry principles and critical thinking to solve problems related to structure, nomenclature, preparation, and reactions of organic compounds.Conduct organic chemistry laboratory experiments safely and accurately, including the preparation, purification, and identification of organic compounds and reporting experimental results.	<ul style="list-style-type: none">Demonstrate ethical conduct and responsibility in laboratory work, including proper waste disposal, and respect for laboratory rules, while effectively collaborating with peers in group activities.



Assessment Methods and Weighting

No.	Assessment Task	Points
1	1 st Midterm Exam	15
2	2 nd Midterm Exam	15
3	Final Exam	40
4	Practical Exam	30
Total		100



Instructions for Computer-Based Exams (QQ)

1	Only one device is allowed (using only smartphone or tablet) with the QQ application installed. Using any additional device or a different application is forbidden per the regulations and policies governing the computerized examinations.	6	After starting the exam, closing the screen or using the device for any other purpose is prohibited.
2	The device battery level must be above 50%, and power-saving mode must be disabled.	7	Bring a pen; a paper draft sheet will be provided and must be turned in after exam completion and prior to leaving the exam's room.
3	Ensure a stable internet connection before starting the exam.	8	Any technical issues/malfunctions during the exam must be reported immediately to the invigilator.
4	Prior to entering the examination, students must verify their ability to access the application. In case of any technical issues prior to the exam, a support request must be submitted via: https://its.ksu.edu.sa	9	Students are not permitted to leave before half of the allotted time has elapsed.
5	The exam access code will be provided only once and will not be repeated again.	10	Important Note: All exams of this course (midterms and final) are conducted exclusively via the QQ application. NO paper-based exam will be administered under any circumstances.



Practice Computer-Based Exams (QQ)

Two practice computer-based exams will be conducted as a preparation for the first midterm exam:

First Practice Exam:

- Conducted during Week 4 of the semester.
- Administered during the scheduled lecture time.
- The practice exam duration time is ~ 10 min.

Second Practice Exam:

- Conducted prior to the first midterm exam.
- Available during the weekend.
- To be completed remotely from home.
- The practice exam duration time is ~ 10 min.



Regulations for Attendance, Absence, and Alternative Examinations

Item	Limit/Rule
Semester Length	15 weeks (15 lectures)
Allowed Absence	25% = max 4 lectures
Lecture Duration	2 × 50 min per day (2 academic hours)
Max Absence in Hours	8 academic hours (4 days)
Absence Excuses	Submit via "Daam" Platform (Common First Year Deanship – KSU)
Alternative Examination Regulations	<ol style="list-style-type: none">1. Student must not have taken the Primary Examination.2. Student must not be denied in the course.3. Request must be submitted to the Common First Year Deanship within one week of the Primary Examination date.4. Excuse must be official and government-approved.5. No alternative for an alternative examination.



*Good
Luck*

