



## Course Specifications

<b>Course Title:</b>	<b>Organic Chemistry</b>
<b>Course Code:</b>	<b>2062205-3</b>
<b>Program:</b>	<b>Bachelor in Food Science and Nutrition</b>
<b>Department:</b>	<b>Food Sciences and Nutrition Department</b>
<b>College:</b>	<b>College of Science</b>
<b>Institution:</b>	<b>Taif University</b>

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## A. Course Identification:

<b>1. Credit hours:</b> 3 Hours
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> 5 <sup>th</sup> Level / 2 <sup>th</sup> year
<b>4. Pre-requisites for this course (if any):</b> General chemistry (1) (204101-4)
<b>5. Co-requisites for this course (if any):</b> None

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	√	100%
2	Blended	---	---
3	E-learning	---	---
4	Distance learning	---	---
5	Other		

### 7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
<b>Contact Hours</b>		
1	Lecture	30
2	Laboratory/Studio	70
3	Tutorial	-
4	Others (specify)	-
	<b>Total</b>	<b>100</b>

\*The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

## B. Course Objectives and Learning Outcomes:

<b>1. Course Description</b> Organic chemistry is considered the backbone of organic chemistry, it concerns by classification of organic compounds, structure of aliphatic organic compounds and their functional groups. In addition to methods of their preparation and mechanistic chemical reactions.
<b>2. Course Main Objective</b> <ul style="list-style-type: none"><li>• Recognize the nomenclature of different organic compounds</li><li>• List the functional groups in organic compounds.</li><li>• Explain the preparation of some organic compounds.</li><li>• Memorize the chemical reactions of some organic compounds</li><li>• Recognize the properties of some c organic compounds.</li><li>• Explain the reaction mechanism of some organic compounds.</li><li>• Recognize the difference between isomers.</li></ul>

### 3. Course Learning Outcomes:

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding</b>	
1.1	State the Nomenclature of different Aliphatic and aromatic organic compounds and the chemical reactions of some organic compounds	<b>K1</b>
1.2	Memorize the Methods of preparation of some organic compounds	<b>K1</b>

CLOs		Aligned PLOs
1.3	Outline the properties, reaction mechanism of some organic compounds	K4
<b>2</b>	<b>Skills:</b>	
2.1	compare the features that must be present in a compound to be reactive to various reagents	S3
2.2	Design a synthesis for any aliphatic organic class and compounds.	S2
<b>3</b>	<b>Values:</b>	
3.1	Able to perform research about organic compounds in teamwork.	V1
3.2	Able to work effectively in groups and exercise leadership when appropriate.	V2
3.3	Able to perform all laboratory procedures applying high standards of quality and professionalism.	V3

### C. Course Content

No	List of Topics	Contact Hours
1	Introduction to organic compounds Hybridization and Bonding	3
2	Functional groups and Aromaticity	3
3	Alkanes and cycloalkanes and benzenes	3
4	Isomerism: Conformation and optical isomerism	3
5	Aldehydes and ketones	3
6	Carboxylic acids and their derivatives	3
7	Alkyl halides	3
8	Alcohols, thiols and Phenols	3
9	Ether, Epoxide and thioester.	3
10	Amines and nitriles.	3
<b>Total</b>		<b>30</b>
<b>Experimental Topics</b>		
1	Safety Guidelines	2
2	Identification of aliphatic carboxylic acids: Oxalic acid, Tartaric and citric acids	2
3	Identification of aromatic carboxylic acids: Benzoic, phthalic and salicylic acids	2
4	Identification of ammonium and sodium salts of aliphatic acids and aromatic acids	2
5	Identification of aromatic amines: (aniline hydrochloride and aniline sulfate)	2
6	Identification of carbohydrates (Monosaccharides): Glucose and fructose	2
7	Identification of carbohydrates (Disaccharides) and (Polysaccharides): Maltose, sucrose and starch	2
8	General scheme for identification of organic solid unknown	2
9	Purification and chromatography	2
10	Isolation of caffeine from tea and Isolation of paprika pigments from paprika	2
<b>Total</b>		<b>20</b>

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and Understanding</b>		
1.1	State the Nomenclature of different Aliphatic and aromatic organic compounds	- Lecture	- Written exam
1.2	Memorize the Methods of preparation of some organic compounds.	- Lecture	- Quizzes
1.3	Outline the properties, reaction mechanism of some organic compounds.	- Lecture & Group discussion	- MCQ
<b>2.0</b>	<b>Skills:</b>		
2.1	Explain the features that must be present in a compound to be reactive to various reagents	- Lecture - Solving problems	- Written exam
2.2	design a synthesis for any organic class and compounds	- Brain storming	- Written exam -
<b>3.0</b>	<b>Values:</b>		
3.1	Able to perform research about organic compounds in teamwork.	- Groups discussions	- Project
3.2	Able to work effectively in groups and exercise leadership when appropriate.	- Problems solving & Project	- Oral discussion and Lab exam
3.3	Able to perform all laboratory procedures applying high standards of quality and professionalism.	- Problems solving	- Lab exam

### 2. Assessment Tasks for Students:

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignment and Interaction during lectures	Continues	10%
2	Midterm exam	5-6	20%
3	Weekly Lab. Reports	Continues	20%
4	Practical exam	11	10%
5	Final exam	12	40%

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support:

### Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
- Each faculty member is assigned a group of students for continuous academic advice for a period of ten office hours weekly (10 hours/week).
- Staff is available for individual student consultations during this period.

## F. Learning Resources and Facilities

### 1. Learning Resources:

<b>Required Textbooks</b>	1) John E. McMurry (2011): Fundamentals of Organic Chemistry, Brooks/Cole, Cengage Learning, 7th Edition. 2) Organic Chemistry, F. Carey and R. Atkins, 3rd Edition McGraw Hill.
<b>Essential References Materials</b>	1) Organic Chemistry, Second Edition, G. L. Patrick, Department of Chemistry and Chemical Engineering, Paisley University, Paisley, Scotland, BIOS Scientific Publishers (2005). 2) Paula Yurkanis Bruice (2016): Essential Organic Chemistry, Pearson Education Limited, 3rd Edition 3) List Electronic Materials, Web Sites, Facebook, Twitter, etc. 4) Other learning material such as computer-based programs/CD, professional standards or regulations and software. Internet, organic chemistry websites.
<b>Electronic Materials</b>	Organic chemistry: <a href="https://www.organic-chemistry.org/">https://www.organic-chemistry.org/</a>
<b>Other Learning Materials</b>	None

### 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	- Lecture rooms should be large enough to accommodate 30 students; number of students should not more than 30 students. - Lecture rooms should be well prepared, good ventilated, lightening, full equipped - Safety Measures and emergency exits
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	- Laptop with Data show and internet connection are still required for good teaching.
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	- Tutorials should be included in the time frame of the course

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
1. Student evaluation by the end of the course.	- students	- Direct
2- Another student evaluation collected by the quality assurance unit.	- Students	- Direct
3. Course evaluation by the other colleges	- Faculty	- Direct
4. Evaluation by the quality assurance unit	- Faculty	- Direct

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

<b>Council / Committee</b>	<b>Department council - Academic Development Committee</b>	
<b>Reference No.</b>	<b>Department council NO: 5</b>	<b>Subject NO: 2</b>
<b>Date</b>	<b>08 /07/1444 H</b>	