

## T6. Course Specification (CS) توصيف المقرر

Institution: Najran university	Date: 06/06/2017
College/Department: Sciences and Arts / Department of Chemistry	

### A. Course Identification and General Information:

1. Course title and code: Organic Chemistry 1 / 240 Chem-4	
2. Credit hours : 4 credit / 5 hours (3 hours theoretical lectures per week + 2 hours of practical work).	
3. Program(s) in which the course is offered. Educational Chemistry Program (If general elective available in many programs indicate this rather than list programs)	
4. Name of faculty member responsible for the course : Dr. Amal Fathy Saleem	
5. Level/year at which this course is offered: Third level	
6. Pre-requisites for this course (if any) : General Chemistry (101 Chem - 4 )	
7. Co-requisites for this course (if any) : N. A.	
8. Location if not on main campus: College of Science and Arts. Najran University Headquarters	
9. Mode of Instruction (mark all that apply)	
a. Traditional classroom	<input type="checkbox"/> What percentage النسبة المئوية ؟ <input type="checkbox"/>
b. Blended (traditional and online)	<input checked="" type="checkbox"/> What percentage النسبة المئوية ؟ 100 %
c. e-learning	<input type="checkbox"/> What percentage النسبة المئوية ؟ <input type="checkbox"/>
d. Correspondence	<input type="checkbox"/> What percentage النسبة المئوية ؟ <input type="checkbox"/>
f. Other	<input type="checkbox"/> What percentage النسبة المئوية ؟ <input type="checkbox"/>
Comments التعليق:	

## B. Objectives الأهداف

### 1. What is the main purpose for this course :

- Definition of chemical laws ,terms and methods of nomenclature various of organic compounds
- Explain the properties of different aliphatic and aromatics compounds and their preparation methods.
- Introduce the students to the importance of following safety guidelines in the laboratory and to identify the most important devices used in organic chemistry to be used in the distinction between aliphatic and aromatic compounds and to detect the active groups of pyloric and aromatic compounds (liquid and solid).

### 2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field).

- Review the evaluation system and study the monitoring of the degrees of activity and interaction of students during the lectures.
- Continuous improvement of the electronic content of the course.
- Interaction with students through Blackboard through forums and virtual Classes.
- Add important websites on the Blackboard, which can be used as a Scientific reference to the course.
- Development of Learning Resources for decision by using models to illustrate the structural and stereo chemical forms of organic compounds.

## C. Course Description (Note: General description in the form used in the Bulletin or handbook should be attached).

### Course Description :

The curriculum includes theoretical and practical content:

#### Theoretical content

The student will study basic principles and facts (structural structure, chemical bonds, hybridization, inductive effect, isomers ...), alkanes, alkenes, alkynes, aromatic hydrocarbons and organic halides.

#### Practical content:

The student will study general safety guidelines in the laboratory

Laboratory experiments related to the practical operation of the laboratory, aimed at identifying the tools and equipment used for the treatment, Primary tests and differentiation between aliphatic and aromatic compounds, detection of active groups of aliphatic and aromatic compounds (liquid and solid).

<b>1. Topics to be Covered: Theoretical part :</b>		
<b>List of Topics</b>	<b>No. of Weeks</b>	<b>Contact Hours</b>
-A historical introduction about the organic chemistry and Studying of hybrid orbitals.	<b>1</b>	<b>3</b>
- Types of bonds, polarity of bonds, study of the electronic displacement effects on the properties of organic compounds, Resonance, primary formula, molecular formula and the structural formula of organic compounds.	<b>2</b>	<b>6</b>
- Homolytic and heterolytic cleavage, types of organic reactions, acid and base, Isomerism, types of reagents and Functional groups.	<b>2</b>	<b>6</b>
- Alkanes (Sources – Nomenclature – Synthesis).	<b>1</b>	<b>3</b>
- Physical and chemical properties of the chain and cyclic alkanes.	<b>1</b>	<b>3</b>
- Alkenes and Dienes (Sources – Nomenclature - Physical and Chemical properties).	<b>2</b>	<b>6</b>
- Alkynes (Sources – Nomenclature - Physical and Chemical properties).	<b>1</b>	<b>3</b>
- Introduction to the study of the Structural of Benzene and aromatic properties.	<b>1</b>	<b>3</b>
- Study of physical and chemical properties of benzene , alkylated derivatives and methods of preparation	<b>2</b>	<b>6</b>
- Study of polycyclic aromatic compounds (Physical and Chemical properties and preparation methods).	<b>1</b>	<b>3</b>
- Organic halides (aliphatic and aromatic) (Nomenclature and Properties).	<b>1</b>	<b>3</b>
	<b>15</b>	<b>45</b>
<b>2. Topics to be Covered: practical part</b>		
<b>List of Topics</b>	<b>No. of Weeks</b>	<b>Contact Hours</b>
<ul style="list-style-type: none"> <li>- General laboratory safety guidelines</li> <li>- Methods of prevention of common laboratory accidents</li> </ul>	<b>1</b>	<b>2</b>

Identify the tools and equipment used in the laboratory and develop the skills to use them	1	2				
Determination of the melting point of a solid organic compound and the boiling point of a liquid substance	2	4				
Methods of separation and purification of organic compounds by using the following:  - Crystallization and re-crystallization - Solvent Extraction - Simple Distillation - Fractional Distillation - Thin Layer Chromatography (eg. Extraction of Caffeine from Tea)	3	6				
Distinguish between saturated hydrocarbons and other unsaturated	2	4				
Distinction between aromatic compound and aliphatic one	1	2				
Descriptive detection of elements (Lassigne’s test)	2	4				
Identify an unknown solid or liquid compound	2	4				
Revision	1	2				
	15	30				
1.Course components (total contact hours and credits per semester): مكونات المقرر (إجمالي عدد الساعات الفعلية والوحدات المعتمدة لكل فصل دراسي):						
	Lecture	Tutorial	Laboratory or studio	Practical	Other:	Total
Contact Hours	45	-	30	-	--	75
Credit	3	-	1	-	--	4

**3-Additional private study/learning hours expected for students per week: 6 hours Office and 4 hours of academic guidance per week .**

ساعات الدراسة الخاصة / ساعات التعلم الإضافية المتوقعة من الطالب أسبوعياً

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy.

On the table below are the five NQF Learning Domains, numbered in the left column.

**First**, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table)

**Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes.

**Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain).

Code # مسلسل	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	<b>Knowledge المعرفة</b> <b>The student will be able to</b>		
1.1	Determine the various organic reactions) -(Acid and base) - (the chemical bonds) -(Initial formula and molecular structural) -(Types of hybridization in carbon atom) - (properties of aliphatic and aromatic compounds) -(Ways of breaking the covalent bond) -(Resonance in organic compounds) -(Various Function group) - (Polar chemical bonds).	-Discussion -lectures - self learning -collaborative learning	- The first quarterly test - The second quarterly test - The final test
1.2	Explain the effects of the electronic displacement on properties of organic compounds describes the method of attachment of atoms, and stereochemistry, possible structural Isomerism of different organic compounds.	-Discussion -lectures - self learning -collaborative learning	- The first quarterly test - The second quarterly test - The final test
1.3	<b>Practical</b> Mention the safety and security rules in the laboratory and knows the structure of different types of	-Discussion -lectures - self learning	- The first quarterly test - The second quarterly test - The final test

Code # مسلسل	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
	hydrocarbons.	-collaborative learning	
<b>2.0</b>	<b>Cognitive Skills</b> المهارات الإدراكية <b>The student will be able to</b>		
2.1	Compare (types of carbon atom hybridization in various organic compounds) - properties of organic compounds, properties and Nomenclature of aromatic, aliphatic hydrocarbon), (organic halides aryl and aliphatic in terms of nomenclature chemical and physical properties).	-Discussion - problem solving - collaborative learning	- The first quarterly test - The second quarterly test - The final test
2.2	Interpreted mechanical interactions of aliphatic and aromatic organic compound.	-Discussion - problem solving - collaborative learning	- The first quarterly test - The second quarterly test - The final test
2.3	<b>Practical</b> Apply of safety and security rules in the laboratory Explains how to distinguish between aliphatic and aromatic hydrocarbon and identify unknown organic matter using different methods.	Discussion - problem solving - collaborative learning - Practical Training	- The first quarterly test - The second quarterly test - The final test
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b> <b>The student will be able to</b>		
3.1	<b>Theoretical and Practical</b> Participate in the collective work to accomplish the tasks of teaching or research.	-discussion -Cooperative learning	10% of the total degree of the course is assigned to assignments, short tests and research , distributed to the third and fourth Skills
3.2	Respect for the views of others, and take responsibility in personal and professional relationships.	- discussion - Cooperative learning	10% of the total degree of the course is assigned to assignments, short tests and research , distributed to the third and fourth Skills
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b> <b>The student will be able to</b>		
4.1	<b>Theoretical and Practical</b> Communicate with female students through the Internet to solve some assignments.	- E-learning. - lecture	10% of the total degree of the course is assigned to assignments, short tests and research , distributed to the third and fourth Skills

Code # مستند	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
4.2	Use the computer and the Internet to search for research information on chemistry or methods of teaching.	- E-learning. - . lecture	10% of the total degree of the course is assigned to assignments, short tests and research , distributed to the third and fourth Skills
<b>5.0</b>	<b>Psychomotor المهارات النفسحركية</b> <b>The student will be able to</b>		
5.1	<b><u>Theoretical and Practical</u></b> Conduct the tests with precision and skill.	Training lab.	• Observation • performance test
5.2	Treat chemicals safely .	Training lab.	• Observation • performance test
5.3	Use scientific instruments and tools in scientific ways.	Training lab.	• Observation • performance test

#### 5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, Quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	<b>The first quarterly test is practical + theoretical</b>	<b>Sixth week</b>	<b>15%</b>
2	<b>The second semester test is practical + theoretical</b>	<b>Ninth week</b>	<b>15%</b>
3	<b>Short tests + duties + posts</b>	<b>All weeks</b>	<b>10%</b>
4	<b>The final practical test of the course (practical)</b>	<b>Sixteenth week</b>	<b>20%</b>
5	<b>Final theoretical test</b>	<b>Seventeenth week</b>	<b>40%</b>

#### D. Student Academic Counseling and Support

1. 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)

**1- The presence of faculty members for advice and advice.**

**2- Office hours recorded in the table of each faculty member and**



advertised for students ( 6) hour per week.  
Hours of academic guidance recorded in the schedule of each faculty member  
and advertised for students ( 4) hour per week.

#### E. Learning Resources

##### 1. List Required Textbooks

- 1- **Organic Chemistry Dr. Hassan Mohamed El-Hazmi and Dr. Mohamed Ibrahim El Hassan**
- 2- **Principles of Organic Chemistry Dr. Salem bin Saleem Al - Thiab.**
- "Practical Organic Chemistry" Part I, Hassan Amin and Hazmi.**

##### 2. List Essential References Materials (Journals, Reports, etc.)

- 1- **Organic Chemistry Volume I and II. I.L.Finar.**
- 2- **Elements of Organic Chemistry. I.Zimmerman.**
- 3- **Fundamentals of Organic Chemistry. George B.Butler.**
- 4- **Introduction to Organic Chemistry. Andrew Streitwieser, JR**

##### 3. List Electronic Materials Web Sites, Facebook, Twitter, etc.

**Digital Library through the University of Najran University**

##### 4. Other learning material such as computer-based programs/CD, professional standards or regulations and software..

- **Presentations.**
- **Educational videos .**
- **Blackboard.**
- Blackboard Forums**

#### F. Facilities Required المرافق اللازمة

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

##### 1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- **Well-ventilated classrooms and modern technology equipped with a number of 30-50 students with good educational standards.**
- Practical chemistry classrooms with modern and safe possibilities for 25-30 students**



<p>2. Computing resources (AV, data show, Smart Board, software, etc.)</p> <ul style="list-style-type: none"> <li>- Providing a computer in the classrooms enabling students to access the network</li> <li>- Providing a Data Show projector in the laboratory and another for the teaching room.</li> <li>-smart board.</li> <li>- Virtual laboratory test program</li> </ul>
<p>3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)</p>

**G. Course Evaluation and Improvement Processes** **تقييم المقرر الدراسي وعمليات تحسينه**

<p>1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching</p> <p><b>1- tests results.</b></p> <p><b>2- Periodic evaluation that is filled by students about the course</b></p>
<p>2. Other Strategies for Evaluation of Teaching by the Instructor or by the department.</p> <ul style="list-style-type: none"> <li>- System of evaluating the performance of faculty members</li> <li>- Self-assessment of the faculty member</li> <li>- Course file</li> </ul>
<p>3. Processes for Improvement of Teaching : عمليات تحسين التدريس :</p> <p><b>1- Training in modern teaching strategies.</b></p> <p><b>2- Training in assessment methods in e-learning.</b></p>
<p>4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)</p> <ul style="list-style-type: none"> <li>- Examination of a sample of corrected test papers and the work of students who have been corrected.</li> <li>- Exchange the correction of a sample of assignments or tests periodically with another faculty member for the same course in another department.</li> </ul>

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

**Completion of the course report by the end of each semester based on the feedback provided by:**

- Annual review of the contents of the course and its development according To the developments.
- Results of the evaluation questionnaires by the students
- Design and implementation of the improvement plan based on the Evaluation of the student performance of the faculty member.
- Performance indicators for the verification of learning outcomes In view of the results of the quarterly and final tests
- .- Improvements in the report of the course.

Name of instructor: **Dr. Amal Fathy Saleem**

Signature : \_\_\_\_\_ Date Report Completed: \_\_\_\_\_

Name of field experience teaching staff: \_\_\_\_\_

Program coordinator: **Dr. Amal Fathy Saleem**

Signature التوقيع: \_\_\_\_\_ Date received التاريخ الاستلام: \_\_\_\_\_