

T6. Course Specification (CS) توصيف المقرر

Institution Najran University	Date 27 / 7 / 1438
College/Department Sciences and Arts / Chemistry	

A. Course Identification and General Information: التعريف بالمقرر الدراسي ومعلومات عامة عنه:

1. Course title and code : Chemistry Of Heterocyclic Compounds (342 CHEM-2)	
2. Credit hours: 2 credit hours per week (Theoretical)	
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Chemistry Program	
4. Name of faculty member responsible for the course: Dr. HASAN M.H. MUHAISEN	
5. Level/year at which this course is offered : 1437/1438 fifth level	
6. Pre-requisites for this course (if any) : Organic Chemistry-2 (241 CHEM-4) :	
7. Co-requisites for this course (if any) (إن وجدت): Not applicable	
8. Location if not on main campus: In the college building	
9. Mode of Instruction (mark all that apply) (ضع علامة على كل ما ينطبق):	
a. Traditional classroom	<input type="checkbox"/> What percentage ? <input type="checkbox"/>
b. Blended (traditional and online) التعليم المدمج (التقليدي + عبر الانترنت)	<input checked="" type="checkbox"/> What percentage النسبة المئوية ? <input type="text" value="100"/>
c. e-learning التعليم الإلكتروني	<input type="checkbox"/> What percentage النسبة المئوية ? <input type="text"/>
d. Correspondence التعليم بالمراسلة (عن بعد)	<input type="checkbox"/> What percentage النسبة المئوية ? <input type="text"/>
f. Other	<input type="checkbox"/> What percentage النسبة المئوية ? <input type="text"/>
Comments التعليق:	

B.Objectives الأهداف

1. What is the main purpose for this course?

A detailed study of the other functional groups of organic compounds that began their studies in the course organic chemistry (241CHEM- 4). The student's definition of chemistry of natural products, some of the different preparations for heterocyclic organic compounds and how to produce the product by following the steps of the mechanical reaction

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)

- Clarify the objectives of the course and distribute them in print.
- Instructing students to make an essay or research to increase knowledge.
- Training students to use the Internet to increase the ability to search and obtain information easily

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

Course Description :

Study of heterocyclic organic compounds of five and six membered rings containing one hetero atom.

1. Topics to be Covered:

List of Topics	No. of Weeks	Contact Hours
Introduction , definition , importance and classification of heterocyclic compounds	1	2
Nomenclature of heterocyclic compounds by different methods(systematic IUPAC, trivial and replacement)	4	8
<u>Five- membered rings</u> (pyrrole): Introduction, definition, importance, composition, nomenclature, preparation, physical and chemical properties.	١	٢
Indole: composition, nomenclature, preparation, physical and chemical properties	١	٢
Thiophene : composition, nomenclature, preparation, physical and chemical properties	١	٢
Furan: composition, nomenclature, preparation, physical and chemical properties	١	٢

Six- membered rings (pyridine): Introduction, definition, importance, composition, nomenclature, preparation, physical and chemical properties.	١	٢
Quinoline: composition, nomenclature, preparation, physical and chemical properties	١	٢
Isoquinoline: composition, nomenclature, preparation, physical and chemical properties.	١	٢
Chemistry Of Natural Products ALKALOIDS: Introduction, definition, importance, composition, Occurrence, Isolation of alkaloids, General properties, Classification: (Pyrrolidine, Piperidine, Pyrrolidine-pyridine, Pyridine- piperidine, Quinoline, Isoquinoline and Indole alkaloids).	٣	٦
	15	30

1.Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory or studio	Practical	Other:	Total
Contact Hours	30 hours	-	-	-	-	30 hours
Credit	2	-	-	-	-	2

3-Additional private study/learning hours expected for students per week:	١٠
1-House assignments 2-Visit the library	

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
1.0	Knowledge The student will be able to		
1.1	Know heterocyclic compounds, the properties and its importance in the synthesis of natural and industrial products that have important applications	<ul style="list-style-type: none">• lecture•discussion• Exercises•Homeworks	<ul style="list-style-type: none">• Quarterly test• Short tests• Measuring responsiveness to assignments and meals.• Final theoretical
1.2	Remember the structural composition of various alkaloids , methods of extraction from natural sources, examples of them and their biological activity.		
2.0	Cognitive Skills The student will be able to		
2.1	Apply the rules of nomenclature (IUPAC) , trivial and replacement of heterocyclic compoundsdepending on thesizeand content	<ul style="list-style-type: none">• lecture.• Scientific discussions.Self-learning	<ul style="list-style-type: none">• Quarterly test• Short tests• Measuring responsiveness to assignments and meals.• Final theoretical
2.2	Explain composition, properties, aromatic, selective site , its effectiveness ,methods of preparation and chemical reactions of heterocyclic compounds		
3.0	Interpersonal Skills & Responsibility The student will be able to		
3.1	Participate in small or large groups to prepare research related to course topics	Cooperative Education (division of students into groups to conduct joint research group)	<ul style="list-style-type: none">• Note card to discuss research and reports
4.0	Communication, Information Technology, Numerical The student will be able to		
4.1	look through the international information network to prepare and write various reports relevant to the decision	Self-education (use of international information network)	Corresponding to the evaluation of the duties associated with the

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
			research aggregation and use of information technology.
5.0	Psychomotor		
5.1	Not applicable		

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	First quarterly test	Eighth	20%
2	Secondary quarterly test	Tenth	20%
3	Alternative calendars(Short tests - participation - home assignments - search - note card)	Throughout the semester	10%
4	Final theoretical exam	seventeenth	50%

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)

- The presence of staff members to provide advice throughout the working days
- Office hours and academic guidance: 10 hours

Office hours	days
10-12	Sunday
8-11	Monday
9-12	Tuesday
9-12	Wednesday
10-11	Thursday

E. Learning Resources

1. List Required Textbooks:
1. heterocyclic compounds and vitality. Hamad Al-Luhaidan, Mohammed Al-Hassan, Salim Al-Thiab. Second Edition 1417/1996, Deanship of Library Affairs, King Saud University, Riyadh 2. Non-homocyclic compounds. Hassan Al-Hazmi, Nasser Al-Anas, Siham Al-Issa Dar Al-Khuraiji for publication and distribution, first edition 1422 / 2009 AH
2. List Essential References Materials (Journals, Reports, etc.)
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. <ul style="list-style-type: none"> • Chemguid.com • http://lib.nu.edu.sa/DigitalLibrary.aspx

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.) Lecture hall fits (30 students)
2. Computing resources (AV, data show, Smart Board, software, etc.) 1 - Projector 2- Laptop computer 3- Net point of contact
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G. Course Evaluation and Improvement Processes:

1- Strategies for Obtaining Student Feedback on Effectiveness of Teaching 1- Conducting a questionnaire to evaluate the curriculum. 2- Periodic, quarterly and final tests. 3- Discussion and dialogue. 4- Analysis of the results of the tests to determine the absorption of students and strategies for improvement

<p>2. Other Strategies for Evaluation of Teaching by the Instructor or by the department.</p> <p>1-Notes and assistance from colleagues</p> <p>2- Independent assessment of students' achievement of standards</p> <p>3- Self-assessment of teacher performance</p>
<p>3. Processes for Improvement of Teaching:</p> <p>1- Workshops for teaching methods.</p> <p>2- Continuing training for faculty member.</p> <p>3- Review proposed strategies.</p> <p>4- Provide modern tools for learning.</p> <p>5- Application of e-learning methods.</p> <p>6- Exchange of internal and external experiences</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> <p>1 - Use of faculty members who are related to the course or those who studied it before</p> <p>2- Auditing and review of student papers through another colleague in the department</p>
<p>5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement</p> <p>1. Inform students of their response papers in order to identify errors in order to avoid them in the future.</p> <p>2. Results of a survey of students' views on their teaching methods.</p> <p>3. Consult other course teachers</p> <p>4. Review periodically the contents of the course and the teaching strategy and modify the negatives.</p> <p>5. Keep pace with the rapid development in the field through the use of new technologies.</p> <p>6. Updating the learning resources of the course to ensure that it keeps abreast of the developments embodied in the field</p>

Name of instructor: DR. Hasan M. H. Muhaisen

Signature: _____ Date Report Completed: 6-9-1438 AH

Name of field experience teaching staff: _____

Program coordinator: _____

Signature: _____ Date received: _____