

## T6. Course Specification(CS)

### Organic Chemistry 2

Institution: <b>Najran University</b>	Date: <b>6/9/1438 HJ</b>
College/Department <b>Sciences&amp; Arts/ Chemistry</b>	

#### A. Course Identification and General Information

1. Course title and code: <b>Organic Chemistry 2</b> Code # <b>241 chem-4</b>	
2. Credit hours: <b>4 hours per week (3+1)( Theoretical + practical)</b>	
3. Program(s) in which the course is offered. <b>Chemistry Education program</b> (If general elective available in many programs indicate this rather than list programs)	
4. Name of faculty member responsible for the course: <b>Dr/ Naglaa Salah El-Deen</b>	
5. Level/year at which this course is offered : <b>Fourth Level /IV</b>	
6. Pre-requisites for this course (if any) <b>Organic Chemistry I</b> Code # <b>240chem-4</b>	
7. Co-requisites for this course (if any): <b>No</b>	
8. Location if not on main campus: <b>College of Science &amp; Arts (Najran university city)</b>	
9. Mode of Instruction (mark all that apply)	
a. Traditional classroom	<input type="text"/> What percentage? <input type="text"/>
b. Blended (traditional and online)	<input checked="" type="checkbox"/> What percentage ? <input type="text" value="100%"/>
c. e-learning	<input type="text"/> What percentage <input type="text"/>
d. Correspondence	<input type="text"/> What percentage ? <input type="text"/>
f. Other	<input type="text"/> What percentage ? <input type="text"/>
Comments:	

## B.Objectives الأهداف

1. What is the main purpose for this course?

-This course is aimed to completion of the students' knowledge about functional groups in the organic chemistry that they started in membership course(Organic Chemistry 1 Code # 240chem-4 ), varying from aliphatic to aromatic, nomenclature, physical prosperities, methods of preparation and chemical reactivity in the basis of molecular structure.

-Training them on methods of detecting function groups of simple organic compounds.

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)

- Directing the students to take advantage of internet sites and supply with updated information.

- Continuous updating of course content based on new scientific research in this field

-Continuous updating of presentations of scientific material

- Assign students to scientific research.

- Diversity and modernization in the teaching strategies used

-- The use of electronic programs for organic chemistry

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

### Course Description

Study of simple organic compounds aliphatic and aromatic: alcohols, ethers, phenols, aldehydes, ketones, carboxylic acids, derivatives of carboxylic acid and amines.

1. Topics to be Covered:

List of Topics(Theoretical part)	No. of Weeks	Contact Hours
1 - Nomenclature, methods for preparation, physical and chemical reactivity of aromatic and aliphatic alcohols involved one, two or multiple hydroxyl groups.	٢	٦
2-Nomenclature, methods for preparation, physical and chemical reactivity of phenols	1	3
3 -Nomenclature, methods for preparation, physical and chemical reactivity of aromatic and aliphatic ethers	1	3
4 - Nomenclature, methods for preparation, physical and chemical reactivityof aromatic and aliphatic aldehydes and ketones	3	9

<b>5- Nomenclature, methods for preparation, physical and chemical reactivity</b> Aromatic and aliphatic carboxylic acids .	<b>4</b>	<b>12</b>
<b>6- Nomenclature, methods for preparation, physical and chemical reactivity of aromatic and aliphatic carboxylic acid derivatives</b>	<b>2</b>	<b>6</b>
<b>7-Nomenclature, methods for preparation, physical and chemical reactivity of aromatic and aliphatic amines.</b>	<b>2</b>	<b>6</b>
	<b>15</b>	<b>45</b>
<b>List of Topics (Practical part)</b>	<b>No. of Weeks</b>	<b>Contact Hours</b>
<b>1 - Detection of alcohols , conduct their distinctive reactions and experiments that differentiate them</b>	<b>2</b>	<b>4</b>
<b>2 - Detection of phenols and conduct their distinctive reactions and experiments that differentiate them.</b>	<b>2</b>	<b>4</b>
<b>3-Detection of aldehydes and ketones, conduct their distinctive reactions and experiments that differentiate them.</b>	<b>2</b>	<b>4</b>
<b>4- Detection of carboxylic acids and their salts (ammonium and metallic), conduct their distinctive reactions and experiments that differentiate them.</b>	<b>4</b>	<b>8</b>
<b>5- Detection of amines, conduct their distinctive reactions and experiments that differentiate them.</b>	<b>2</b>	<b>4</b>
<b>6-A systematic laboratory study to identify unknown organic compound for each of the different sects and write a complete laboratory report on how to identify the unknown compound.</b>	<b>3</b>	<b>6</b>
	<b>15</b>	<b>30</b>

1.Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory or studio	Practical	Other:	Total
Contact Hours	<b>45</b>	-----	<b>30</b>			<b>75</b>
Credit	<b>3</b>	-----	<b>1</b>			<b>4</b>

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

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 #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
<b>1.0</b>	<b>Knowledge At the end of the course the student be able to:</b>		
1.1	<b><u>For theoretical</u></b>  a- Remember of scientific concepts, naming reactions, applied uses and different properties of organic compounds under study	- Dialogue and discussion - lecture - Black board - E-learning	(Med. Term & final exam) Homework, and quizzes
1.2	b -Classified organic compounds under study, according to the groups active distinctive and the types reactions of different organic compounds	- Dialogue and discussion - lecture - Black board - E-learning	(Med. Term & final exam) Homework, and quizzes
1.3	<b><u>For practical</u></b> Determine the organic compounds according to the functional group	- lecture - Cooperative learning - Black board - E-learning	(Med. Term & final exam) Homework, and quizzes
<b>2.0</b>	<b>Cognitive Skills At the end of the course the student be able to:</b>		
2.1	<b><u>For theoretical</u></b> a-Apply the rules of the international system (IUPAC) in the naming of all organic compounds under study .	- Dialogue and discussion - lecture - Problem Solving - Black board - E-learning	(Med. Term & final exam) Homework, and quizzes
2.2	b-Explain the ways of preparation, reactions chemical, physical I and chemical prosperities of organic compounds	- Dialogue and discussion –lecture - Black board - E-learning	(Med. Term & final exam) Homework, and quizzes
2.3	<b><u>For practical</u></b>	- Dialogue and	(Med. Term & final

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
	Use of a systematic laboratory study to identify an unknown organic compounds using different methods	discussion --lecture -work in small groups - Black board -E-learning	exam) Homework, and quizzes
3.0	<b>Interpersonal Skills &amp; Responsibility:</b> At the end of the course(theoretical and practical) the student be able to:		
3.1	a-Cooperate with other students through team work	- Cooperative learning	Research duties Homework, and quizzes.
3.2	b- Respect the other opinions through the dissection	-Cooperative learning - Problem Solving	Research duties Homework, and quizzes.
4.0	<b>Communication, Information Technology, Numerical:</b> At the end of the course (theoretical and practical)the student be able to:		
4.1	a- Communicate with the classmates and the others	Training Laboratory.	Research duties Homework, and quizzes.
4.2	b- Use the computer programs , technology of communication and information in chemistry	- E-learning - Self-learning	Research duties Homework, and quizzes.
5.0	<b>Psychomotor</b>		
5.1	<u>For practical</u> Use scientific instruments and tools in a scientific way.	Training Laboratory	Observations, laboratory reports and final tests

#### 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	Quarterly test for theoretical part	The sixth week	15%
2	Quarterly test for practical part	The ninth week	15%
3	Duties, research and quizzes	During the semester	10%
4	Final exam of practical part	Sixteenth week	20%

5	<b>Final exam of theoretical part</b>	<b>Seventeenth week</b>	<b>40%</b>
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#### **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)

١- **Provide assistance and guidance for inquiries and consultations related to the course, which includes help students on understand the course and contribute to the process of academic guidance and help students in the face of any problems or study academy for the course.**

2- **Communicate, ask questions and inquiries by students via e-mail through the university website and via Blackboard.**

3- **Office hours recorded in the table of each faculty member and advertised for students ( 6) hour per week.**

3- **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:

**"Foundations of Organic Chemistry" by: Hassan Al hazmi and Dr. Mohammed Ibrahim Al Hassan, 4th edition 2001, Al-Khuraij Library. Kingdom of Saudi Arabia**

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

**1-Organic Chemistry, I.L. Finar, Vol II, 6th ed., 1988, Longman.**

**2-Organic Chemistry, Morrison and Boyd, 6th ed., 1992, Allyn and Bacon**

**3-Vogel's, Textbook of Practical Organic Chemistry , 5th ed.**

**4-Modern Organic Chemistry: Composed by: Dr. Adel Ahmed Jarrar, First Edition 1995, Future House for Publishing and Distribution, Jordan**

**5-" Organic Chemistry Process: Formation: Hassan Bakr Amin and Prof. Hassan Al hazmi, 1990, King Saud University.**

**6- Principles of Practical Chemistry: Author: Dr. Ahmed Medhat Islam Dr. Ali Hassan Dr. Ismail**

**Bassiouni Hanout and Dr. Ahmed Mohamed Najjar. Fourteenth Edition**

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

- Web Sites etc:

- **Individual computer access to Chemdraw or Isis draw software. The latest version of Chemdraw is 2008 and can be accessed at <http://scistore.cambridgesoft.com>;**
- **Isis draw can be accessed at <http://www.symyx.com/downloads>**
- **Individual access to any on-line periodic table. Two good sites are**
- **(a) <http://www.americanelements.com>**
- **and (b) <http://www.webelements.com>**
- **Individual accesses to the American Chemical Society web-site: <http://portal.acs.org>**
- **the *www Virtual Library*: <http://www.liv.ac.uk/Chemistry/Links/links.html>**
- **A database such as ChemBioFinder for searching compounds and structures: <http://www.cambridgesoft.com/databases>**
- **Access to MSDS data pages: <http://www.msdsolnline.com>**
- **Reusch, Wm. H *Virtual Text of Organic Chemistry*, 1999, Michigan State University, Madison, WI, USA <http://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/intro1.htm>**
- **[www.Khyma.com/diasschool/chemist.html](http://www.Khyma.com/diasschool/chemist.html)**

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

- **Use the program of ISIS Draw for draw the structure of chemical compounds**
- **Use the library to resolve duties**
- **Organic Chemistry CDs**
- **Electronic programs for the naming of organic compounds and methods of classification.**

**F. Facilities Required**

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.)

- **Classrooms well-lit, ventilated, and equipped with modern techniques can even diversity in the teaching method**
- **Number of students are not more than 30 classrooms**
- **Chemical laboratories equipped with the latest international specifications**

2. Computing resources (AV, data show, Smart Board, software, etc.)

- The provision of an appropriate number of computers, and devices of data show and the smart blackboard in the classrooms to the possibility of activating the educational strategies.

- Providing computer programs, especially the science of chemistry to train students to use.

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

- Equipping laboratories with the latest technologies and providing them with means of protection, security and safety.

- Maintenance of laboratories periodically to maintain the timeliness and to ensure security and safety.

- Provision of the necessary chemicals for laboratories periodically throughout the year.

- It is very important to provide a distillation of the water in each laboratory.

#### G. Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Course evaluation by student on the web site university .

- The results of the quarterly and the final tests.

- Meeting with small groups of students to take their minds in the course

2. Other Strategies for Evaluation of Teaching by the Instructor or by the department.

-Results of the meetings of department coordinator with the students and discussions them about the performance of faculty members

- Self-assessment of learning outcomes.

- The general level of student achievement in the course.

3. Processes for Improvement of Teaching :

- Training and personal development of a faculty member through attending training courses and workshops continuing to follow the latest scientific developments in the field of specialization and education in the field of teaching.

- Exchange experiences with faculty members who teach the same course from within or outside the department.

- Evaluation of the course through the distribution of questionnaires to the students at the end of teaching the course and to benefit from them in the development Teaching

- Utilize expert opinions with experience in the development of the educational process

- Results of evaluation of academic accreditation and development in light of them.



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)

- Use the system of measure learning outcomes to verify students' familiarity with targeted learning outcomes
- Check random sample of student test papers by an independent faculty member.
- Follow the results of the students per two semesters and a comparison of the results to identify the main difficulties and problems.
- Observation and assistance from colleagues.

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

- Tracking and comparing the results of the students.
- Follow-up and continuous assessment through quarterly assessment of the course and evaluating the performance of faculty members.
- Periodic review the contents of the course and modify the negatives on the basis of the results of evaluating course and students outcomes through the report of course.
- Review course consistently in line with the needs of job market.
- Attend training courses and workshops for teachers course.
- Claim the college administration to provide modern learning resources.

Name of instructor : **Dr/ Naglaa Salah El-Deen**

Signature: \_\_\_\_\_ **Dr/ Naglaa** \_\_\_\_\_ Date Report Completed: **9/8/38 HJ**

Name of field experience teaching staff: Program coordinator:: **Dr/ Amal Fathy**

Signature : \_\_\_\_\_ **Dr/ Amal Fathy** \_\_\_\_\_ Date received : \_\_\_\_\_ **9/8/38 HJ**