

National Commission for Academic Accreditation & Assessment

Course Specification

King Khalid University
Science college/ chemistry department

A Course Identification and General Information

1. Course title and code: Synthesis of Organic compounds 464 (Organic synthesis).
2. Credit hours: 2 (Practical)
3. Program(s) in which the course is offered. : Chemistry Bachelor program (If general elective available in many programs indicate this rather than list programs)
4. Name of faculty member responsible for the course: mostafa abdellah ismail
5. Level/year at which this course is offered: 7/4
6. Pre-requisites for this course (if any): Chem. 213,chem. 314
7. Co-requisites for this course (if any)
8. Location if not on main campus The main university building

B Objectives

<p>1. Summary of the main learning outcomes for students enrolled in the course. Learn the skill of the installation of the equipment and tools needed for the preparation of organic compounds</p> <ul style="list-style-type: none">• learn a skill to identify the degree of purity of the solid organic compound.• Learn how to set the melting point of the organic compound solid.• teach students how to purify organic compounds.• Study of the infrared spectrum.• study the mechanical interactions of vehicles that are being prepared.
<p>2. Briefly describe any plans for developing and improving the course that are being implemented. (eg increased use of IT or web based reference material, changes in content as a result of new research in the field)</p> <p>Self-survey for some subjects related to some experiments.</p> <p>Using of internet to help students to answer on some questions in their experiments.</p> <p>update the content of existing trials based on new research concerning estimates of functional groups of organic compounds through the Internet.</p>

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

1 Topics to be Covered		
List of Topics	No of Weeks	Contact hours
Safety in the organic lab	1	2
Synthesis of aspirine.	1	2
Synthesis of acetanilide.	1	2
Synthesis of p- bromo aniline from acetanilide.	1	2

Synthesis of p-nitro aniline from acetanilide.	1	2
Synthesis of dibenzal acetone.	1	2
Midterm exam (practical and theoretical)	1	2
Synthesis of iodoform.	1	2
Synthesis of parared.	1	2
Synthesis of ortho chloro benzoic acid.	1	2
Synthesis of methyl orange.	1	2
Thin layer chromatography.	1	2
Synthesis of soap.	1	2
Final exam	1	2

2 Course components (total contact hours per semester):				
Lecture:	Tutorial:	Laboratory: 60	Practical/Field work/Internship	Other:

3. Additional private study/learning hours expected for students per week. (This should be an average :for the semester not a specific requirement in each week)

entry was posted on E-Learning University

- **Follow up the subject teacher during office hours**

<p>4. Development of Learning Outcomes in Domains of Learning</p> <p>For each of the domains of learning shown below indicate:</p> <p>A brief summary of the knowledge or skill the course is intended to develop;</p> <p>A description of the teaching strategies to be used in the course to develop that knowledge or skill;</p> <p>The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.</p>
<p>a. Knowledge</p>
<p>(i) Description of the knowledge to be acquired</p> <ul style="list-style-type: none"> • how to carry out a chemical reaction under intensive rad • Learn the skill of the preparation of azo dyes • Learn the skill of purification of organic compounds • Teach how to conduct interactions sensitive to oxygen and water vapor, such as interaction grinard the • Learn the skill of using thin-layer chromatography in the identification of vehicles prepared
<p>(ii) Teaching strategies to be used to develop that knowledge</p> <p>Student has to depend on himself when he make his experiment.</p> <p>Experiments are done in rotational manner.</p> <p>Using of new instrumentation in some experiments.</p>
<p>(iii) Methods of assessment of knowledge acquired</p> <p>Written Report for each experiment.</p> <p>Oral and written exams during the term.</p> <p>quarterly tests.</p> <ul style="list-style-type: none"> • ongoing debate during the practical lesson of the experiments and how to hold them. • Discussion of the students in the theoretical basis for estimating the functional groups of organic compounds. • the work of short tests from time to time. •
<p>b. Cognitive Skills</p>
<p>(i) Description of cognitive skills to be developed</p> <p>Scientific skills</p> <p>Practical skills.</p> <p>Research and maths skills.</p> <p>teach students ability Tkadiraly overcome problems faced during the assessment of functional groups of organic compounds.</p> <ul style="list-style-type: none"> • teach students the ability to follow up the progress of chemical reactions and determine the end point of the calibration reactions.

<ul style="list-style-type: none"> • teach students the ability to calculate the proportion and number of existing Alozivieh groups in the compound, as well as how to calculate the degree of purity of some organic compounds
<p>(ii) Teaching strategies to be used to develop these cognitive skills</p> <ul style="list-style-type: none"> • Using of most recent instruments • Independency of student during performing his experiment.
<p>(iii) Methods of assessment of students cognitive skills</p> <ul style="list-style-type: none"> • Oral questions during doing experiment. • Quizzes. •
<p>c. Interpersonal Skills and Responsibility</p>
<ul style="list-style-type: none"> • (i) Description of the interpersonal skills and capacity to carry responsibility to be developed • Dependency of student on his self gives him more responsibilities.
<p>(ii) Teaching strategies to be used to develop these skills and abilities</p> <ul style="list-style-type: none"> • Asking student to write a separate report for each experiment in each week. • Every student must be able to prepare his own solutions and chemicals required for his experiment.
<p>(iii) Methods of assessment of students interpersonal skills and capacity to carry responsibility</p>
<p>d. Communication, Information Technology and Numerical Skills</p>
<ul style="list-style-type: none"> • (i) Description of the skills to be developed in this domain. • Oral questions during doing experiment in the lab.

<ul style="list-style-type: none"> • Evaluation throughout recipient reports weekly.
<p>(ii) Teaching strategies to be used to develop these skills</p> <ul style="list-style-type: none"> • Asking student to write a scientific report for each experiment performed in the lab. • Every student must be able to prepare his own solutions and chemicals required for his experiment.
<p>(iii) Methods of assessment of students numerical and communication skills</p> <p>Asking student to use computer in writing and drawing when they making their reports.</p>
<p>e. Psychomotor Skills (if applicable)</p>
<p>(i) Description of the psychomotor skills to be developed and the level of performance required</p> <p>NA</p>
<p>(ii) Teaching strategies to be used to develop these skills</p> <p>NA</p>
<p>(iii) Methods of assessment of students psychomotor skills</p> <p>NA</p>

5. Schedule of Assessment Tasks for Students During the Semester			
Assess	Assessment task (eg. essay, test, group project, examination	Week due	Proportion

ment	etc.)		of Final Assessment
1	Midterm theoretical exam	7	10%
2	Midterm practical exam	7	25%
3	Final theoretical exam	15	15%
4	Final practical exam	15	30%
5	evaluation	continuous	10%
6	Reports and quizzes	continuous	15%
6			
7			
8			

D. Student Support

1. Arrangements for availability of teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Number of office hours : **10 hours weekly.**

E Learning Resources

1. Required Text(s) 464 book
2. Essential References Practical Organic Chemistry, Mann. & Saunders. Quantitative Organic Chemistry, Vogel. Experimental Organic Chemistry, P. R. Singh & Ds Gupta.
3- Recommended Books and Reference Material (Journals, Reports, etc) (Attach List) Advanced Practical Organic Chemistry, second edition, J. Leonard, B. Lygo and G. Procter
4-.Electronic Materials, Web Sites etc Any website related to subjects listed in the experiments.
5- Other learning material such as computer-based programs/CD, professional standards/regulations

ISIS Draw, Chem Draw

F. Facilities Required

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

1. Accommodation (Lecture rooms, laboratories, etc.)

organic chemistry laboratory.

2. Computing resources

Computer rooms (labs) in the college.

3. Other resources (specify --eg. 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

Making of questioner at the end of each semester presenting positives and negatives in the course and what are student's opinions regarding these.

2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department

Utilization from external and internal evaluations.

3 Processes for Improvement of Teaching

Concentration on the negatives points appeared in the finished semester to get rid of these in the coming semester.

4. Processes for Verifying Standards of Student Achievement (eg. 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)

NA

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

Making of periodic meetings in the department to evaluate and follow up course quality and listening for the suggestions which could contribute in development of the course.