



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

جامعة حلوان

كلية العلوم

قسم الكيمياء

مرحلة الدراسات العليا

برنامج دكتوراه في الكيمياء العضوية

جامعة حلوان	
قسم الكيمياء	كلية العلوم
2016 – 2017	مرحلة تأهيلي دكتوراه
برنامج دكتوراه في الكيمياء العضويه	
منسق البرنامج: د / حنان بسيوني	
رئيس القسم المسئول عن البرنامج: أ.د/ وفاء غنيم شوشه	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٣)

جامعة:..... حلوان.....
كلية:..... العلوم.....
قسم:..... الكيمياء.....

توصيف برنامج دراسي
(عام)

أ - معلومات أساسية:

- ١ - إسم البرنامج: PhD degree in Organic Chemistry
- ٢ - طبيعة البرنامج: (أحادي)
- القسم المسنول عن البرنامج: قسم الكيمياء
- تاريخ إقرار البرنامج: ٢٠٠٩/١١ بقرار وزاري رقم ١٢٣٤
- تاريخ تعديل البرنامج: ٢٠١٠ /4/١٩ بقرار وزاري رقم ٧٢٠
- توصيف البرنامج : مجلس القسم رقم ٤ بتاريخ ٢٠١٧/١٢/١٣
و مجلس الكلية رقم ٤٤٠ بتاريخ ٢٠١٧/١٢/١٨
- ب- معلومات متخصصة:
١- الأهداف العامة للبرنامج :

1. General aims of the program:

The main and general aims of the doctoral program can be summarized as the following:

1. Provide students with the knowledge and skills necessary to conduct organic chemistry research in related fields.
2. Enable students to update and develop their expertise through acquiring knowledge and professional skills in organic chemistry.
3. Use modern technological and self-learning in the field of organic chemistry.
4. Provide students with the skills, ethics, and methodologies to serve the needs of the environment and society.
5. Provide graduates with the ethics of scientific research and the basics of quality in the study of organic and industrial chemistry.
6. Acquire student's skills of effective communication, integrity and credibility commitment.
7. Provide students with scientific skills of writing and publishing the research works in a scientific articles and conferences.

٢- مواصفات الخريج:

2- The Attributes of a typical Graduate:

A successful graduate of this program should be able to:

1. Acknowledge the basics of scientific research and methodologies.



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

2. Continue work on the addendum to the knowledge in the field of organic chemistry.
3. Apply analytical method and a critic of knowledge in the field of organic chemistry and related areas.
4. Integrate of specialized knowledge with the knowledge of the relationship to invent and develop of bilateral ties.
5. Show deep awareness of the ongoing problems and theories in the field of organic chemistry.
6. Identify problems and find a professional innovative solutions to solve them.
7. Master a wide range of professional skills in the field of organic chemistry synthesis.
8. Develop of new methods, tools and techniques to practice professional.
9. Use of appropriate technology to serve the professional practice.
10. Communicate effectively and lead the team to work in different professional contexts.
11. Make decision in light of available information.
12. Employe of available resources efficiently, develop and work to find new resources.
13. Perceive his role in the developing society and environment.
14. Commite continuous self-development and transfer of knowledge and expertise to others.

٣. المخرجات التعليمية المستهدفة من البرنامج:

3. Intended Learning Outcomes (ILOs):

١/٣ المعرفة والفهم:

a- Knowledge and Understanding:

By the end of the study of the Ph.D. program a graduate is expected to:

- A1. Understand the basics of organic chemistry underlying chemical reactions and the techniques used to achieve them and applied Organic chemistry and bioinformatics, which will be of particular importance to the pharmaceutical industry, biotechnology and medical analysis.
- A2. Follow-up and stand on the latest findings of scientific research in the field of organic chemistry.
- A3. Know the basics of scientific research in terms of commitment to the implementation of the research methodology and procedures in the manner that protects an innovative idea, research and commitment to the ethics of scientific research.
- A4. Recognize the importance of quality of performance in professional practice such as time management, employment of available resources, problem solving and independence, as well as the interpretation and critical awareness of the quality of evidence.
- A5. Apply the knowledge in professional practice in the field of organic chemistry in terms of experimental design, critical evaluation of the results and conclusions, and the use of computers to analyze and display the data to achieve comprehensive quality.
- A6. Understand the principles of professional ethics in the field of organic chemistry and the laws that govern and organized.
- A7. Choose the quality of papers accepted in the scientific community, which linked the problems of society and the environment.



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

٢/٣ القدرات الذهنية:

B. Intellectual skills:

By the end of the program the graduate is expected to:

- B1. Evaluate the information and analysis of problems specialist organic field and work to resolve them.
- B2. Find the solution formulation and testing of hypotheses using appropriate experimental design and statistical analysis of the data to solve problems.
- B3. Link Knowledge Bioinformatics ,Biotechnology and Applied bio chemistry & help solving problems in the professional field of Organic chemistry.
- B4. Design and planning, writing and management research program addresses the problem of research related to the field of specialization.
- B5. Identify Risk assessment, which may be exposed during professional practice in the industry.
- B6. Design Permanent scientific planning for the development of professional performance which can access to the highest quality.
- B7. Develop the intellectual awareness about the escalating problems at the interface between areas of chemistry, biology, medicine and physics.
- B8. Analyze search results using theories , statistical tests and the development of computer programs skills in the work of statistics , graphs and skills of results presentations.

٣/٣ المهارات:
١/٣/٣ - مهارات مهنية وعلمية:

Professional and Practical Skills :

By the end of the program the graduate is expected to:

- C1. Apply the basic professional skills for the practice of scientific research in the field of organic chemistry.
- C2. Be able to write and evaluate professional reports.
- C3. Criticize and evaluate existing methods and tools in the organic fields
- C4. Show the ability to prepare a proposal for research that serves the area of specialization and to cope with the changes at the regional and global levels.
- C5. Show independence and self-assertion and originality in tackling and solving problems, and work independently in planning and implementing tasks at the professional level.
- C6. Show the ability of self-assessment and measurement of quality control.

٢/٣/٣ - مهارات عامة :

D. General Skills.

The end of the study of the Ph.D. program graduate must be able to:

- D1. Communicate effectively and clearly through conferences, seminars, publications written and visual (posters).
- D2. Use of information technology to serve the professional practice.
- D3. Show the self-assessment and decision-making and identify learning needs that serve the choices in the area of specialization.
- D4. Identify the awareness of the importance of using modern methods and skills to obtain information from various sources, including libraries and databases and the Internet.
- D5. Develop criteria and indicators for assessing the performance of others and the ability to



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

design questionnaires.

D6. Show the ability to work in a team and acquire the spirit of cooperation and the ability to lead teams of various professional contexts.

D7. Identify the time management efficiently.

D8. Show the self-learning, continuous education, and professional advancement.

D9. Acquire the ability to think realistic and creative.

D10. Prepare and view the various topics using modern presentation techniques.

D11. Defend the efficient management of resources.

٤- المعايير الأكاديمية للبرنامج :

Academic Reference Standards (ARS) for Postgraduate doctoral degree of organic chemistry program.

General Standards: Graduate Ph.D. program in organic chemistry should be able to:

- Mastering the basics of scientific research and methodologies.
- Continuing work on the addendum to the knowledge in the field of Specialization.
- Apply analytical method and a critic of knowledge applied chemistry area and related areas.
- The integration of specialized knowledge with the knowledge of the relationship to invent and develop of bilateral ties.
- Show deep awareness of the ongoing problems and theories in the applied chemistry field.
- Identify problems and find a professional innovative solutions to solve them.
- Mastering a wide range of professional skills in the applied chemistry field.
- Trend towards the development of new methods, tools and techniques to practice professional.
- Use of appropriate technology to serve the professional practice.
- Communicate effectively and lead the team to work in different professional contexts.
- Decision-making in light of available information, employment of available resources efficiently, develop and work to find new resources.
- Perceive his role in the developing society and preserve the environment.



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

- Behave in a manner reflecting the commitment and integrity, credibility and rules of the profession.

- Commitment to continuous self-development and transfer of knowledge and expertise to others.

4.1. Knowledge and Understanding

The end of the study of the Ph.D. organic chemistry program a graduate must be able to understand and know each of:

- 1.Theories and fundamentals and modern knowledge in organic chemistry fields and related areas of learning
- 2.The basics and methodologies and the ethics of scientific research and its different means.
3. Ethical and Legal principles of professional practice in the appliedchemistry field.
- 4.The principles and fundamentals of quality in professional practice in appliedchemistry field.
5. Knowledge on the effects of professional practice on the environment and methods of development and maintenance of environment.

4.2 Intellectual Skills:

The end of the study of the Ph.D. Appliedchemistry program graduate must be able to:

- 1 - Analyse and evaluate the information in the appliedchemistry field and the measurement and extraction of it.
- 2 - Specialized problem-solving based on the available data.
- 3 - Conducting research studies add to the knowledge.
- 4 - The drafting of scientific papers.
- 5 - Risk assessment in professional practice.
- 6 - Planning to improve performance in the appliedchemistry field.
- 7 - Make career decisions in the different professional contexts.

8 -

Innovation / creativity.

- 9 - Dialogue and discussion based on evidence and proof.



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

4.3. Professional Skills.

The end of the study of the Ph.D. of applied chemistry program graduate must be able to:

- 1 - Mastering the basic professional skills and modern in the organic chemistry field.
- 2- Writing and evaluation of professional reports.
- 3 - Evaluation and development of methods and tools existing in the applied chemistry field
- 4 - Use of technological means to serve the professional practice.
- 5 - Planning for the development of professional practice and the development of the performance of others.

4.4. General Skills and Transferable.

The end of the study of the Ph.D. Applied chemistry program graduate must be able to:

- 1 - Effective communication of all kinds.
- 2 - Use information technology to serve the development of professional practice.
- 3 - Teaching others and evaluating their performance.
- 4 - Self-assessment and continuous learning.
- 5 - Use of different sources of information and knowledge.
- 6 - Working in the team and the leadership of teams.
- 7 - Management of scientific meetings and the ability to manage time.

مدى اتساق المعايير الأكاديمية المعتمدة من الهيئة (ARS) مع المعايير الأكاديمية التي اعتمدها البرنامج.

المعايير الأكاديمية المعتمدة من الهيئة (ARS)	المعايير الأكاديمية التي اعتمدها البرنامج	
(أ) النظريات و الأساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات العلاقة	Theories and fundamentals related to biochemistry field of learning as well as in related areas.	المعرفة و الفهم
(ب) التأثير المتبادل بين الممارسة المهنية وانعكاسها علي البيئة	Reciprocal influence between professional practice and its impacts on the environment.	
(ت) التطورات العلمية في مجال التخصص	Scientific developments in chemistry field of specialization.	
(ث) المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص.	Legal and ethical principles of professional practice in the analytical chemistry field.	
(ج) مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص.	The principles and basics of quality in professional practice in the field of specialization.	
(ح) أساسيات وأخلاقيات البحث العلمي.	Basics and ethics of scientific research.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

Analyze and evaluate information in the field of specialization and analogies to solve problems.	(أ) تحليل و تقييم المعلومات في مجال التخصص و القياس عليها لحل المشاكل.	المهارات الذهبية
Solve specialized problems with the non-availability of some data.	(ب) حل المشاكل المتخصصة مع عدم توافر بعض المعطيات.	
Link knowledge to solve various professional problems.	(ت) الربط بين المعارف المختلفة لحل المشاكل المهنية.	
Conduct a research study and / or writing a scientific methodological study on a research problem.	(ث) إجراء دراسة بحثية و/ أو كتابة دراسة علمية منهجية حول مشكلة بحثية.	
Risk assessment in professional practices in the chemistry field.	(ج) تقييم المخاطر في الممارسات المهنية في مجال التخصص.	
Planning to improve performance in the biochemistry field of specialization.	(ح) التخطيط لتطوير الأداء في مجال التخصص.	
Make career decisions in various professional contexts.	(خ) اتخاذ القرارات المهنية في سياقات مهنية متنوعة	
Master the basic and modern professional skills in the chemistry specialization.	أ- إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص	المهارات المهنية
Write and evaluate professional reports.	ب- كتابة و تقييم التقارير المهنية	
Evaluate methods and tools existing in the area of specialization.	ت- تقييم الطرق و الأدوات القائمة في مجال التخصص	
Effective communication of all kinds.	أ- التواصل الفعال بأنواعه المختلفة	المهارات العلمية
Use information technology to serve the professional practice.	ب- استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية	
Self-assessment and identify personal learning needs.	ت- التقييم الذاتي وتحديد احتياجاته التعليمية الشخصية	
Use different sources to obtain information and knowledge.	ث- استخدام المصادر المختلفة للحصول على المعلومات و المعارف	
Develop rules and indicators for assessing the performance of others.	ج- وضع قواعد ومؤشرات تقييم أداء الآخرين	
Work in teams and lead teams in various professional contexts.	ح- العمل في فريق ، وقيادة فرق في سياقات مهنية مختلفة	
Time management efficiency.	خ- إدارة الوقت بكفاءة	
Self-learning and ongoing	د- التعلم الذاتي و المستمر	

٥- العلامات المرجعية:

5. Benchmarks:

1. Guide book for postgraduate education.
2. Comparison of provision to external references.

٦- هيكل ومكونات البرنامج:



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

6. Curriculum structure and contents:

6.a- Programme duration:

Full-time: Minimum: 2 essential semesters

Maximum: 4 essential semesters

6.b- Programme structure:

Total: 24 credit hours (18 credit hours compulsory, 6 credit hours elective).

أ- مدة البرنامج: حد ادنى ٢ فصل دراسي / حد اقصى ٤ فصول دراسية (طبقا للائحة الدراسات العليا).

ب- هيكل البرنامج:

□ عدد الساعات/ عدد الوحدات : 24 نظري إجمالي 24

□ مقررات العلوم الأساسية:	18	□ 75 %
□ مقررات العلوم الإجتماعية والإنسانية:	0	□ 0 %
□ مقررات علوم التخصص:	6	□ 25 %
□ مقررات من علوم أخرى (حاسب آلي)	0	□ 0 %

التدريب الميداني: لا يوجد تدريب ميداني لطلاب الدراسات العليا.

ج- مستويات البرنامج (في نظام الساعات المعتمدة):

المستوى الأول / السنة الأولى : يلزم اجتياز 24 وحدة موزعة كالتالي:

إلزامي: ١٨ وحدة إختياري: ٦ وحدة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

دمقررات البرنامج:

أ- إلزمي:

كود أو رقم المقرر	إسم المقرر	عدد الوحدات	عدد الساعات الأسبوعية			الفرقة والمستوى	الفصل الدراسي
			نظري	تمارين	عملي		
701 C	Design, synthesis and structure elucidation of target heterocyclic systems	٣	٣			تأهيلي دكتوراه	الاول
702 C	Chemistry of natural products	٣	٣			تأهيلي دكتوراه	الاول
703 C	Chemistry of Polymers	٣	٣			تأهيلي دكتوراه	الاول
707 C	Biosurfactants	٣	٣			تأهيلي دكتوراه	الثاني
708 C	Textiles and Dying Technology	٣	٣			تأهيلي دكتوراه	الثاني
709 C	Nanocomposites	٣	٣			تأهيلي دكتوراه	الثاني

ب- إختيارى:

كود أو رقم المقرر	إسم المقرر	عدد الوحدات	عدد الساعات الأسبوعية			الفرقة والمستوى	الفصل الدراسي
			نظري	تمارين	عملي		
704 E	Bio-organic chemistry	٣	٣			تأهيلي دكتوراه	الاول
705 E	Chemistry of textiles and Dyes	٣	٣			تأهيلي دكتوراه	الاول
706 E	Chemistry of Alkaloids	٣	٣			تأهيلي دكتوراه	الاول
710 E	Nanotechnology	٣	٣			تأهيلي دكتوراه	الثاني
711 E	Physical–Organic Chemistry and Chemical Reaction Mechanisms	٣	٣			تأهيلي دكتوراه	الثاني



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

712 E	Metallo-organic chemistry	٣	٣			تأهيلي دكتوراه	الثاني
-------	---------------------------	---	---	--	--	-------------------	--------

٦- محتويات المقررات:

ينظر بمحتوى توصيف المقررات

٧- متطلبات الإلتحاق بالبرنامج:

To be admitted to the organic chemistry Program, the candidate must hold a master Degree in Science from any Egyptian University or any Equivalent and Recognized degree from the Supreme Council of Universities.

٨- القواعد المنظمة لإستكمال بالبرنامج:

For the award of Ph.D of Science, The students should:

1. Achieve a total minimum of 60 credit hours with minimum GPA of 2.33, including the completion of PhD thesis.
2. Pass the level of language and computer course successfully in accordance with the rules prescribed by University Council.
3. Have at least two papers extracted from the thesis and accepted for publication in one of the reference periodicals.

Grading System:

The final overall marks determine the degree classification as follows:

Grade	Percentage	Points
A	95 – 100 %	4.00
A ⁻	90 - > 95 %	3.67
B ⁺	85 - > 90 %	3.33
B	80 - > 85 %	3.00
B ⁻	75 -> 80 %	2.67
C ⁺	70 – > 75 %	2.33
C	65 - > 70 %	2.00
C ⁻	60 - > 65 %	1.67



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

D ⁺	55 - > 60 %	1.33
D	50 - > 55 %	1.00
F	> 50 %	0.00

٩- طرق وقواعد تقييم الملتحقين بالبرنامج:

ماتقيسة من الخرجات التعليمية المستهدفة	الطريقة
مدى استيعاب الدارس وتقدمه فى التعلم	١- امتحان بينى
مقدار التحصيل والفهم والتقدم وقدرته على التحليل والاستنتاج ومواكبة التقدم فى المجال	٢- أعمال فصلية
١ . قدرة الدارس على الفهم والتحليل والاستنتاج وحل المشكلات ٢ . المعرفة والفهم- القدرات الذهنية- مهارات عامه. a1, a2, b1, b2, b6, d4 and d6	٣- امتحان تحريرى

٩- طرق تقويم البرنامج:

ماتقيسة من الخرجات التعليمية المستهدفة	النسبة من الدرجات الكلية	الطريقة
مرحلة التاهيلي		
المعرفة و الفهم- القدرات الذهنية- المهارات المهنية- المهارات العامة	٤٠%	١- أعمال فصلية
المعرفة و الفهم - القدرات الذهنية	٦٠%	٢- امتحان تحريرى
الرسالة البحثية		
المعرفة و الفهم- القدرات الذهنية- المهارات المهنية- المهارات العامة- القدرات الذهنية	الموافقه علي التسجيل لدرجة الدكتوراه	١- عمل سيمينار قبل التسجيل
المعرفة و الفهم- القدرات الذهنية- المهارات المهنية- المهارات العامة- القدرات الذهنية	منح درجة الدكتوراه	٢- تقرير سنوي من المشرفين علي الرسالة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

المعرفة و الفهم- القدرات الذهنيه- المهارات المهنيه- المهارات العامه-القدرات الذهنيه	منح درجه الدكتوراه	٣- عمل سيمينار قبل المناقشه
المعرفة و الفهم- القدرات الذهنيه- المهارات المهنيه- المهارات العامه-القدرات الذهنيه	منح درجه الدكتوراه	٤- عرض الرساله و المناقشه امام لجنة الحكم و المناقشهز

رئيس القسم العلمى:

التاريخ:

مسؤل عن البرنامج:

٢٠١٧

د/ حنان بسيوني احمد



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

جامعة حلوان

كلية العلوم

قسم الكيمياء

مرحلة الدراسات العليا

(عام 2016 / 2017)

برنامج دكتوراه في الكيمياء العضوية



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٣)

نموذج رقم (١١ب)

جامعة: حلوان.
كلية: العلوم.
قسم: الكيمياء.

Doctoral degree of organic chemistry	مسمى البرنامج
--------------------------------------	---------------

(أ) مصفوفة المعارف و المهارات المستهدفة في مقابل المعايير الأكاديمية القياسية

		المعارف والمفاهيم							القدرات الذهنية								مهارات مهنية						مهارات عامة										
ARS for doctoral diploma of organic chemistry		A 1	A 2	A 3	A 4	A 5	A 6	A 7	B 1	B 2	B 3	B 4	B 5	B 6	B 7	B 8	C 1	C 2	C 3	C 4	C 5	C 6	D 1	D 2	D 3	D 4	D 5	D 6	D 7	D 8	D 9	D 10	D 11
Knowledge and Understanding	Theories and fundamentals and specialized knowledge in the field of learning as well as the sciences related to the professional practice.	x	x	x	x		x		x	x	x	x		x		x		x		x		x		x		x		x		x		x	
	The ethical and legal principles of professional practice in the field of specialization.		x			x	x					x	x		x				x				x				x				x		x
	The principles and basics of quality of professional practice in the field of specialization	x		x				x	x	x						x		x	x	x	x	x	x			x		x			x		x



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١) (ب)

Doctoral degree organic chemistry

مسمى البرنامج

جامعة : ... حلوان....
كلية : ... العلوم.....
قسم : ... الكيمياء.....

(ب) مصفوفة مخرجات التعلم في مقابل المقررات الدراسية

المقررات الدراسية	كود المقرر	المعارف والمفاهيم				القدرات الذهنية						مهارات مهنية			مهارات عامة					
		A 1	A 2	A 3	A 4	B 1	B 2	B 3	B 4	B 5	B 6	C 1	C 2	C 3	D 1	D 2	D 3	D 4	D 5	D 6
Design, synthesis and structure elucidation of target heterocyclic systems.	701 C	x	x			x		x	x	x		x	x			x	x	x		
Chemistry of natural products	702 C	x	x		x		x	x			x		x			x				
Chemistry of Polymers	703 C	x		x		x		x					x	x		x				x
Biosurfactants	707 C	x		x		x			x	x			x			x			x	
Textiles and Dying	708 C	x	x	x			x			x	x	x				x			x	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

Technology																					
Nanocomposites	709 C	x	x	x			x		x			x				x	x				
Bio-organic chemistry	704 E	x			x	x				x			x				x			x	
Chemistry of textiles and Dyes	705 E		x		x				x	x	x			x	x	x	x			x	x
Chemistry of Alkaloids	706 E	x		x		x				x			x		x		x			x	
Nanotechnology	710 E		x		x	x				x				x			x	x	x		
Physical–Organic Chemistry and Chemical Reaction Mechanisms	711 E			x	x				x			x		x			x	x			
Metallo-organic chemistry	712 E	x	x		x		x	x	x					x			x			x	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١ب)

Doctoral degree organic chemistry

مسمى البرنامج

جامعة : ... حلوان....
كلية : ... العلوم.....
قسم : ... الكيمياء.....

(ج) مصفوفة المعارف و المهارات المستهدفة في مقابل أهداف البرنامج

الأهداف العامة للبرنامج General aims of the program	المعارف والمفاهيم				القدرات الذهنية						مهارات مهنية			مهارات عامة						
	A 1	A 2	A 3	A 4	B 1	B 2	B 3	B 4	B 5	B 6	C 1	C 2	C 3	D 1	D 2	D 3	D 4	D 5	D 6	
1. Provide students with the knowledge and skills necessary to conduct organic chemistry research in related fields.	x	x			x					x		x	x				x	x		x
2. Enable students to update and develop their expertise through acquiring knowledge and professional skills in organic chemistry.	x	x		x		x	x			x		x	x		x					x
3. Use modern technological and self-learning	x		x		x		x		x			x	x		x		x			x



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١) (ب)

Doctoral degree organic chemistry

مسمى البرنامج

جامعة : ... حلوان....
كلية : ... العلوم.....
قسم : ... الكيمياء.....

(د) مصفوفة المعارف و المهارات المستهدفة في مقابل مواصفات الخريج

مواصفات الخريج Graduate attributes	المعارف والمفاهيم				القدرات الذهنية						مهارات مهنية			مهارات عامة					
	A 1	A 2	A 3	A 4	B 1	B 2	B 3	B 4	B 5	B 6	C 1	C 2	C 3	D 1	D 2	D 3	D 4	D 5	D 6
A successful graduate of this program should be able to:																			
1. Acknowledge the basics of scientific research and methodologies.	x	x		x	x		x		x		x	x				x	x		x
2. Continue work on the addendum to the knowledge in the field of organic chemistry.	x	x		x		x	x			x		x			x		x		x
3. Apply analytical method and a critic of knowledge in the field of organic	x		x		x		x		x	x		x	x		x			x	x



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

chemistry and related areas.																			
4. Integrate of specialized knowledge with the knowledge of the relationship to invent and develop of bilateral ties.	x		x	x	x		x		x			x	x		x		x		x
5. Show deep awareness of the ongoing problems and theories in the field of organic chemical analysis.	x	x	x		x			x	x	x	x		x		x		x		x
6. . Identify problems and find a professional innovative solutions to solve them.	x	x	x			x		x			x		x	x	x			x	x
7. Master a wide range of professional skills in the field of organic chemical analysis.			x		x		x			x	x		x	x		x	x		x
8. Develop of new methods, tools and techniques to practice professional.	x				x			x		x		x		x		x		x	x
9. Use of appropriate technology to serve the professional practice.	x			x		x			x		x		x			x		x	x
10. Communicate effectively and lead the		x			x		x			x		x	x		x		x		x



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

team to work in different professional contexts.																				
11.Make decision in light of available information.	x				x				x	x		x	x		x	x		x		
12.Employ of available resources efficiently, develop and work to find new resources.															x	x			x	x
13.Perceive his role in the developing society and environment.	x	x			x									x				x	x	x
14.Committee continuous self-development and transfer of knowledge and expertise to others.	x				x									x	x					x



Faculty of Science



وحدة ضمان
الجودة

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences

<p>A- Faculty of Science, Helwan University, is a governmental educational institution working aiming to prepare a scientifically distinguished graduate, who is able to compete on the level of national and regional work market via offering unique academic programs in the field of basic and applied sciences, according to the national quality standards.</p>																			
<p>Mission:</p> <p>B- Moreover, the faculty aims to produce scientific research and studies for the construction of advanced research and technological data base, and thus actively participate in serving and improvement of the society nationally and regionally.</p>	x		x		x		x	x		x	x		x	x		x	x		
<p>Goals of the Faculty</p> <p>Goal (1): Creating a typical learning and teaching environment centered basically to build the student personality scientifically, socially, culturally.</p>	x		x	x	x				x	x			x	x		x	x		
<p>Goal (2): Creating elegant cadres both academically and professionally in the fields of science, in consistence with the needs of the work market.</p>	x		x		x		x		x	x	x		x	x	x	x	x		x



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١ب)

Doctoral degree organic chemistry	مسمى البرنامج
-----------------------------------	---------------

جامعة : ... حلوان....
كلية : ... العلوم.....
قسم : ... الكيمياء.....

(و) مصفوفة أساليب التعليم و التعلم المتبناة في مقابل المقررات الدراسية للبرنامج

المقررات الدراسية	كود المقرر	Course code				Lecures						Group Discussion			Problem solving					
		A 1	A 2	A 3	A 4	B 1	B 2	B 3	B 4	B 5	B 6	C 1	C 2	C 3	D 1	D 2	D 3	D 4	D 5	D 6
Design, synthesis and structure elucidation of target heterocyclic systems.	701 C	x	x			x		x	x	x		x	x	x	x	x	x	x		x
Chemistry of natural products.	702 C	x	x		x		x	x			x		x				x		x	x
Chemistry of Polymers	703 C	x		x		x		x		x			x	x	x	x		x	x	
Biosurfactants	707 C	x		x		x			x	x			x				x		x	x
Textiles and Dying Technology	708 C	x	x	x		x	x			x	x	x				x	x		x	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

Nanocomposites	709 C	x	x	x			x		x		x		x		x		x		x		x				
Bio-organic chemistry	704 E	x			x	x				x			x				x				x				
Chemistry of textiles and Dyes	705 E		x		x				x	x	x	x		x	x	x	x				x	x			
Chemistry of Alkaloids	706 E	x		x		x				x		x		x	x	x					x				
Nanotechnology	710 E		x		x	x				x		x		x							x	x	x		x
Physical–Organic Chemistry and Chemical Reaction Mechanisms	711 E		x	x	x					x			x		x										x
Metallo-organic chemistry	712 E	x	x		x		x	x	x		x		x												x

رئيس مجلس القسم العلمى: ا.د. / وفاء شوشة

منسق البرنامج: د.حنان بسيوني احمد



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

جامعة حلوان	
قسم الكيمياء	كلية العلوم
2016 – 2017	مرحلة تأهيلي دكتوراه
برنامج دكتوراه في الكيمياء العضويه	
منسق البرنامج: د / حنان بسيوني	
رئيس القسم المسئول عن البرنامج: أ.د/ وفاء غنيم شوشه	

توصيف مقررات برنامج الدكتوراه في

الكيمياء العضوية

٢٠١٦- ٢٠١٧

Courses Specification

Doctoral degree in organic Chemistry



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

توصيف مقرر دراسي

١- بيانات المقرر		
الفرقة / المستوى : pre-PhD course (First term), (2016-2017)	اسم المقرر : Design, synthesis and structure elucidation of target heterocyclic systems	الرمز الكودي : 701c
نظري ٣ عملي	عدد الوحدات الدراسية : نظري ٣ عملي	التخصص: كيمياء عضوية
- To provide rules and approaches for designing heterocyclic systems of medicinal, pharmaceutical & biological activity - To give knowledge of the utility of heterocyclic chemistry to design precursors for dyes, polymers, bio-active sensors as well as compounds with biological & pharmaceutical activities. - to broaden the scientific background for research work, technological development & solving problems		٢- هدف المقرر :
٣- المستهدف من تدريس المقرر :		
- Graduate doctoral's program in organic chemistry should be able to: 1- Show mastering the basics and methodologies of scientific research, design specialized protocols, identify professional problems and find solutions. ٢- Show awareness in the development of society, communicate effectively & the ability to lead teams. ٣- Self-development & continuous learn		
a1. Describe the classification, occurrence, nomenclature of heterocycles a2. Identify aromaticity of heterocyclic compounds, π - excessive, π – deficient molecules . a3. Identify the chemical reactivity of five membered heterocycles, their acidic and basic properties, electrophilic and nucleophilic properties, and their synthesis. a4. Identify the reactivity, synthesis of some fused five membered heterocycles . a5. Define how the structure of six membered heterocycles, and explain their reactivity toward electrophiles and nucleophiles, and describe the synthesis of their rings . a6. Define the synthesis, physical, chemical properties of some fused six membered heterocycles , quinoline, isoquinoline, coumarin. a7. Identify the structure, chemical, physical properties, and synthesis of heterocyclic compounds containing two or more hetero atoms, azoles. a8. Describe the structure, reactivity, synthesis of fused azoles, benzoimidazole, benzoxazole, benzothiazole a9. Define the chemical and physical properties of six membered heterocycles		أ- المعلومات و المفاهيم :



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

with two hetero atoms, azines and their fused rings.	
<p>b₁. Identify the rules in nomenclature of heterocyclic compounds</p> <p>b₂. Describe Combination between the chemical structure of heterocyclic compounds and their reactivity .</p> <p>b₃. Define the synthetic bath of the given heterocyclic compounds .</p> <p>b₄. Identify different classes of heterocyclic compounds .</p>	ب – المهارات الذهنية :
<p>c₁- Identify mastering the basics of scientific research and modern professional skills.</p> <p>c₂- Design the strategic synthetic protocols and evaluate professional reports.</p> <p>c₃- Describe the develop the ability to investigate and achieve knowhow of industrial products and evaluate methods & tools existing in the area of the proposed project.</p>	ج – المهارات المهنية الخاصة بالمقرر :
<p>d₁. Learning by a combination of lectures and textbooks.</p> <p>d₂. Time planning; working towards deadlines.</p> <p>d₃. Biochemical skills and problem identification/solving.</p> <p>d₄. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.</p> <p>d₅. Time-management, self-study, problem solving.</p>	د – المهارات الهامة :
<p>1- Disconnection rules: Carbon- carbon, carbon- heteroatom disconnection</p> <p>2- Formation of C-C bond. Formation of C-heteroatom bonds</p> <p>3- Strategies for designing a synthetic scheme for the target system: Application of disconnection approach and advanced reaction mechanisms</p> <p>4- Elucidation of structure: Elemental micro analyses (C, H, N, S), spectral studies (IR, UV, ¹H NMR ¹³C NMR, MS)</p> <p>5- Nomenclature rules: Fused-, substituted, bridgehead-spiro-cage systems</p> <p>6- Application of disconnection- synthon synthetic equivalents approach in solution of synthetic problems</p> <p>7- Heterocyclic systems in applied chemistry as pharmaceuticals , as agrochemicals, in photographic and reprographic techniques, as dye precursors</p>	٤- محتوى المقرر :
<p>- Lectures</p> <p>- oral Discussion</p> <p>-Assignments and reports</p>	٥- اساليب التعليم و التعلم
<p>- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها</p> <p>- تكليفهم بمهام او ابحاث اضافية</p>	٦- أساليب التعليم و التعلم للطلاب ذوى القدرات المحدودة
	٧- تقويم الطلاب :
<p>Written exam to assess (short essay and MCQ).</p> <p>-Mid-Term exam to assess to assess proceeding in learning</p> <p>-Final-Term exam ...to assess knowledge and understanding problem solving.</p> <p>-Oral Exam to assess ability to understand knowledge.</p>	أ- الأساليب المستخدمة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

Assessment 1 Oral exam Week ... during the entire course. Assessment 2 ... Mid-Term exam Week9..... Assessment 3..... Final exam Week : to be decided by general exam	ب - التوقيت
<ul style="list-style-type: none">• Mid-Term exam 10 %• Final-Term exam 70 %• Oral exam 5 %• Semester Work 5 % <p>Total 100%</p>	ج - توزيع الدرجات
٨- قائمة الكتب الدراسية و المراجع :	
لا يوجد	أ- مذكرات
<ul style="list-style-type: none">- Heterocyclic fragmentation of organic molecules, Tse-Lok HO; John Wiley & sons, New York, Ny.- Heterocyclic chemistry. John A. Joule & Keith Mills.- The Literature of heterocyclic chemistry, VIII, 1999-2001/- Advances in heterocyclic chemistry, 87, 2004, pages 1-83, L. 1. BeleN'Kii, V.N. Garments kaya	ب- كتب ملزمة
<ul style="list-style-type: none">- Comprehensive heterocyclic chemistry , III, 2008. chapter 11.05, pages 199-305, J. Marco-contelles, E. Perez- Mayoral, P. Ballesteros.- The organic chemistry of drug design & drug action. R. B. Silverman, academic press sandiego, CA	ج- كتب مقترحة
<ul style="list-style-type: none">- Chemical Abstracts (C. A)- IL Formica, Bio-organic & Medicinal chem..- J. Org. chem..- Heterocyclic chem..- Comprehensive heterocyclic chemistry- Science direct. Com-www.Elsevier. com	د- دوريات علمية أو نشرات ... إلخ

رئيس القسم العلمي اد وفاء غنيم شوشه

أستاذ المادة اد هدي زكي شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Design, synthesis and structure elucidation of target heterocyclic systems	مسمى المقرر
701C	كود المقرر

جامعة / أكاديمية : ...حلوان.....
كلية / معهد : ...العلوم.....
قسم :الكيمياء.....

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

مهارات عامة	مهارات مهنية	المهارات الذهنية	المعارف الرئيسية	أسبوع الدراسة	المحتويات للمقرر
d1, d2, d3	c1, c2	b1, b3	a1 a5, a6	1	Disconnection rules:Carbon- carbon, carbon-heteroatom disconnection
d1, d2, d4, d5	c1, c2	b1, b2	a1, a4	2-3	Formation of C-C bond. Formation of C-heteroatom bonds
d2, d3, d4	c1	b2, b3	a3, a4, a7	4-5	Strategies for designing a synthetic scheme for the target system: Application of disconnection approach and advanced reaction mechanisms
d1, d2, d3, d5	c2	b2, b4	a4, a9	6-7	Elucidation of structure: Elemental micro analyses (C, H, N, S), spectral studies (IR, UV, 1H NMR 13C NMR, MS)
d1, d4	c2	b1, b3	a1, a2, a8	8-9	Nomenclature rules: Fused-, substituted, bridgehead-spiro-cage systems
d1, d3, d4	c1, c2	b1, b3, b4	a1, a6, a9	10-11	Application of disconnection- synthon synthetic equivalents approach in solution of synthetic problems
d1, d3	c1, c2	b2	a6, a8	12-13	Heterocyclic systems in applied chemistry as pharmaceuticals , as agrochemicals, in photographic and reprographic techniques, as dye precursors

رئيس مجلس القسم العلمي: ا.د/ وفاء غنيم شوشة

أستاذ المقرر: ا.د/ هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Design, synthesis and structure elucidation of target heterocyclic systems	مسمى المقرر
701C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقويم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	المعلومات والمفاهيم
X	X	X	a1. Describe the classification, occurrence, nomenclature of heterocycles	
X		X	a2. Identify aromaticity of heterocyclic compounds, π - excessive, π – deficient molecules .	
X	X	X	a3. Identify the chemical reactivity of five membered heterocycles, their acidic and basic properties, electrophilic and nucleophilic properties, and their synthesis.	
X	X	X	a4. Describe the reactivity, synthesis of some fused five membered heterocycles .	
X		X	a5. Define how the structure of six membered heterocycles, and explain their reactivity toward electrophiles and nucleophiles, and describe the synthesis of their rings .	
		X	a6. Describe the synthesis, physical, chemical properties of some fused six membered heterocycles , quinoline, isoquinoline, coumarin.	
X		X	a7. Identify the structure, chemical, physical properties, and synthesis of heterocyclic compounds containing two or more hetero atoms, azoles.	
X		X	a8. Define the structure, reactivity, synthesis of fused azoles, benzoimidazole, benzoxazole, benzothiazole	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

X		X	a9. Describe the chemical and physical properties of six membered heterocycles with two hetero atoms, azines and their fused rings.	المهارات الذهنية
X	X	X	b ₁ . Identify the rules in nomenclature of heterocyclic compounds	
X		X	b ₂ . Describe Combination between the chemical structure of heterocyclic compounds and their reactivity .	
X	X	X	b ₃ . Define the synthetic bath of the given heterocyclic compounds .	
	X	X	b ₄ . Identify different classes of heterocyclic compounds .	
X	X	X	c1- define the mastering the basics of scientific research and modern professional skills.	المهارات المهنية
X	X	X	c2- Design the strategic synthetic protocols and evaluate professional reports.	
X	X	X	c3- Ascribe The Develop the ability to investigate and achieve knowhow of industrial products and evaluate methods & tools existing in the area of the proposed project.	
			d1. Learning by a combination of lectures and textbooks.	المهارات العامة
	X		d2. Time planning; working towards deadlines.	
	X		d3. Biochemical skills and problem identification/solving.	
	X		d4. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge	
	X		d5. Time-management, self-study, problem solving.	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Design, synthesis and structure elucidation of target heterocyclic systems	مسمى المقرر
701C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	المعلومات والمفاهيم
	X	X	X	a ₁ . Describe the classification, occurrence, nomenclature of heterocycles	
	X		X	a ₂ . Identify aromaticity of heterocyclic compounds, π - excessive, π – deficient molecules .	
X	X	X	X	a ₃ . Describe the chemical reactivity of five membered heterocycles, their acidic and basic properties, electrophilic and nucleophilic properties, and their synthesis.	
X	X	X	X	a ₄ . Identify the reactivity, synthesis of some fused five membered heterocycles .	
		X	X	a ₅ . Define how the structure of six membered heterocycles, and explain their reactivity toward electrophiles and nucleophiles, and describe the synthesis of their rings .	
X		X	X	a ₆ . Describe the synthesis, physical, chemical properties of some fused six membered heterocycles , quinoline, isoquinoline, coumarin.	
X		X	X	a ₇ . Identify the structure, chemical, physical properties, and synthesis of heterocyclic compounds containing two or more hetero atoms, azoles.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

X		X	X	a8. Describe the structure, reactivity, synthesis of fused azoles, benzoimidazole, benzoxazole, benzothiazole	
X			X	a9. Identify the chemical and physical properties of six membered heterocycles with two hetero atoms, azines and their fused rings.	
X	X	X	X	b1. Identify the rules in nomenclature of heterocyclic compounds	المهارات الذهنية
X	X	X	X	b2. Describe Combination between the chemical structure of heterocyclic compounds and their reactivity .	
X	X	X	X	b3. Define the synthetic bath of the given heterocyclic compounds .	
X		X	X	b4. Identify different classes of heterocyclic compounds .	
		X	X	c1- Show mastering the basics of scientific research and modern professional skills.	المهارات المهنية
		X	X	c2- Design the strategic synthetic protocols and evaluate professional reports.	
		X	X	c3- The Develop the ability to investigate and achieve knowhow of industrial products and evaluate methods & tools existing in the area of the proposed project.	
	X			d1. Learning by a combination of lectures and textbooks.	المهارات العامة
X		X		d2. Time planning; working towards deadlines.	
	X			d3. Biochemical skills and problem identification/solving.	
	X	X		d4. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge	
X		X		d5. Time-management, self-study, problem solving.	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

توصيف مقرر دراسي

بيانات المقرر الدراسي	
اسم المقرر Chemistry of Natural Products	الرمز الكودي : 702c
عدد الوحدات الدراسية: نظري ٣ عملي - ، الفرقة /المستوى : دكتوراه	التخصص : كيمياء عضويه
1. To provide an introduction of chemistry and synthesis of natural product and establish a basis for further study of advanced topics in natural product . 2. Give knowledge and understanding of classification, nomenclature, physical, and chemical properties of natural product . 3. Introduce the main synthetic procedures of natural product systems and their biological importance.	٢- هدف المقرر :
٣- المستهدف من تدريس المقرر :	
a1. Identify the advances of chemistry and synthesis of natural product and establish a basis for further study of advanced topics in natural product . a2. Describe some knowledge and understanding of classification , nomenclature, physical, and chemical properties of natural product. a3. Describe the practical skills in the associated laboratory course.	أ- المعلومات و المفاهيم :
b ₁ . Define the classification, occurrence, nomenclature of natural product b ₂ . Describe the natural product as drugs . b ₃ . Identify the chemical structure of lipids (fatty acids and phospholipids) b ₄ . Identify the chemical structure of terpenes (monoterpenes, polyterpenes). b ₅ . Identify the chemical structure of vitamins. b ₆ . Identify the chemical structure of steroids. b ₇ . Describe the chemical structure of alkaloids.	ب - المهارات الذهنية :
c1. Define the Combination between the chemical structure of natural products and their reactivity. c2. Describe the synthetic bath of the given natural product c3. Identify different classes of natural product.	ج - المهارات المهنية الخاصة بالمقرر :
d ₁ . The use of laboratory equipments in organic chemistry experiments	د - المهارات الهامة :



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

<p>1- Synthesis nomenclature, isolation, reactivity structure elucidation and applications of natural products of plant, animal or microbial origin and their synthetic analogues</p> <p>2- Alkaloids: Ornithines : tropane, pyrrolidine, pyrrolizidine. Tyrosines: benzyl isoquinoline. Tryptophanes: indole, quinoline pyridine lysine quinolizidine, piperidine</p> <p>3- Terpenes and terpenoids, Hemiterpenes, monoterpenes, sesquiterpenes, diterpenes: triterpenes common triterpenes, sterols saponins tetraterpenes: carotenoids, polyterpenes</p> <p>4- Flavonoids, coumarins, tannins and quinones</p> <p>5- Amino acids and peptides Polypeptides naturally occurring peptides peptide hormones, peptide antibiotics, growth factors</p>	<p>٤- محتوى المقرر :</p>																				
<p>- Lectures using Data show</p> <p>- Discussion sessions</p> <p>-Assignments and reports</p>	<p>٥- أساليب التعليم و التعلم</p>																				
<p>- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها</p> <p>- تكليفهم بمهام او ابحاث اضافية</p>	<p>٦- أساليب التعليم و التعلم للطلاب ذوى القدرات المحدودة</p>																				
<p>٧- تقويم الطلاب :</p>																					
<p>Written exam to assess (short essay and MCQ).</p> <p>-Mid-Term exam to assess to assess proceeding in learning</p> <p>-Final-Term exam ...to assess knowledge and understanding problem solving.</p> <p>-Oral Exam to assess ability to understand knowledge.</p>	<p>أ- الأساليب المستخدمة</p>																				
<p>Assessment 1 Oral exam Week ... during the entire course.</p> <p>Assessment 2 ... Mid-Term exam Week9.....</p> <p>Assessment 4..... Final exam Week : to be decided by general exam</p>	<p>ب - التوقيت</p>																				
<table border="0"> <tr> <td>Mid-Term exam</td> <td>10</td> <td>%</td> <td>•</td> </tr> <tr> <td>Final-Term exam</td> <td>70</td> <td>%</td> <td>•</td> </tr> <tr> <td>Oral exam</td> <td>5</td> <td>%</td> <td>•</td> </tr> <tr> <td>Semester Work</td> <td>5</td> <td>%</td> <td>•</td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td>100%</td> </tr> </table>	Mid-Term exam	10	%	•	Final-Term exam	70	%	•	Oral exam	5	%	•	Semester Work	5	%	•	Total			100%	<p>ج - توزيع الدرجات</p>
Mid-Term exam	10	%	•																		
Final-Term exam	70	%	•																		
Oral exam	5	%	•																		
Semester Work	5	%	•																		
Total			100%																		
<p>٨- قائمة الكتب الدراسية و المراجع :</p>																					
<p>لا يوجد</p>	<p>أ- مذكرات</p>																				
<p>Textbook of natural product</p>	<p>ب- كتب ملزمة</p>																				
	<p>ج- كتب مقترحة</p>																				
<p>- Journal of chemical education (http://jchemed.chem.wisc.edu/index.html).</p>	<p>د- دوريات علمية أو نشرات ... إلخ</p>																				

رئيس مجلس القسم العلمي: ا.د/ وفاء غنيم شوشة

أستاذ المقرر: ا.د/ محمد صالح



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Chemistry of natural products	مسمى المقرر
702C	كود المقرر

جامعة / أكاديمية : ...حلوان.....
كلية / معهد : ...العلوم.....
قسم : ...الكيمياء.....

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	المهارات الذهنية	مهارات مهنية	مهارات عامة
Synthesis nomenclature, isolation, reactivity structure elucidation and applications of natural products of plant, animal or microbial origin and their synthetic analogues	1-3	a1 a5, a6	b1, b4	c1, c2	d1
Alkaloids: Ornithines : tropane, pyrrolidine, pyrrolizidine. Tyrosines: benzyl isoquinoline. Tryptophanes: indole, quinoline pyridine lysine quinolizidine, piperidine	4-6	a1, a4	b1, b2, b5	c1, c3	d1
Terpenes and terpenoids, Hemiterpenes, monoterpenes, sesquiterpenes, diterpenes: triterpenes common triterpenes, sterols saponins tetraterpenes: carotenoids, polyterpenes	7-9	a3, a4, a7	b2, b3, b4	c2	d1
Flavonoids, coumarins, tannins and quinones	10	a4, a9	b2, b7	c2, c3	d1
Amino acids and peptides Polypeptides naturally occurring peptides peptide hormones, peptide antibiotics, growth factors	11-13	a1, a2, a8	b1, b3, b6	c2, c3	d1

رئيس مجلس القسم العلمي: ا.د/ وفاء غنيم شوشة

أستاذ المقرر: ا.د/ محمد صالح



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Chemistry of Natural Products	مسمى المقرر
702C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم : الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقويم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X	a1. Identify the advances of chemistry and synthesis of natural product and establish a basis for further study of advanced topics in natural product .	المعلومات والمفاهيم
X		X	a2. Describe some knowledge and understanding of classification , nomenclature, physical, and chemical properties of natural product.	
X	X	X	a3. Identify practical skills in the associated laboratory course.	
X	X	X	b1. Describe the classification, occurrence, nomenclature of natural product	المهارات الذهنية
X		X	b2. Identify the natural product as drugs .	
X	X	X	b3. Describe the chemical structure of lipids (fatty acids and phospholipids)	
	X	X	b4. Identify the chemical structure of terpenes (monoterpenes, polyterpenes).	
	X	X	b5. Show the chemical structure of vitamins.	
X		X	b6. Show the chemical structure of steroids.	
X		X	b7. Show the chemical structure of alkaloids	
X	X	X	c1. Combine between the chemical structure of natural products and their reactivity.	المهارات المهنية
X	X	X	c2. Demonstrate the synthetic bath of the given natural product	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

X	X	X	c3. Identify different classes of natural product.	
			d1. The use of laboratory equipments in organic chemistry experiments	المهارات العامة

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Chemistry of Natural Products	مسمى المقرر
702C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	
	X	X	X	a1. Identify the advances of chemistry and synthesis of natural product and establish a basis for further study of advanced topics in natural product .	المعلومات والمفاهيم
	X		X	a2. Describe some knowledge and understanding of classification , nomenclature, physical, and chemical properties of natural product.	
X	X	X	X	a3. Describe practical skills in the associated laboratory course.	
X	X	X	X	b1. Identify the classification, occurrence, nomenclature of natural product	المهارات الذهنية
X	X	X	X	b2. Describe the natural product as drugs .	
X	X	X	X	b3. Define the chemical structure of lipids (fatty acids and phospholipids)	
X		X	X	b4. Identify the chemical structure of terpenes (monoterpenes, polyterpenes).	
			X	b5. Describe the chemical structure of vitamins.	
			X	b6. Identify the chemical structure of steroids.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

			X	b7. Describe the chemical structure of alkaloids	
		X	X	c1. Combine between the chemical structure of natural products and their reactivity.	المهارات المهنية
		X	X	c2. Demonstrate the synthetic bath of the given natural product	
		X	X	c3. Identify different classes of natural product.	
	X			d1. The use of laboratory equipments in organic chemistry experiments	المهارات العامة

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "
The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

توصيف مقرر دراسي

١- بيانات المقرر

Course(first term), Pre-PhD (2016/2017)	الفرقة / المستوى :	اسم المقرر : Chemistry of Polymers	الرمز الكودي : 703 C
عملي	نظري ٣	عدد الوحدات الدراسية :	التخصص : كيمياء عضويه
1. To provide an introduction to organic polymer. 2. Introduction of polymer structures. 3. Introduce the condensation polymerization, and introduce the thermal transitions in polymers.			٢- هدف المقرر :
٣- المستهدف من تدريس المقرر :			
a1. Identify how to be familiar with basic concepts of polymers. a2. Identify the molecular weight distribution in linear condensation systems. a3. Describe the ring formation vs., chain polymerization. a4. Identify the theories of glass transition.			أ- المعلومات و المفاهيم :
b1 .Identify the different classifications of polymers. b2. Describe the mechanisms of condensation polymerization. b3 .Show the relation between the glass transition and crystalline melting point.			ب - المهارات الذهنية :
c1. Develop the ability to read and interpret original literature. c2. Develop the ability to communicate effectively both in writing and orally. c3. Develop the ability to improve performance c4. Problem solving in a variety of contexts, both familiar and unfamiliar			ج - المهارات المهنية الخاصة بالمقرر :
d1. Learning by a combination of lectures and textbooks. d2. Time planning; working towards deadlines. d3. Biochemical skills and problem identification/solving. d4. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.			د - المهارات الهامة :
1- Mechanisms and techniques of polymerization reactions: (Free radical, Ionic, Bulk, Emulsion) 2- transition retardation and inhibition, degradation of thermoplastic polymers 3- classification of polymers and applications: addition polymers, copolymers, condensation polymers 4- heterocyclopolymers, inorganic polymers, synthetic biopolymers, medicinal polymers 5- New applications of polymers			٤- محتوى المقرر :



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

- Lectures using Data show - Discussion sessions -Assignments and reports	٥- أساليب التعليم و التعلم
- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها - تكليفهم بمهام او ابحاث اضافية	٦- أساليب التعليم و التعلم للطلاب ذوى القدرات المحدودة
٧- تقويم الطلاب :	
Written exam to assess (short essay and MCQ). -Mid-Term exam to assess to assess proceeding in learning -Final-Term exam ...to assess knowledge and understanding problem solving. -Oral Exam to assess ability to understand knowledge.	أ- الأساليب المستخدمة
Assessment 1 Oral exam Week ... during the entire course. Assessment 2 Mid-Term exam Week ...9... Assessment 3... Final exam Week : to be decided by general exam	ب - التوقيت
<ul style="list-style-type: none">• Mid-Term exam ٢٠ %• Final-Term exam 70 %• Oral exam + Semester Work ٢٠ % Total 100%	ج - توزيع الدرجات
٨- قائمة الكتب الدراسية و المراجع :	
لا يوجد	أ- مذكرات
Smith J.M., Ness H. V., Abbott M., (2004) "Physical Polymers." (the McGraw-Hill chemical engineering series) 8 th ed., McGraw-Hill, New York, USA.	ب- كتب ملزمة
	ج- كتب مقترحة
- Journal of chemical education (http://jchemed.chem.wisc.edu/index.html).	د- دوريات علمية أو نشرات ... إلخ

رئيس مجلس القسم العلمى : ا. د / وفاء غنيم شوشة

أستاذ المادة : ا. د / أحمد رمضان



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Chemistry of Polymers	مسمى المقرر
703C	كود المقرر

جامعة / أكاديمية : ... حلوان

كلية / معهد : ... العلوم

قسم : ... الكيمياء

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

مهارات عامة	مهارات مهنية	المهارات الذهنية	المعارف الرئيسية	أسبوع الدراسة	المحتويات للمقرر
d1, d2, d3	c1, c2	b1, b3	a1, a4	1-3	Mechanisms and techniques of polymerization reactions: (Free radical, Ionic, Bulk, Emulsion)
d1, d2, d4	c1, c2, c3	b1, b2	a2, a3	4-6	transition retardation and inhibition, degradation of thermoplastic polymers
d2, d3, d4	c1, c3	b2, b3	a3, a4	7-9	classification of polymers and applications: addition polymers, copolymers, condensation polymers
d1, d2, d3	c2, c3	b2	a4	10-12	heterocyclopolymers, inorganic polymers, synthetic biopolymers, medicinal polymers
d1, d4	c2	b1, b3	a1, a2, a4	13	New applications of polymers

رئيس مجلس القسم العلمي : ا. د // وفاء غنيم شوشة

أستاذ المادة : ا. د / أحمد رمضان



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Chemistry of Polymers	مسمى المقرر
703C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقويم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X	a1. Identify how to be familiar with basic concepts of polymers.	المعلومات والمفاهيم
X		X	a2. Identify the molecular weight distribution in linear condensation systems.	
X	X	X	a3. Describe the ring formation vs., chain polymerization.	
X	X	X	a4. Identify the theories of glass transition.	
X	X	X	b1. Identify the different classifications of polymers.	المهارات الذهنية
X		X	b2. Identify the mechanisms of condensation polymerization.	
X	X	X	b3. Identify the relation between the glass transition and crystalline melting point.	
X	X	X	c1. Develop the ability to read and interpret original literature.	المهارات المهنية
X	X	X	c2. Develop the ability to communicate effectively both in writing and orally.	
X	X	X	c3. Develop the ability to improve performance.	
			c4. Problem solving in a variety of contexts, both familiar and unfamiliar.	
			d1. Learning by a combination of lectures and textbooks.	المهارات العامة
	X		d2. Time planning; working towards deadlines.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "
The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

	X		d3. Biochemical skills and problem identification/solving.	
	X		d4. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.	

رئيس مجلس القسم العلمى: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Chemistry of Polymers	مسمى المقرر
703C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	
	X	X	X	a1. Identify how to be familiar with basic concepts of polymers.	المعلومات والمفاهيم
	X		X	a2. Identify the molecular weight distribution in linear condensation systems.	
X	X	X	X	a3. Identify the ring formation vs., chain polymerization.	
X	X	X	X	a4. Describe the theories of glass transition.	
X	X	X	X	b1 .Identify the different classifications of polymers.	المهارات الذهنية
X	X	X	X	b2. Identify the mechanisms of condensation polymerization.	
X	X	X	X	b3 .Identify the relation between the glass transition and crystalline melting point.	
		X	X	c1. Develop the ability to read and interpret original literature.	المهارات المهنية
		X	X	c2. Develop the ability to communicate effectively both in writing and orally.	
		X	X	c3. Develop the ability to improve performance.	
			X	c4. Problem solving in a variety of contexts, both familiar and unfamiliar.	المهارات العامة
	X		X	d1. Learning by a combination of lectures and textbooks.	
X		X		d2. Time planning; working towards deadlines.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

	X		X	d3. Biochemical skills and problem identification/solving.	
	X	X		d4. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.	

رئيس مجلس القسم العلمى: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

توصيف مقرر دراسي

١- بيانات المقرر

Pre- PhD Course: المستوى / الفرقة / المستوى (first term), (2016-2017)	اسم المقرر : Bio-organic chemistry	الرمز الكودي : E704
عدد الوحدات الدراسية : نظري ٣ عملي	التخصص : كيمياء عضوية	

1. To provide an introduction to the fundamental principles of Chemistry & Biological Functions of Amino Acids & protein underlying all Biochemical phenomena directly and/or indirectly related to Amino Acids & protein, and establish a sound basis for the further study of all branches of Amino Acids & protein Biochemistry.

2. Lay the foundations of a knowledge and understanding of Physical, Chemical & Stereochemical properties of Amino Acids & proteins. Also, explain the criterion of classification of proteins and amino acids which will permit rapid progress to advanced topics in subsequent years of the course.

3. Introduce and develop those aspects of Structural & Functional properties of Amino Acids & protein related to metabolic processes and the regulatory governance of metabolic biochemical processes.

٢- هدف المقرر :

٣- المستهدف من تدريس المقرر :

a₁. Describe the general formula for α -amino acids as $RCH(NH_2)CO_2H$; describe the nature of the functional groups contained in R and be able to interpret the properties of α -amino acids in terms of their structure.

a₂. Describe the formation of the peptide linkage between α -amino acids leading to the idea that Polypeptides and proteins are condensation

أ- المعلومات و المفاهيم :



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

polymers.

a₃. Identify the term primary structure of proteins.

a₄. Describe the hydrolysis of proteins and peptides and the separation of the products by Electrophoresis and ion-exchange chromatography.

a₅ Identify the secondary structure of proteins: α -helix and β -pleated sheet and the stabilization of these structures by hydrogen bonding.

a₆. Describe the importance of the tertiary protein structure and explain the stabilization of the tertiary structure with regard to the R groups in the amino acid residues (ionic linkages, disulphide bridges, hydrogen bonds and van der Waals' forces).

a₇ Describe the quaternary structure of proteins.

a₈. Identify the protein components of Globular proteins

a₉. Describe how the alpha-amino group is removed from amino acids and excreted.

b₁. Understand all fundamental concepts in basic Protein Biochemistry and be able to apply them to more advanced applications.

b₂. Review the structures of the 20 common amino acids and classify them based on their "R" groups.

b₃. Show the structure and properties of the peptide bond and explain how the properties of the peptide bond contribute to protein structure.

b₄. Recognize the stereochemical configuration of amino acids found in polypeptide chains.

b₅. Define primary structure, secondary structure, tertiary structure and quaternary structure of proteins and give an example of each.

b₆. Show the structure of the alpha helix, the beta pleated sheet, and the beta turn including the stabilizing forces, relative positions of R groups, and their significance to the overall protein structure.

b₇. Define a disulfide bond and explain how it stabilizes protein structure.

ب – المهارات الذهنية :



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

<p>c1. The use of laboratory equipment pertinent to Biochemistry experiments.</p> <p>c2. The analysis of experimentally Biochemical derived data and the treatment of errors</p> <p>c3. Assure Safety in the laboratory, skillful in Handling and preparation.</p> <p>c4. Able for development of core practical skills & also basic laboratory procedures.</p>	<p>ج - المهارات المهنية الخاصة بالمقرر</p>
<p>d1. Learning by a combination of lectures, textbooks, and laboratory.</p> <p>d2. Time planning; working towards deadlines.</p> <p>d3. Biochemical skills and problem identification/solving.</p> <p>d4. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.</p> <p>d5. Time-management, self study, problem solving.</p> <p>d6. Avoiding contamination and pollution in laboratory environment.</p>	<p>د - المهارات الهامة :</p>
<p>1- Amino acid structures, polypeptides, ionic properties, chemical reactions</p> <p>2- naturally occurring peptides, peptide hormones, growth factors, neuropeptides, peptide antibiotics, precursor proteins of bioactive peptides</p> <p>3- Nucleotides and nucleic acids :Nucleotide and nucleoside composition, ATP and bioenergetics, nucleic acids</p> <p>4- DNA structures, RNA structure, viruses, viroids and prionsLipids</p> <p>5- Membranes and receptors :Fatty acids, simple lipids, compound lipids derived lipids, biomembrane</p>	<p>٤ - محتوى المقرر :</p>
<p>- Lectures using Data show</p> <p>- Discussion sessions</p> <p>-Assignments and reports</p>	<p>٥ - اساليب التعليم و التعلم</p>
<p>- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها</p> <p>- تكليفهم بمهام او ابحاث اضافية</p>	<p>٦ - أساليب التعليم و التعلم للطلاب ذوى القدرات المحدودة</p>



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

٧- تقويم الطلاب :

Written exam to assess (short essay and MCQ). -Mid-Term exam to assess to assess proceeding in learning -Final-Term exam ... to assess knowledge and understanding problem solving. -Oral Exam..... to assess ability to understand knowledge.	أ- الأساليب المستخدمة
Assessment 1 Oral exam Week ... during the entire course. Assessment 2 ... Mid-Term exam Week9..... Assessment 4..... Final exam Week : to be decided by general exam	ب - التوقيت
<ul style="list-style-type: none">• Mid-Term exam 10 %• Final-Term exam 70 %• Oral exam 5 %• Semester Work 5 % Total 100%	ج - توزيع الدرجات
٨- قائمة الكتب الدراسية و المراجع :	
لا يوجد	أ- مذكرات
Text book of Organic Chemistry (5th edition)-Paula Yurkanis Bruice, 2007. Spectroscopy of Organic Compounds (6th edition)- P.S.KALSI, 2005.	ب- كتب ملزمة
	ج- كتب مقترحة
- Journal of chemical education (http://jchemed.chem.wisc.edu/index.html).	د- دوريات علمية أو نشرات ... إلخ

رئيس القسم العلمي: أ.د / وفاء غنيم شوشة

أستاذ المادة: أ.د / محمد صالح



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Bio-organic chemistry	مسمى المقرر
E704 اختياري	كود المقرر

جامعة / أكاديمية : ... حلوان.....

كلية / معهد : ... العلوم.....

قسم : الكيمياء.....

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	المهارات الذهنية	مهارات مهنية	مهارات عامة
Amino acid structures, polypeptides, ionic properties, chemical reactions	1-2	a1 a5, a6	b1, b3	c1, c2	d1, d2, d3
naturally occurring peptides, peptide hormones, growth factors, neuropeptides, peptide antibiotics, precursor proteins of bioactive peptides	3-5	a1, a4	b1, b5	c1, c2, c3	d1, d2, d6
Nucleotides and nucleic acids :Nucleotide and nucleoside composition, ATP and bioenergetics, nucleic acids	6-7	a3, a4, a7	b2, b6	c1, c3	d2, d4, d5
DNA structures, RNA structure, viruses, viroids and prionsLipids	8-10	a4, a9	b2, b5, b7	c2, c3, , c4	d1, d2, d6
Membranes and receptors :Fatty acids, simple lipids, compound lipids derived lipids, biomembrane	11-13	a1, a8, a9	b1, b3, b7	c2	d1, d4, d5

رئيس القسم العلمي: أ.د / وفاء غنيم شوشة

أستاذ المادة: أ.د / محمد صالح



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Bio-organic chemistry	مسمى المقرر
704 E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقويم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	المعلومات والمفاهيم
X	X	X	a ₁ . Describe the general formula for α -amino acids as $RCH(NH_2)CO_2H$; describe the nature of the functional groups contained in R and be able to interpret the properties of α -amino acids in terms of their structure.	
X		X	a ₂ . Identify the formation of the peptide linkage between α -amino acids leading to the idea that Polypeptides and proteins are condensation polymers.	
X	X	X	a ₃ . Describe the term primary structure of proteins.	
X	X	X	a ₄ . Describe the hydrolysis of proteins and peptides and the separation of the products by Electrophoresis and ion-exchange chromatography.	
X		X	a ₅ identify the secondary structure of proteins: α -helix and β -pleated sheet and the stabilization of these structures by hydrogen bonding.	
	X	X	a ₆ . Describe the importance of the tertiary protein structure and explain the stabilization of the tertiary structure with regard to the R groups in the amino acid residues (ionic linkages, disulphide bridges, hydrogen bonds and van der Waals' forces).	
X		X	a ₇ Identify the quaternary structure of proteins.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

X		X	a8. Describe the protein components of Globular proteins	المهارات الذهنية
X		X	a9. Identify how the alpha-amino group is removed from amino acids and excreted.	
X	X	X	b1. Describe all fundamental concepts in basic Protein Biochemistry and be able to apply them to more advanced applications.	
X		X	b2. Review the structures of the 20 common amino acids and classify them based on their "R" groups.	
X	X	X	b3. Show the structure and properties of the peptide bond and explain how the properties of the peptide bond contribute to protein structure.	
	X	X	b4. Recognize the stereochemical configuration of amino acids found in polypeptide chains.	
	X	X	b5. Define primary structure, secondary structure, tertiary structure and quaternary structure of proteins and give an example of each.	
X		X	b6. Show the structure of the alpha helix, the beta pleated sheet, and the beta turn including the stabilizing forces, relative positions of R groups, and their significance to the overall protein structure.	
	X	X	b7. Define a disulfide bond and explain how it stabilizes protein structure.	
X	X	X	c1. The use of laboratory equipment pertinent to Biochemistry experiments.	
X	X	X	c2. The analysis of experimentally Biochemical derived data and the treatment	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

			of errors	
X	X	X	c3. Assure Safety in the laboratory, skillful in Handling and preparation.	
	X		c4. Able for development of core practical skills & also basic laboratory procedures.	
	X		d1. Learning by a combination of lectures, textbooks, and laboratory.	المهارات العامة
	X		d2. Time planning; working towards deadlines.	
	X		d3. Biochemical skills and problem identification/solving.	
	X		d4. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.	
	X		d5. Time-management, self study, problem solving.	
			d6. Avoiding contamination and pollution in laboratory environment.	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Bio-organic chemistry	مسمى المقرر
704 E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	المعلومات والمفاهيم
	X	X	X	a ₁ . Describe the general formula for α -amino acids as $RCH(NH_2)CO_2H$; describe the nature of the functional groups contained in R and be able to interpret the properties of α -amino acids in terms of their structure.	
	X		X	a ₂ . Identify the formation of the peptide linkage between α -amino acids leading to the idea that Polypeptides and proteins are condensation polymers.	
X	X	X	X	a ₃ . Describe the term primary structure of proteins.	
X	X	X	X	a ₄ . Identify the hydrolysis of proteins and peptides and the separation of the products by Electrophoresis and ion-exchange chromatography.	
		X	X	a ₅ . Describe the secondary structure of proteins: α -helix and β -pleated sheet and the stabilization of these structures by hydrogen bonding.	
X		X	X	a ₆ . Describe the importance of the tertiary protein structure and explain the stabilization of the tertiary structure with regard to the R groups in the amino acid residues (ionic linkages, disulphide bridges, hydrogen bonds and van der Waals' forces).	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

X		X	X	a7 identify the quaternary structure of proteins.	
		X	X	a8. Identify the protein components of Globular proteins	
		X	X	a9. Identify how the alpha-amino group is removed from amino acids and excreted.	
X	X	X	X	b1. Understand all fundamental concepts in basic Protein Biochemistry and be able to apply them to more advanced applications.	المهارات الذهنية
X	X	X	X	b2. Review the structures of the 20 common amino acids and classify them based on their "R" groups.	
X	X	X	X	b3. Show the structure and properties of the peptide bond and explain how the properties of the peptide bond contribute to protein structure.	
X		X	X	b4. Recognize the stereochemical configuration of amino acids found in polypeptide chains.	
		X	X	b5. Define primary structure, secondary structure, tertiary structure and quaternary structure of proteins and give an example of each.	
		X	X	b6. Show the structure of the alpha helix, the beta pleated sheet, and the beta turn including the stabilizing forces, relative positions of R groups, and their significance to the overall protein structure.	
		X	X	b7. Define a disulfide bond and explain how it stabilizes protein structure.	
		X	X	c1. The use of laboratory equipment pertinent to Biochemistry experiments.	المهارات المهنية



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

		X	X	c₂. The analysis of experimentally Biochemical derived data and the treatment of errors	
		X	X	c₃. Assure Safety in the laboratory, skillful in Handling and preparation.	
		X	X	c₄. Able for development of core practical skills & also basic laboratory procedures.	
	X	X		d₁. Learning by a combination of lectures, textbooks, and laboratory.	المهارات العامة
X		X	X	d₂. Time planning; working towards deadlines.	
	X			d₃. Biochemical skills and problem identification/solving.	
	X	X		d₄. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.	
X		X		d₅. Time-management, self study, problem solving.	
	X	X		d₆. Avoiding contamination and pollution in laboratory environment.	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة / أكاديمية حلوان
كلية / معهد : العلوم
قسم : الكيمياء

توصيف مقرر دراسي

١- بيانات المقرر		
الفرقة / المستوى : Pre- PhD Course (first term), (2016/2017)	اسم المقرر: Chemistry of textiles and Dyes	الرمز الكودي : 705 E
عدد الوحدات الدراسية : 3 نظري - عملي	التخصص: Organic Chemistry	
1. present an introduction to the fundamental principles of Chemistry of systems such as biphenyl, Dyes and pigments classification and applications- Atropisomerism- Chemistry of naphthalene, anthracene, phenanthrene and their derivatives.		٢- هدف المقرر :
٣- المستهدف من تدريس المقرر :		
a ₁ . Present the classification of different types of dyes and pigments. a ₂ Define the different types of dyes as azo dyes, reactive dyes , triphenyl methane dyes and nitro and nitroso dyes. a ₃ . Show the synthesis methods and the application of the dyes and pigments, and identify the chemistry of naphthalene, anthracene and phenanthrene and their derivatives.	أ- المعلومات والمفاهيم :	
b ₁ . Describe synthesis of biphenyl, dyes and pigment compounds. b ₂ . Identify the structure and the reaction of dyes, pigment, naphthalene and anthracene compounds.	ب- المهارات الذهنية :	
c ₁ . Describe the use of laboratory equipment pertinent to organic chemistry experiments. c ₂ . Identify the synthesis of different types of dyes and show their application in the dyeing process.	ج- المهارات المهنية الخاصة بالمقرر :	
d ₁ . Show the structure and the reaction of dyes, pigment, naphthalene and anthracene compounds	د - المهارات العامة :	
1- Natural fibres: Cotton, silk, wool, mineral fibres, glass fibres 2- Modified fibres ,Viscose, cellulose acetate and other cellulose esters cellulose xanthate, nitro cellulose 3- Synthetic fibres: Polyesters, polyamides, polyacrylates, polyurethanes, polyenes, polyvinyls, metallic fibres, medical fibres 4-Chemistry of Dyes : Relation between colour and constitution, Visible spectrum, molecular orbital theory, Classification according to chemical structure: Nitro-, nitroso- azo-, metal	٤- محتوى المقرر :	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

complex azo, phthalein-, anthraquinone-, di and tri-arylmethane-, heterocyclic dyes 5- Classification according to application: Acid-, basic-, direct-, soluble-, disperse-, mordant-, sulphur-, reactive-, vat-, azoic-, leuco- dyes, Non- textile applications 6- Paper dyes, leather dyes, food colours, wood dyes, medicinal dyes, spectral dyes, fluorescent dyes, brighteners, indicators	
5.1- Lecture, Board. 5.2- Living specimens, book recommendations. 5.3- Practical Assignments	٥- أساليب التعليم والتعلم
- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها - تكليفهم بمهام او ابحاث اضافية	٦- أساليب التعليم والتعلم للطلاب ذوى القدرات المحدودة
7.1- Oral exam to assess personal capabilities & their understanding. 7.2- Mid-Term exam to assess proceeding in learning 7.3- Practical exam to assess transferable skills & students' abilities to apply the theoretical concepts. 7.4- Final-Term exam to assess knowledge and understanding ,problem solving.	٧- تقويم الطلاب : أ- الأساليب المستخدمة
Assessment 1 Oral exam during the entire course Assessment 2 Mid-Term exam Week: 10 Assessment 4 Final exam Week: to be decided by general exam	ب- التوقيت
<ul style="list-style-type: none">• Final-Term exam 60%• Oral exam 20%• Semester Work and other activites 20%• Total 100%	ج- توزيع الدرجات
	٨- قائمة الكتب الدراسية والمراجع :
course note compiled by the lecturer	أ- مذكرات
Text book of Organic Chemistry(5 th edition)-Paula Yurkanis Bruice, 2007.	ب- كتب ملزمة
1- Organic Chemistry (Ropert Thornton Morrision) 2004(Sixth Edition)	ج- كتب مقترحة

رئيس مجلس القسم العلمي :أ.د / وفاء غنيم شوشة

أستاذ المادة : ا.د/عيد متولى خليل



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Chemistry of textiles and Dyes	مسمى المقرر
705 E	كود المقرر

جامعة / أكاديمية : ...حلوان.....
كلية / معهد : ...العلوم.....
قسم : ...الكيمياء.....

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

مهارات عامة	مهارات مهنية	المهارات الذهنية	المعارف الرئيسية	أسبوع الدراسة	المحتويات للمقرر
d1	c1, c2	b1, b2	a3, a4	1-2	Natural fibres: Cotton, silk, wool, mineral fibres, glass fibres
d1	c1, c2	B2	a1, a2	3-4	Modified fibres ,Viscose, ceulose acetate and other cellulose esters cellulose xanthate, nitro cellulose
d1	c1	b2	a3	5-6	Synthetic fibres: Polyesters, polyamides, polyacrylates, polyurethanes, polyenes, polyvinyls, metallic fibres, medical fibres
d1	c2	b1	a1, a2, a4	7-9	Chemistry of Dyes : Relation between colour and constitution, Visible spectrum, molecular orbital theory, Classification according to chemical structure: Nitro-, nitroso- azo-, metal complex azo, phthalein-, anthraquinone-, di and tri- arylmethane-, heterocyclic dyes
d1	c1, c2	b1, b2	a1, a3	10-11	Classification according to application: Acid-, basic-, direct-, soluble-, disperse-, mordant-, sulphure-, reactive-, vat-, azoic-, leuco- dyes, Non- textile applications
d1	c1, c2	b1, b2	a3, a4	12-13	Paper dyes, leather dyes, food colours, wood dyes, medicinal dyes, spectral dyes, fluorescent dyes, brighteners, indicators

رئيس مجلس القسم العلمي: أد / وفاء غنيم شوشة

أستاذ المقرر: اد/ عيد متولى خليل



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Chemistry of textiles and Dyes	مسمى المقرر
705E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم : الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقييم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X	a ₁ . Identify the classification of different types of dyes and pigments.	المعلومات والمفاهيم
X		X	a ₂ Define the different types of dyes as azo dyes, reactive dyes , triphenyl methane dyes and nitro and nitroso dyes.	
X	X	X	a ₃ . Describe the synthesis methods and the application of the dyes and pigments.	
X	X	X	a ₄ . Identify the chemistry of naphthalene, anthracene and phenanthrene and their derivatives.	
X	X	X	b ₁ . Describe synthesis of biphenyl, dyes and pigment compounds.	المهارات الذهنية
X		X	b ₂ . Identify the structure and the reaction of dyes, pigment, naphthalene and anthracene compounds.	
X	X	X	c ₁ . Identify the use of laboratory equipment pertinent to organic chemistry experiments.	المهارات المهنية
X	X	X	c ₂ . Describe the synthesis of different types of dyes and show their application in the dyeing process.	
X		X	d ₁ . Show the structure and the reaction of dyes, pigment, naphthalene and anthracene compounds	المهارات العامة

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Chemistry of textiles and Dyes	مسمى المقرر
705E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	
	X	X	X	a ₁ . Describe the classification of different types of dyes and pigments.	المعلومات والمفاهيم
	X		X	a ₂ Define the different types of dyes as azo dyes, reactive dyes , triphenyl methane dyes and nitro and nitrose dyes.	
X	X	X	X	a ₃ . Identify the synthesis methods and the application of the dyes and pigments.	
X	X	X	X	a ₄ . Identify the chemistry of naphthalene, anthracene and phenanthrene and their derivatives.	
X	X	X	X	b ₁ . Describe synthesis of biphenyl, dyes and pigment compounds.	المهارات الذهنية
X	X	X	X	b ₂ . Identify the structure and the reaction of dyes, pigment, naphthalene and anthracene compounds.	
		X	X	c ₁ . Identify the use of laboratory equipment pertinent to organic chemistry experiments.	المهارات المهنية
		X	X	c ₂ . Describe the synthesis of different types of dyes and show their application in the dyeing process.	
	X			d ₁ . Show the structure and the reaction of dyes, pigment, naphthalene and anthracene compounds	المهارات العامة

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء
توصيف مقرر دراسي

١- بيانات المقرر

الفرقة / المستوى : تأهيلي دكتوراة -
الترم الاول(2016-2017)

اسم المقرر :
Specialized Field
(Chemistry of Alkaloids)

الرمز الكودي : 706 E

عدد الوحدات الدراسية :
3 نظري
عملي

التخصص :
Organic Chemistry

1-The course is aimed to give an introduction to the chemistry of alkaloids.
2- Students will be expected to gain an understanding of the major classes of natural alkaloids.
3- Upon completion of these course students will be able to show the key structural, synthesis and biosynthetic aspects of different categories of alkaloids and their derivatives.

٢- هدف المقرر :

٣- المستهدف من تدريس المقرر :

a1-identify the basics of alkaloids chemistry underlying chemical reactions, preparation methods, and the techniques used to isolate compounds and applied Organic chemistry which will be of particular importance to the pharmaceutical industry.
a2- Describe the follow-up and stand on the latest findings of scientific research in the field of alkaloids chemistry.
a3: Define How to apply the knowledge in professional practice in the field of Organic chemistry in terms of experimental design, critical evaluation of the results and conclusions.

أ- المعلومات و المفاهيم :

b1. Describe the classification and occurrence of different types of alkaloids.
b2. Identify the ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to natural alkaloids.
b3. describe the search results using theories and use the computer programs skills in results presentations.

ب - المهارات الذهنية :

c1: Develop the ability to write and evaluate professional reports.
c2:Criticize and evaluate existing methods and tools in the organic fields
c3: Develop the ability to prepare a proposal for research that serves the area of specialization and to cope with the changes at the regional and global levels.

ج - المهارات المهنية الخاصة بالمقرر :

d1-Communicate effectively and clearly through conferences, seminars, publications written and visual (posters).
d2: To acquire the ability to think realistic and creative.

د - المهارات الهامة :



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

d3: Develop the ability to prepare and view the various topics using modern presentation techniques.	
Introduction to Chemistry of Alkaloids- Pyrrolidine and Tropane Alkaloids (synthesis and biosynthetic pathways)- Pyrrolizidine Alkaloids (synthesis and biosynthetic pathways) - Quinolizidine Alkaloids- Indolizidine Alkaloids- Biological activities and modern techniques in the isolation methods of alkaloids.	٤- محتوى المقرر :
- Lectures using Data show - Discussion sessions - Assignments and reports	٥- أساليب التعليم و التعلم
- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها - تكليفهم بمهام او ابحاث اضافية	٦- أساليب التعليم للطلاب ذوى القدرات المحدودة
	٧- تقويم الطلاب :
- Written exam to assess (short essay and MCQ). - Mid-Term exam to assess proceeding in learning - Final-Term exam..... to assess knowledge and understanding problem solving. - Oral Exam..... to assess ability to understand knowledge.	أ- الأساليب المستخدمة
Assessment 1: Oral exam Week ... during the entire course. Assessment 2: Mid-Term exam Week9..... Assessment 3 Final exam Week : decided by general exam	ب - التوقيت
<ul style="list-style-type: none">Final-Term exam 60 %Oral 10 %Overall course activity evaluation 30 % Total 100%	ج - توزيع الدرجات
	٨- قائمة الكتب الدراسية و المراجع :
	أ- مذكرات لا يوجد
Medicinal Natural Products. Paul M Dewick, Copyright 2002 John Wiley & Sons, Ltd, ISBNs: 0471496405 (Hardback); 0471496413 (paperback); 0470846275 (Electronic)	ب- كتب ملزمة
Chemistry of Natural Products, Sujata V. Bhat, First Edition – 2005, ISBN: 3-540-40669-7, Springer, Berlin	ج- كتب مقترحة
-Journal of Natural Products (http://pubs.acs.org/journal/jnprdf). - Phytochemistry (http://www.journals.elsevier.com/phytochemistry/). - Journal of chemical education (http://jchemed.chem.wisc.edu/index.html).	د- دوريات علمية أو نشرات ... إلخ

رئيس مجلس القسم العلمى : ا. د /وفاء شوشة

أستاذ المادة : ا. د محمد صالح حامد



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Chemistry of alkaloids	مسمى المقرر
706 E	كود المقرر

جامعة / أكاديمية : حلوان.....
كلية / معهد : ... العلوم....
قسم : الكيمياء.....

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	المهارات الذهنية	مهارات مهنية	مهارات عامة
Introduction to Chemistry of Alkaloids	1-2	a1	b3	c2, c3, c4	d1, d9
Pyrrolidine and Tropane Alkaloids (synthesis and biosynthetic pathways)	3-4	a1, a2, a5	b1, b3	c2, c3	d9, d10
Pyrrolizidine Alkaloids (synthesis and biosynthetic pathways)	5-6	a1, a2, a5	b3,b8	C2, c4	d9, d10
Quinolizidine Alkaloids synthesized counterpart	7-8	a1, a2, a5	b3,b8	C4	d9, d10
Indolizidine Alkaloids	9-10	a1, a2, a5	b3, b8	c2, c3, c4	d9, d10
Biological activities and modern techniques in the isolation methods of alkaloids	11-12	a1, a2, a5	b8	c2, c3, c4	d1

أستاذ المقرر: د.أ. محمد صالح حامد
رئيس مجلس القسم العلمي: ا. د /وفاء غنيم شوشة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

(Chemistry of Alkaloids)	مسمى المقرر
706E (Specialized Field)	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقويم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X	a1-identify the basics of alkaloids chemistry underlying chemical reactions, preparation methods, and the techniques used to isolate compounds and applied Organic chemistry which will be of particular importance to the pharmaceutical industry.	المعلومات والمفاهيم
X		X	a2- Describe the follow-up and stand on the latest findings of scientific research in the field of alkaloids chemistry.	
X	X	X	a3: Define How to apply the knowledge in professional practice in the field of Organic chemistry in terms of experimental design, critical evaluation of the results and conclusions.	
X	X	X	b ₁ . Describe the classification and occurrence of different types of alkaloids.	المهارات الذهنية
X		X	b ₂ . Identify the ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to natural alkaloids.	
X	X	X	b ₃ . Ascribe of search results using theories and use the computer programs skills in results presentations.	
X	X	X	c ₁ : Develop the ability to write and evaluate professional reports.	المهارات المهنية
X	X	X	c ₂ :Criticize and evaluate existing methods and tools in the organic fields	
X	X	X	c ₃ : Develop the ability to prepare a proposal for research that serves the area of specialization and to cope with the changes at the regional and global levels.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

X		X	d1-Communicate effectively and clearly through conferences, seminars, publications written and visual (posters).	المهارات العامة
	X		d2: To acquire the ability to think realistic and creative.	
	X		d3: Develop the ability to prepare and view the various topics using modern presentation techniques.	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Specialized Field (Chemistry of Alkaloids)	مسمى المقرر
706 E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	
	X	X	X	a1-identify the basics of alkaloids chemistry underlying chemical reactions, preparation methods, and the techniques used to isolate compounds and applied Organic chemistry which will be of particular importance to the pharmaceutical industry.	المعلومات والمفاهيم
	X		X	a2- Describe the follow-up and stand on the latest findings of scientific research in the field of alkaloids chemistry.	
X	X	X	X	a3: Define How to apply the knowledge in professional practice in the field of Organic chemistry in terms of experimental design, critical evaluation of the results and conclusions.	
X	X	X	X	b ₁ . Describe the classification and occurrence of different types of alkaloids.	المهارات الذهنية
X	X	X	X	b ₂ . Identify the ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to natural alkaloids.	
X	X	X	X	b ₃ . Ascribe of the search results using theories and use the computer programs skills in results presentations.	
		X	X	c1: Develop the ability to write and evaluate professional reports.	المهارات المهنية
		X	X	c2:Criticize and evaluate existing methods and tools in the organic fields	
		X	X	c3: Develop the ability to prepare a proposal for research that serves the area of specialization	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

				and to cope with the changes at the regional and global levels.	
	X			d1-Communicate effectively and clearly through conferences, seminars, publications written and visual (posters).	المهارات العامة
X		X		d2: To acquire the ability to think realistic and creative.	
	X			d3: Develop the ability to prepare and view the various topics using modern presentation techniques.	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء
توصيف مقرر دراسي

١- بيانات المقرر		
الفرقة / المستوى : تأهيلي دكتوراة - الترم الثاني ٢٠١٦-٢٠١٧	اسم المقرر : Specialized Field (Biosurfactants)	الرمز الكودي : C707
عدد الوحدات الدراسية : ٣ نظري عملي-		التخصص : Organic Chemistry
1-The course is aimed to give an introduction to the chemistry of Biosurfactants. 2- Students will be expected to gain an understanding of the chemical nature of Biosurfactants. 3-Upon completion of these course students will be able to show the methods of preparation of Biosurfactants and their industrial applications.		٢- هدف المقرر :
٣- المستهدف من تدريس المقرر :		
a1. Describe definitions, importance, chemical structure and classification of Biosurfactants. a2. Identify and understanding of the principles, procedures and techniques used in preparation of different types of Biosurfactants. a3. Describe how to connect between the related basic scientific facts, concepts, principles and techniques. a4. Identify the different industrial applications of Biosurfactants.	أ- المعلومات و المفاهيم :	
b ₁ . Describe the classification and occurrence of Biosurfactants b2-identify the ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to Biosurfactants. b3: Ascribe the search results using theories and use the computer programs skills in the work of graphs and results presentations.	ب - المهارات الذهنية :	
c1: Ability to write and evaluate professional reports. c2:Criticize and evaluate existing methods and tools in the organic fields c3: Develop the ability to prepare a proposal for research that serves the area of specialization and to cope with the changes at the regional and global levels.	ج - المهارات المهنية الخاصة بالمقرر :	
d1-Communicate effectively and clearly through conferences, seminars, publications written and visual (posters). d2: To acquire Develop the ability to think realistic and creative. d3: Develop the ability to prepare and view the various topics using modern presentation techniques.	د - المهارات الهامة :	
<ul style="list-style-type: none">• Introduction to Biosurfactants• Chemical nature of Biosurfactants• Synthesis of Biosurfactants• Advantages of Biosurfactants compared to their chemically synthesized counterpart	٤- محتوى المقرر :	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

<ul style="list-style-type: none">Application of Biosurfactants and their uses in Pharmaceutical Industry, Food Industry, Cosmetic Industry and Petroleum Industry	
<ul style="list-style-type: none">Lectures using Data showDiscussion sessionsAssignments and reports	٥- أساليب التعليم و التعلم
<ul style="list-style-type: none">متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلهاتكليفهم بمهام او ابحاث اضافية	٦- أساليب التعليم للطلاب ذوى القدرات المحدودة ٧- تقويم الطلاب :
<ul style="list-style-type: none">Written exam to assess (short essay and MCQ).Mid-Term exam to assess proceeding in learningFinal-Term exam.... to assess knowledge and understanding problem solving.Oral Exam to assess ability to understand knowledge.	أ- الأساليب المستخدمة
Assessment 1: Oral exam Week ... during the entire course. Assessment 2: Mid-Term exam Week9..... Assessment 3... Final exam Week : decided by general exam	ب - التوقيت
<ul style="list-style-type: none">Final-Term exam 60 %Oral 10 %Overall course activity evaluation 30 % <p style="text-align: center;">Total 100%</p>	ج - توزيع الدرجات
٨- قائمة الكتب الدراسية و المراجع :	
لا يوجد	أ- مذكرات
<u>Essential books (text books)</u> Biosurfactants: Research Trends and Applications, By Catherine N. Mulligan.	ب- كتب ملزمة
<u>Text books</u> Biosurfactants and Biotechnology (Surfactant Science), by N. Kosaric	ج- كتب مقترحة
<ul style="list-style-type: none">Applied Microbiology and Biotechnology,Asian Journal of Experimental Biological Science-Science directJournal of chemical education (http://jchemed.chem.wisc.edu/index.html).	د- دوريات علمية أو نشرات ... إلخ

أستاذ المادة : د. محمد صالح حامد

رئيس مجلس القسم العلمى : ا. د /وفاء شوشة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

surfactants -Bio Specialized FIELD	مسمى المقرر
C 707	كود المقرر

جامعة / أكاديمية : حلوان.....
كلية / معهد : العلوم....
قسم : الكيمياء.....

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	المهارات الذهنية	مهارات مهنية	مهارات عامة
-Introduction to Bio surfactants	1-2	a1	b1, b3	c2	d9
-Chemical nature of Bio surfactants	3-4	a1, a3	b3	c2, c3	d9
surfactants -Synthesis of Bio from natural sources	5-6	a3,a8	b3,b8	c3, c4	d1
-Advantages of Bio surfactants compared to their chemically synthesized counterpart	7-8	a3, a8	b3,b8	c3	d1, d9
-Application of Bio surfactants and their uses in Pharmaceutical Industry	9-10	a8, a10	b8	c2, c3, c4	d1,d10
surfactants in-Bio Food Industry, Cosmetic, and Petroleum Industry	11-12	a8, a10	b8	c2, c3, c4	d1, d10

أستاذ المقرر: ا.د. محمد صالح حامد

رئيس مجلس القسم العلمي: ا.د /وفاء غنيم شوشه



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

(Biosurfactants)	مسمى المقرر
707C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم : الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقويم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X	a1. Describe definitions, importance, chemical structure and classification of Biosurfactants.	المعلومات والمفاهيم
X		X	a2. Identify and understanding of the principles, procedures and techniques used in preparation of different types of Biosurfactants.	
X	X	X	a3. Describe how to connect between the related basic scientific facts, concepts, principles and techniques.	
X	X	X	a4. Ascribe the different industrial applications of Biosurfactants.	
X	X	X	b ₁ . Describe the classification and occurrence of Biosurfactants	المهارات الذهنية
X		X	b2- identify the ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to Biosurfactants.	
X	X	X	b3. Ascribe the search results using theories and use the computer programs skills in the work of graphs and results presentations.	
X	X	X	c1: Ability to write and evaluate professional reports.	المهارات المهنية
X	X	X	c2: Criticize and evaluate existing methods and tools in the organic fields	
X	X	X	c3: Develop the ability to prepare a proposal for research that serves the area of specialization and to cope with the changes at the regional and global levels.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "
The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

			d1-Communicate effectively and clearly through conferences, seminars, publications written and visual (posters).	المهارات العامة
	X		d2: To acquire Develop the ability to think realistic and creative.	
	X		d3: Develop the ability to prepare and view the various topics using modern presentation techniques.	

رئيس مجلس القسم العلمى: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

(Biosurfactants)	مسمى المقرر
707C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	
	X	X	X	a1. Describe definitions, importance, chemical structure and classification of Biosurfactants.	المعلومات والمفاهيم
	X		X	a2. Identify and understanding of the principles, procedures and techniques used in preparation of different types of Biosurfactants.	
X	X	X	X	a3. Describe how to connect between the related basic scientific facts, concepts, principles and techniques.	
X	X	X	X	a4. Identify the different industrial applications of Biosurfactants.	
X	X	X	X	b ₁ . Describe the classification and occurrence of Biosurfactants	المهارات الذهنية
X	X	X	X	b ₂ -identify the ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to Biosurfactants.	
X	X	X	X	b ₃ . Ascribe the search results using theories and use the computer programs skills in the work of graphs and results presentations.	
		X	X	c ₁ : Ability to write and evaluate professional reports.	المهارات المهنية
		X	X	c ₂ :Criticize and evaluate existing methods and tools in the organic fields	
		X	X	c ₃ : Develop the ability to prepare a proposal for research that serves the area of specialization and to cope with the changes at the regional and global	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "
The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

				levels.	
	X			d1-Communicate effectively and clearly through conferences, seminars, publications written and visual (posters).	المهارات العامة
X		X		d2: To acquire Develop the ability to think realistic and creative.	
	X			d3: Develop the ability to prepare and view the various topics using modern presentation techniques.	

رئيس مجلس القسم العلمى: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء
توصيف مقرر دراسي

١- بيانات المقرر		
الفرقة / المستوي: تأهيلي دكتوراه الترم الاول (2016-2017)	اسم المقرر: Textiles and Dying Technology	الرمز الكودي 708 C
عدد الوحدات الدراسية نظري ٣		التخصص: Organic Chemistry
The course aims to: 1. Improve students whose career direction will require knowledge of textiles and dying technologies as part of the professional prerequisites of industry. 2. Identify the Terminology, organization, and structure of this multi-faceted industry will be highlighted. 3. Learning the students how to be able for working fabric specimens (fabric swatches) which will be used in conjunction with the assignments to enhance the combined textbook/hands-on format.		٢- هدف المقرر:
٣- المستهدف من تدريس المقرر:		
After finishing the course students shall be able to a1 Describe the overview of Textile industry including history and current industry scenario. a2 Identify the terminology associated with textile design material, process etc. a3 Describe the importance of market and trends and enhance observational skills. a4 Identify the Textile industry functional aspects and roles and responsibilities of a designer.		أ- المعلومات والمفاهيم:
b1 Describe the application of design elements and principles for textile designing. b2 Describe the design process and to make design ideas using innovative material and techniques. b3 Identify the various design compositions. work of statistics and graphs and skills of results presentations.		ب- المهارات الذهنية:
c1 To understand the application of various techniques available in textile industry. c2 To be able to differentiate among various textiles by looking at technique of making and design aspects.		ج- المهارات المهنية الخاصة بالمقرر:



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

c3 To enable students to realize professional aspects of the work standards in textile industry at present. c4 To be able to make an effective design presentation.	
d1 To use appropriate terminology used in Textile Application d2 To understand the interrelationships in Textile Business d3 To get an overview of Textile Industries in Egypt	د - المهارات العامة :
1. An Overview of Textiles, history and industrial background 2. Textile designer role responsibilities 3. Textile material and process 4. Textile industry work structure, time and planning 5. Importance of market trend and forecast 6. Elements of textile design such as repeats, layouts and color ways 7. Inspiration for design and design process 8. Types of various available Textiles by techniques 9. Presentation of Design and Professional Practices	٤- محتوى المقرر :
A combination of lecture and seminar classes and visiting central lab. Students are encouraged to extend their knowledge and understanding through directed reading.	٥- أساليب التعليم والتعلم
- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها - تكليفهم بمهام او ابحاث اضافية	٦- أساليب التعليم والتعلم للطلاب ذوي القدرات المحدودة
	٧- تقويم الطلاب :
<ul style="list-style-type: none"> Oral discussions to assess individual personal capabilities during lecture Mid-Term exam to assess the extent of subject grasping Final-Term exam to assess the overall knowledge and subject matter comprehension 	أ- الأساليب المستخدمة
Assessment 1 Week: 6 Assessment 2 Week: 9 Assessment 3 Week: 14	ب- التوقيت
<ul style="list-style-type: none"> Final-Term exam 60 % Overall course activity evaluation + attendance % 20 Midterm exam 20 % <p>Total 100%</p>	ج- توزيع الدرجات
	٨- قائمة الكتب الدراسية والمراجع :
	أ- مذكرات
Textile Terms and Definitions- The Textile Institution, ManchesterU.K. The Textile Institution, ManchesterU.K. 1993	ب- كتب ملزمة
The New Textiles- Trends & Traditions - Chloe Colchester, Thames & Hudson	ج- كتب مقترحة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "
The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

د- دوريات علمية أو نشرات ... الخ

رئيس مجلس القسم العلمى: وفاء غنيم شوشة

أستاذ المقرر: أ.د. / مجدي زهران



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "
The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

جامعة / أكاديمية : حلوان.....
كلية / معهد : العلوم....
قسم : الكيمياء.....

Textiles and Dying Technology	مسمى المقرر
C708	كود المقرر

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	المهارات الذهنية	مهارات مهنية	مهارات عامة
1. An Overview of Textiles, history and industrial background	1	a1, a2	b1	c1,c2	d1
2. Textile designer role responsibilities	2	a1, a4	b2	c3, c4	d1,d3
3. Textile material and process	3	a1,a2	b2,b3	c2,c3	d1,d3
4. Textile industry work structure, time and planning	4	a1,a2	b2,b3	c1,c3	d2,d3
5. Importance of market trend and forecast	5	a3	b2	c3,c4	d2,d3
6. Elements of textile design such as repeats, layouts and color ways	6	a3,a4	b1,b2	c4	d1,d2,d3
7. Inspiration for design and design process	7-8	a3	b2	c4	d2,d3
8. Types of various available Textiles by techniques	9-10	a3	b2,b3	c1,c2	d1
9. Presentation of Design and Professional Practices	11-12	a4	b3	c4	d1,d2,d3

أستاذ المقرر: أ.د. / مجدي زهران

رئيس مجلس القسم العلمي: ا. د / وفاء غنيم شنوشة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "
The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Textiles and Dying Technology	مسمى المقرر
708 C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقويم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X		المعلومات والمفاهيم
X		X	a1 describe the overview of Textile industry including history and current industry scenario.	
X	X	X	a2. Identify the terminology associated with textile design material, process etc.	
X	X	X	a3 Describe the importance of market and trends and enhance observational skills.	
X		X	a4. describe the Textile industry functional aspects and roles and responsibilities of a designer.	
X	X	X	b1. identify the application of design elements and principles for textile designing	المهارات الذهنية
X		X	b2. Describe the design process and to make design ideas using innovative material and techniques.	
X	X	X	b3. describe various design compositions. work of statistics and graphs and skills of results presentations.	
X	X	X	c1. To understand the application of various techniques available in textile industry.	المهارات المهنية
X	X	X	c2. To be able to differentiate among various textiles by looking at technique of making and design aspects.	
X	X	X	c3. To enable students to realize professional aspects of the work standards in textile industry at present.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "
The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

			c4.To be able to make an effective design presentation.	
			d1.To use appropriate terminology used in Textile Application	المهارات العامة
	X		d2.To understand the interrelationships in Textile Business	
	X		d3.To get an overview of Textile Industries in Egypt	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Textiles and Dying Technology	مسمى المقرر
708C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	
	X	X	X	a1 Describe the overview of Textile industry including history and current industry scenario.	المعلومات والمفاهيم
	X		X	a2. Identify the terminology associated with textile design material, process etc.	
X	X	X	X	a3 Describe the importance of market and trends and enhance observational skills.	
X	X	X	X	a4. Define the Textile industry functional aspects and roles and responsibilities of a designer.	
X	X	X	X	b1. Describe the application of design elements and principles for textile designing.	المهارات الذهنية
X	X	X	X	b2. Describe the design process and to make design ideas using innovative material and techniques.	
X	X	X	X	b3. Ascribe various design compositions. work of statistics and graphs and skills of results presentations.	
		X	X	c1. To understand the application of various techniques available in textile industry.	المهارات المهنية
		X	X	c2. To be able to differentiate among various textiles by looking at technique of making and design aspects.	
		X	X	c3. To enable students to realize professional aspects of the work standards in textile industry at present.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

	X			c4.To be able to make an effective design presentation.	المهارات العامة
X		X		d1.To use appropriate terminology used in Textile Application	
	X			d2.To understand the interrelationships in Textile Business	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

توصيف مقرر دراسي

١- بيانات المقرر		
الفرقة / المستوى : - pre-PhD course (second term) 2016-2017	اسم المقرر : Nanocomposites	الرمز الكودي : C709
نظري ٣ عملي	عدد الوحدات الدراسية :	التخصص : كيمياء عضوية
1. Students will gain some knowledge of the main types of nanocomposite materials and their specific physical and chemical properties required in applications. 2. Graduates will become familiar with the methods of preparation and characterization of specific physical properties of nanocomposite materials. 3. The current state of theory and modeling of nanocomposites will be presented. At the end of the course, students will have enough understanding of the main concepts in nanocomposites physics to allow them read and understand the most important research papers in this field.		٢- هدف المقرر :
٣- المستهدف من تدريس المقرر :		
- Graduate doctoral's program in organic chemistry should be able to: 1- Show mastering the basics and methodologies of scientific research, design specialized protocols, identify professional problems and find solutions. 2-Communicate effectively and Develop the ability to lead teams. 3- Show awareness in the development of society, communicate effectively & Develop the ability to lead teams.		
a1. Describe some knowledge of the main types of nanocomposite materials a2 identify some knowledge about the specific physical and chemical properties required in nanocomposites applications . a3. Define enough understanding of the main concepts in nanocomposites physics to allow them read and understand the most important research papers in this field a4. Identify the theory and modeling of nanocomposites is clearly illustrated.	أ- المعلومات و المفاهيم :	
b1.describe enough knowledge of the main types of nanocomposite materials b2 . identify enough knowledge about the physical and chemical properties of nanocomposites. b3. Identify the theory and modeling of nanocomposites.	ب - المهارات الذهنية :	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

<p>c1- Show mastering the basics of scientific research and modern professional skills. c2- Design the strategic synthetic protocols and evaluate professional reports. c3- Develop the ability to investigate and achieve know how of industrial products and evaluate methods & tools existing in the area of the proposed project.</p>	<p>ج - المهارات المهنية الخاصة بالمقرر :</p>
<p>d1. Learning by a combination of lectures and textbooks. d2. Time planning; working towards deadlines. d3. Biochemical skills and problem identification/solving. how to interpret d4. Basic problem solving skills including understanding experimental Biochemical data, core-concept knowledge. d5. Time-management, self-study, problem solving.</p>	<p>د - المهارات الهامة :</p>
<p>1. Ceramic/Metal Nanocomposite Systems. Preparation technologies: mechanical alloying, sol-gel synthesis, melt spraying. Structures: particles, thin films, wires, porous systems. Applications: electrical, magnetic, optical. 2. Nanocomposites based on polymer matrix : polymer / polymer, ceramic / polymer, metal / polymer, carbon nanotube / polymer. Preparation technologies: solid mixture, solutions mixing, in-situ polymerization, polymer coatings, other coatings. Applications: mechanical, electrical, optical. 3. Natural nanocomposites: Nanocomposites synthesized biologically; Nanocomposites synthesized by mimicking natural processes; Packaging proteins. 4. Nanocomposite materials modeling: current issues. Multiscale modeling. Multi-physics modeling.</p>	<p>٤- محتوى المقرر :</p>
<p>- Lectures using Data show - Discussion sessions -Assignments and reports</p>	<p>٥- أساليب التعليم و التعلم</p>
<p>- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها - تكليفهم بمهام او ابحاث اضافية</p>	<p>٦- أساليب التعليم و التعلم للطلاب ذوى القدرات المحدودة</p>
<p>٧- تقويم الطلاب :</p>	
<p>Written exam to assess (short essay and MCQ). -Mid-Term exam to assess to assess proceeding in learning -Final-Term examto assess knowledge and understanding problem solving. -Oral Exam to assess ability to understand knowledge.</p>	<p>أ- الأساليب المستخدمة</p>
<p>Assessment 1 Oral exam Week ... during the entire course. Assessment 2 ... Mid-Term exam Week9..... Assessment 3...Final exam Week : to be decided by general exam</p>	<p>ب - التوقيت</p>
<ul style="list-style-type: none"> • Mid-Term exam 10 % • Final-Term exam 70 % • Oral exam 5 % • Semester Work 5 % 	<p>ج - توزيع الدرجات</p>



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

Total	100%	
٨- قائمة الكتب الدراسية و المراجع :		
لا يوجد		أ- مذكرات
١. Abdel-Mohsen, M. , Rasha, M. A., Moustafa, M. G.,Fouda, L. Vojtova, L. Uhrova, A. F. Hassan, S. S., Al-Deyab, I. E., El-Shamy, J. J. (2014).Preparation, characterization and cytotoxicity of schizophyllan / silver nanoparticle composite. Carbohydrate Polymers, 102, 238-245.		ب- كتب ملزمة
٢. Cottrell, I. W., Kang, K. S., & Kovacs, P. (1980). Xanthan gum. In R. L. Davidson (Ed.), Handbook of water-soluble gums and resins (pp. 24(1)–24(31)). New York: McGraw-Hill.		
٣. Nadezhda, V. I., Natalya, N. T., Lydmila, A. E., Vasilyi, A. B.(2012). The Study of the Reaction of Pectin-Ag (0) Nanocomposites Formation. International journal of carbohydrate chemistry, 9.		
- journal of carbohydrate polymers. Journal of carbohydrate research. Langmuir journal. RSC advances journals.		د- دوريات علمية أو نشرات ... إلخ

رئيس مجلس القسم العلمي: ا.د/ وفاء غنيم شوشة

أستاذ المقرر: ا.د/ مجدى قنديل زهران

نموذج رقم (١١)

جامعة / أكاديمية : حلوان.....
كلية / معهد : ... العلوم....
قسم : الكيمياء.....

Nanocomposites Relative FIELD	مسمى المقرر
C709	كود المقرر

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	المهارات الذهنية	مهارات مهنية	مهارات عامة
Ceramic/Metal Nanocomposite Systems. Preparation technologies: mechanical alloying, sol-gel synthesis, melt spraying. Structures: particles, thin films, wires, porous systems. Applications: electrical, magnetic, optical.	1-4	a1, a2	b1,b2	c1,c2	d1 , d2
Nanocomposites based on polymer matrix : polymer / polymer, ceramic / polymer, metal / polymer, carbon nanotube / polymer. Preparation technologies: solid mixture, solutions mixing, in-situ polymerization, polymer coatings, other coatings. Applications: mechanical, electrical, optical.	5-9	a1, a2,a3,a4	b2,b3	c2,c3	d1,d2, d3
Natural nanocomposites: Nanocomposites synthesized biologically; Nanocomposites synthesized by mimicking natural processes; Packaging proteins. Nanocomposite materials modeling: current issues. Multiscale modeling. Multi-physics modeling.	9-12	a3,a4	b1,b2,b3	c1,c2,c3	d1-5

رئيس مجلس القسم العلمي: ا. د /وفاء شوشة

أستاذ المقرر: أ.د/ مجدي زهران



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Nanocomposites	مسمى المقرر
709C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم : الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقويم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X	a ₁ . Describe some knowledge of the main types of nanocomposite materials	المعلومات والمفاهيم
X		X	a ₂ identify some knowledge about the specific physical and chemical properties required in nanocomposites applications .	
X	X	X	a ₃ . Describe enough understanding of the main concepts in nanocomposites physics to allow them read and understand the most important research papers in this field	
X	X	X	a ₄ . Identify the theory and modeling of nanocomposites is clearly illustrated.	
X	X	X	b ₁ .identify enough knowledge of the main types of nanocomposite materials	المهارات الذهنية
X		X	b ₂ . identify enough knowledge about the physical and chemical properties of nanocomposites.	
X	X	X	b ₃ . Identify the theory and modeling of nanocomposites.	
X	X	X	c1- Show mastering the basics of scientific research and modern professional skills.	المهارات المهنية
X	X	X	c2- Design the strategic synthetic protocols and evaluate professional reports.	
X	X	X	c3- Develop the ability to investigate and achieve know how of industrial products and evaluate methods & tools existing in the area of the proposed project.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

			d1. Learning by a combination of lectures and textbooks.	المهارات العامة
	X		d2. Time planning; working towards deadlines.	
	X		d3. Biochemical skills and problem identification/solving.	
	X		d4. Basic problem solving skills including how to interpret understanding experimental Biochemical data, core-concept knowledge.	

رئيس مجلس القسم العلمى: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Nanocomposites	مسمى المقرر
709 C	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	
	X	X	X	a ₁ . Describe some knowledge of the main types of nanocomposite materials	المعلومات والمفاهيم
	X		X	a ₂ identify some knowledge about the specific physical and chemical properties required in nanocomposites applications .	
X	X	X	X	a ₃ . Define enough understanding of the main concepts in nanocomposites physics to allow them read and understand the most important research papers in this field	
X	X	X	X	a ₄ . Identify the theory and modeling of nanocomposites is clearly illustrated.	
X	X	X	X	b ₁ .describe enough knowledge of the main types of nanocomposite materials	المهارات الذهنية
X	X	X	X	b ₂ . identify enough knowledge about the physical and chemical properties of nanocomposites.	
X	X	X	X	b ₃ . Identify the theory and modeling of nanocomposites.	
		X	X	c1- Show mastering the basics of scientific research and modern professional skills.	المهارات المهنية
		X	X	c2- Design the strategic synthetic protocols and evaluate professional reports.	
		X	X	c3- Develop the ability to investigate and achieve know how of industrial products and evaluate methods & tools existing in the area	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

				of the proposed project.	
	X			d1. Learning by a combination of lectures and textbooks.	المهارات العامة
X		X		d2. Time planning; working towards deadlines.	
	X			d3. Biochemical skills and problem identification/solving.	
	X	X		d4. Basic problem solving skills including how to interpret experimental understanding Biochemical data, core-concept knowledge.	

رئيس مجلس القسم العلمى: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "
The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

توصيف مقرر دراسي

١ - بيانات المقرر		
الفرقة / المستوى : pre-PhD course (second term) 2016-2017	اسم المقرر : Nanotechnology	الرمز الكودي : 710 E
عملى	نظري ٣	عدد الوحدات الدراسية : التخصص : كيمياء عضويه

1. To gain an understanding of the principles of nanotechnology; characterization of nano structured materials; and tools and equipment for producing and assembling at the nano scale.
2. To acquire practical experience in the use of equipment used in nanotechnology such as AFM.
3. To cultivate interest in the research and development of nanotechnology for future advancement of the career.

٢ - هدف المقرر :

٣ - المستهدف من تدريس المقرر :

- a1. Describe an introduction of chemistry and synthesis of nanoparticles and establish a basis for further study of advanced topics in nanotechnology.
- a2. describe knowledge and understanding of classification, physical, and chemical properties of nanoparticles.
- a3. Identify practical skills in the associated laboratory course.

أ - المعلومات و المفاهيم :

- b1. Identify the principles of nanotechnology; characterization of nano structured materials.
- b2. Identify the tools and equipment for producing and assembling at the nano scale.
- b3. Describe how to gain practical experience in the use of equipment used in nanotechnology such as AFM, TEM, SEM, EDX, AMS...etc...

ب - المهارات الذهنية :

- c1. Combine between the chemical structure of nanoparticles and their reactivity.
- c2. Demonstrate the synthetic bath of the given nanomaterial.
- c3. characterization and application of different nanomaterials in industrial, agricultural and medical purposes.

ج - المهارات المهنية

الخاصة بالمقرر :

- d1. The use of laboratory instruments in organic chemistry experiments

د - المهارات الهامة :

1. Introduction to the course, Historical perspective of micro and nano manufacturing technology, Advantages and applications of nanotechnology
2. Materials overview, atomic structure, bonding, polymers, electrical characteristics, periodic table, crystal structures and defects, physical chemistry of solid surfaces, Introduction to Si-based materials, Ge-based

٤ - محتوى المقرر :



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

materials

3. Overview of Nano Fabrication Methods: Top-down and bottom-up approaches, lithography, deposition, CVD, PVD, etching, and material modification methods, processes and equipment
4. Characterization Tools, Optical microscopy, Profilometry, Ellipsometry, Spectrophotometer, Scanning Electron Microscope, AFM, FFM.
5. Zero dimensional Nano structures (Nano Particles) - Fabrication procedures, sol-gel processing, applications, properties and applications of Nano Particles
6. One dimensional Nano structures - Nano wires and nano rods, fabrication methods, Properties and applications of Nano Wires
7. Two dimensional nano structures
8. Top down fabrication procedures, Lithography, Pattern transfer methods, Wet Etching and Dry etching,
9. Nano material characterization methods,
10. Application of nano materials, Carbon Nano Tubes, Quantum dots, etc., Organic compounds and bio-applications of nano materials.

- Lectures using Data show
- Discussion sessions
- Assignments and reports

٥- اساليب التعليم و التعلم

- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها
- تكليفهم بمهام او ابحاث اضافية

٦- أساليب التعليم و التعلم للطلاب ذوي القدرات المحدودة.

٧- تقويم الطلاب :

Written exam to assess (short essay and MCQ).

- Mid-Term exam to assess to assess proceeding in learning
- Final-Term exam ...to assess knowledge and understanding problem solving.
- Oral Exam to assess ability to understand knowledge.

أ- الأساليب المستخدمة

Assessment 1 Oral exam Week ... during the entire course.

Assessment 2 ... Mid-Term exam Week9.....

Assessment 3 Final exam Week : to be decided by general exam

ب - التوقيت

- Mid-Term exam 10 %
- Final-Term exam 70 %
- Oral exam 10 %
- Semester Work 10 %

ج - توزيع الدرجات

Total 100%

٨- قائمة الكتب الدراسية و المراجع :

لا يوجد

أ- مذكرات

1. Jose, R. M., Jose. L. E., Alejandra, C., Katherine, H., Juan, B. K., Jose, T. R. and Miguel, J. Y. (2005). The bactericidal effect of silver nanoparticles. Nanotechnology. 16, 2346- 2353.
2. Zahran, M. K., Hanan B. Ahmed, El-Rafie, M. H.(2014a).Surface modification of cotton fabrics for antibacterial application by coating

ب- كتب ملزمة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

with AgNPs-Alginate composite. Carbohydrate polymers, 108, 145-152.

3. Zahran, M. K., Hanan B. Ahmed, El-Rafie, M. H. (2014c). Facile size regulated synthesis of silver nanoparticles using pectin. Carbohydrate polymers.
4. El-Rafie, M. H. , Hanan B. Ahmed, Zahran, M. K. (2014). Characterization of nanosilver coated cotton fabrics and evaluation of its antibacterial efficacy. Carbohydrate polymers, 107, 174-181.
5. Hossam E. E., Avinash P. M. , Barbora S. , Heinz D. , Bernhard R., Alexandra P. , Thomas B. (2013). Treatments to impart antimicrobial activity to clothing and household cellulosic-textiles e why "Nano"-silver? , Journal of Cleaner Production, 39, 17-23.
6. Ivan, O. S., Cecila N. and Ruben, G. B. (2003). Optical Properties of Metal Nanoparticles with Arbitrary Shapes. J. Phys. Chem. 107 (26), 6269-6275.

- Journal of nanoparticles research.
- Journal of nanotechnology and Nanomedicine.
- Journal of Nanoscience.

د- دوريات علمية أو نشرات ...
إلخ

رئيس مجلس القسم العلمي: ا.د/ وفاء غنيم شوشة

أستاذ المقرر: ا.د/ مجدى قنديل زهران



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Nanotechnology	مسمى المقرر
710 E	كود المقرر

جامعة / أكاديمية : حلوان.....
كلية / معهد : ... العلوم....
قسم : الكيمياء.....

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

مهارات عامة	مهارات مهنية	المهارات الذهنية	المعارف الرئيسية	أسبوع الدراسة	المحتويات للمقرر
	c1	b1	a1	1	Introduction to the course, Historical perspective of micro and nano manufacturing technology, Advantages and applications of nanotechnology
	c2	b1,b2	a1,a2	2	Materials overview, atomic structure, bonding, polymers, electrical characteristics, periodic table, crystal structures and defects, physical chemistry of solid surfaces, Introduction to Si-based materials, Ge-based materials
	c1,c2	b1,b2,b3	a1	3-4	Overview of Nano Fabrication Methods: Top-down and bottom-up approaches, lithography, deposition, CVD, PVD, etching, and material modification methods, processes and equipment
d1	c2,c3	b2,b3	a1,a3	5	Characterization Tools, Optical microscopy, Profilometry, Ellipsometry, Spectrophotometer, Scanning Electron Microscope, AFM, FFM.
	c2,c3	b1,b2	a1,a2,a3	6	Zero dimensional Nano structures (Nano Particles) - Fabrication procedures, sol-gel processing, applications, properties and applications of Nano Particles



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

	c1,c2	b1,b2	a1,a2	7	One dimensional Nano structures - Nano wires and nano rods, fabrication methods, Properties and applications of Nano Wires
	c1	1,b3b	a1,a2	8	Two dimensional nano structures
	c3	b1,b2	a1,a2	9-10	Top down fabrication procedures, Lithography, Pattern transfer methods, Wet Etching and Dry etching,
	c1,c2	b1,b2	a1,a3	11	Nano material characterization methods,
d1	c3	b1,b2,b3	a2,a3	12	Application of nano materials, Carbon Nano Tubes, Quantum dots, etc., Organic compounds and bio-applications of nano materials.

أستاذ المقرر: أ.د. / مجدي زهران

رئيس مجلس القسم العلمي: أ.د / وفاء غنيم شوشة



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Nanotechnology	مسمى المقرر
710 E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقييم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X	a1. Describe an introduction of chemistry and synthesis of nanoparticles and establish a basis for further study of advanced topics in nanotechnology.	المعلومات والمفاهيم
X		X	a2. describe knowledge and understanding of classification, physical, and chemical properties of nanoparticles.	
X	X	X	a3. Identify practical skills in the associated laboratory course.	
X	X	X	b1. Identify the principles of nanotechnology; characterization of nano structured materials.	المهارات الذهنية
X		X	b2. Identify the tools and equipment for producing and assembling at the nano scale.	
X	X	X	b3. Describe how to gain practical experience in the use of equipment used in nanotechnology such as AFM, TEM, SEM, EDX, AMS...etc...	
X	X	X	c1. Combine between the chemical structure of nanoparticles and their reactivity.	المهارات المهنية
X	X	X	c2. Demonstrate the synthetic bath of the given nanomaterial.	
X	X	X	c3. characterization and application of different nanomaterials in industrial, agricultural and medical purposes.	
X		X	d1. The use of laboratory instruments in organic chemistry experiments	المهارات العامة

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Nanotechnology	مسمى المقرر
710E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	
	X	X	X	a1. Describe an introduction of chemistry and synthesis of nanoparticles and establish a basis for further study of advanced topics in nanotechnology.	المعلومات والمفاهيم
	X		X	a2. describe knowledge and understanding of classification, physical, and chemical properties of nanoparticles.	
X	X	X	X	a3. Identify practical skills in the associated laboratory course.	
X	X	X	X	b1. Identify the principles of nanotechnology; characterization of nano structured materials.	المهارات الذهنية
X	X	X	X	b2. Identify the tools and equipment for producing and assembling at the nano scale.	
X	X	X	X	b3. Describe how to gain practical experience in the use of equipment used in nanotechnology such as AFM, TEM, SEM, EDX, AMS...etc...	
		X	X	c1. Combine between the chemical structure of nanoparticles and their reactivity.	المهارات المهنية
		X	X	c2. Demonstrate the synthetic bath of the given nanomaterial.	
		X	X	c3. characterization and application of different nanomaterials in industrial, agricultural and medical purposes.	
	X			d1. The use of laboratory instruments in organic chemistry experiments	المهارات العامة

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

توصيف مقرر دراسي

١- بيانات المقرر		
الفرقة / المستوى: Pre-doctoral course - 2 st term 2016-2017	اسم المقرر: Physical–Organic Chemistry and Chemical Reaction Mechanisms	الرمز الكودي: 711E
عدد الوحدات الدراسية: عملي 0 نظري 3	التخصص: Organic Chemistry	٢- هدف المقرر:
The objective of physical organic chemistry is: -Understand the details of reaction mechanisms, and gain insight into structures and reactivity common to organic chemicals . -Define the nature of the reaction coordinate: the structure of any intermediates, and the relative energy of reactants, products, intermediates, and transition states. - Introduce the students to concepts necessary to solving mechanistic organic problems encountered in the research laboratory.		٣- المستهدف من تدريس المقرر:
a1. Describe the different types of reactive intermediates as carbocation, carbanion and free radical intermediates with their Mechanisms. a2. identify the structures of the reaction products depending on the reaction mechanism via the reaction intermediates and their trapping, nucleophilic addition reactions and elimination reactions. a3. Identify the different techniques (experimental and computational) for the determination of mechanisms of organic reactions a4. Describe different types of reactive intermediates and show their importance in different reactions a5. Identify the fundamental concepts of chemical and biochemical catalysis a6. Describe the various forms of non-covalent interactions in organic, bioorganic and supramolecular systems, and predict the influence of solvent on reactivity a7. Identify important processes of organic molecules in electronically excited states.		أ- المعلومات و المفاهيم:
The course helps the student to: b1. Identify the synthesis of heterocyclic organic compounds. b2. Describe the structure and the reaction of heterocyclic organic compounds. b3. Identify the ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to the subject		ب – المهارات الذهنية:



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

areas identified above.	
<p>c₁. Develop the ability to demonstrate the reaction products through the reaction mechanisms.</p> <p>c₂. The analysis of experimentally organic chemical derived data and detects the structure of the reaction products.</p>	ج - المهارات المهنية الخاصة بالمقرر :
<p>d1. Learning by a combination of lectures and textbooks.</p> <p>d2. Time planning; working towards deadlines.</p> <p>d3. Biochemical skills and problem identification/solving.</p> <p>d4. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.</p>	د - المهارات الهامة :
<p>1- Modern methodology , reagents and reaction mechanisms</p> <p>2- Classification of fundamental reaction types: Bond formation and bond break, transfer reactions, addition reactions, elimination reactions, pericyclic reactions, oxidations and reductions</p> <p>3- Substitution reactions at carbon: Substitution at saturated carbon, nucleophilic displacement at a vinyl carbon, electrophilic displacement at an aromatic carbon, nucleophilic substitution at an aromatic center (the Ad-E and E – Ad sequence, the ANRORC route)</p> <p>4- Nucleophilic substitution at carbonyl carbon. Elimination reactions :Intramolecular pyrolytic eliminations, α- eliminations, oxidative eliminations</p> <p>5-Polar addition reactions: Electrophilic addition to alkenes, hydroboration, epoxidation, addition to dienes and allenes, nucleophilic additions to multiple bonds, vinyl substitution via addition/elimination</p> <p>6- Pericyclic reactions: Cycloadditions, thermal, 1,3-dipolar, electrocyclic , chelotropic, sigmatropic, acid catalyzed diels alder reactions</p> <p>7- Reactions via free radicals: Thermolysis, photolysis, redox, coupling, abstraction, addition to π system, electron transfer reactions</p>	هـ - محتوى المقرر :
<p>- Lectures using Data show</p> <p>- Discussion sessions</p> <p>-Assignments and reports</p>	و - اساليب التعليم و التعلم
<p>- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها</p> <p>- تكليفهم بمهام او ابحاث اضافية</p>	ز - أساليب التعليم و التعلم للطلاب ذوي القدرات المحدودة
	ح - تقويم الطلاب :
<p>Written exam to assess (short essay and MCQ).</p> <p>-Mid-Term exam to assess to assess proceeding in learning</p> <p>-Final-Term exam...to assess knowledge and understanding problem solving.</p> <p>-Oral Exam to assess ability to understand knowledge.</p>	أ - الأساليب المستخدمة
<p>Assessment 1 Oral exam Week ... during the entire course.</p> <p>Assessment 2 ... Mid-Term exam Week9.....</p> <p>Assessment 3.....Final examWeek : to be decided by general exam</p>	ب - التوقيت
<ul style="list-style-type: none"> • Mid-Term exam 10 % • Final-Term exam 60 % • Oral exam 10 % • Semester Work 20 % 	ج - توزيع الدرجات



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

Total	100%	
		٨- قائمة الكتب الدراسية و المراجع :
	لا يوجد	أ- مذكرات
	Text book of Organic Chemistry(5 th edition)-Paula Yurkanis Bruice, 2007.	ب- كتب ملزمة
	1- Organic Reaction Mechanisms. 2- Organic Chemistry (Ropert Thornton Morrision) 2004(Sixth Edition)	ج- كتب مقترحة
	Periodicals, Web sites, ... etc - Journal of chemical education (http://jchemed.chem.wisc.edu/index.html).	د- دوريات علمية أو نشرات ... إلخ

رئيس مجلس القسم العلمي : ا.د/ وفاء غنيم شوشة

أستاذ المادة : ا.د/ مجدى زهران



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Physical–Organic Chemistry and Chemical Reaction Mechanisms	مسمى المقرر
711E	كود المقرر

جامعة / أكاديمية : حلوان.....
كلية / معهد : ... العلوم....
قسم : الكيمياء.....

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

مهارات عامة	مهارات مهنية	المهارات الذهنية	المعارف الرئيسية	أسبوع الدراسة	المحتويات للمقرر
d1		b1	a1,a2,a3	1	1- Modern methodology , reagents and reaction mechanisms
d1	c2	b1	a1,a2,a3	1-2	2- Classification of fundamental reaction types: Bond formation and bond break, transfer reactions, addition reactions, elimination reactions, pericyclic reactions, oxidations and reductions
d1,d2	c2	b1,b2	a4,a5	3	3- Substitution reactions at carbon: Substitution at saturated carbon, nucleophilic displacement at a vinyl carbon, electrophilic displacement at an aromatic carbon, nucleophilic substitution at an aromatic centre (the Ad-E and E – Ad sequence, the ANRORC route)
d1,d2	c2	b2,b3		4-5	4- Nucleophilic substitution at carbonyl carbon. Elimination reactions :Intramolecular pyrolytic eliminations, α - eliminations, oxidative eliminations
d3,d4	c2	b1,b2,b3	a2,a4,a5	6-7	5-Polar addition reactions: Electrophilic addition to alkenes, hydroboration, epoxidation, addition to dienes and allenes, nucleophilic additions to multiple bonds, vinyl substitution via addition/elimination



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

d4	c1	b1,b2	a5,a6,a7	8-9	6- Pericyclic reactions: Cycloadditions, thermal, 1,3-dipolar, electrocyclic, chelotropic, sigmatropic, acid catalyzed diels alder reactions
	c1	b2,b3	a6,a7	10-12	7- Reactions via free radicals: Thermolysis, photolysis, redox, coupling, abstraction, addition to π system, electron transfer reactions

رئيس مجلس القسم العلمي: ا. د / وفاء شوشة

أستاذ المقرر: أ.د / مجدي قنديل زهران



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Physical–Organic Chemistry and Chemical Reaction Mechanisms	مسمى المقرر
711E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقويم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X	a1. Describe the different types of reactive intermediates as carbocation, carbanion and free radical intermediates with their Mechanisms.	المعلومات والمفاهيم
X		X	a2. identify the structures of the reaction products depending on the reaction mechanism via the reaction intermediates and their trapping, nucleophilic addition reactions and elimination reactions.	
X	X	X	a3. Describe the different techniques (experimental and computational) for the determination of mechanisms of organic reactions	
X	X	X	a4. Identify the different types of reactive intermediates and show their importance in different reactions	
X		X	a5. Define the fundamental concepts of chemical and biochemical catalysis	
	X	X	a6. Describe the various forms of non-covalent interactions in organic, bioorganic and supramolecular systems, and predict the influence of solvent on reactivity	
	X	X	a7. Describe the important processes of organic molecules in electronically excited states.	
X	X	X	b1. Describe the synthesis of heterocyclic organic compounds.	المهارات الذخيرة
X		X	b2. Describe the structure and the reaction of heterocyclic organic compounds	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

X	X	X	b3. Identify the ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to the subject areas identified above.	
X	X	X	c1. Develop the ability to demonstrate the reaction products through the reaction mechanisms.	المهارات المهنية
X	X	X	c2. The analysis of experimentally organic chemical derived data and detects the structure of the reaction products.	
X	X	X	c3. Develop the ability to demonstrate the reaction products through the reaction mechanisms.	
	X		d1. Learning by a combination of lectures and textbooks.	المهارات العامة
	X		d2. Time planning; working towards deadlines. d1-	
	X		d3. Biochemical skills and problem identification/solving.	
	X		d4. Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١)

Physical–Organic Chemistry and Chemical Reaction Mechanisms	مسمى المقرر
711E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	المعلومات والمفاهيم
	X	X	X	a1. Describe the different types of reactive intermediates as carbocation, carbanion and free radical intermediates with their Mechanisms.	
	X		X	a2. identify the structures of the reaction products depending on the reaction mechanism via the reaction intermediates and their trapping, nucleophilic addition reactions and elimination reactions.	
X	X	X	X	a3. Describe the different techniques (experimental and computational) for the determination of mechanisms of organic reactions	
X	X	X	X	a4. Identify the different types of reactive intermediates and show their importance in different reactions	
X			X	a5. Describe the fundamental concepts of chemical and biochemical catalysis	
X			X	a6. Identify the various forms of non-covalent interactions in organic, bioorganic and supramolecular systems, and predict the influence of solvent on reactivity	
X		X	X	a7. Describe the important processes of organic molecules in electronically excited states.	



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

X	X	X	X	b ₁ . Describe the synthesis of heterocyclic organic compounds.	المهارات الذهنية
X	X	X	X	b ₂ . Ascribe the structure and the reaction of heterocyclic organic compounds	
X	X	X	X	b ₃ . Identify the ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories relating to the subject areas identified above.	
		X	X	c ₁ . Develop the ability to demonstrate the reaction products through the reaction mechanisms.	المهارات المهنية
		X	X	c ₂ . The analysis of experimentally organic chemical derived data and detects the structure of the reaction products.	
		X	X	c ₃ . Develop the ability to demonstrate the reaction products through the reaction mechanisms.	
	X		X	d ₁ . Learning by a combination of lectures and textbooks.	المهارات العامة
X		X		d ₂ . Time planning; working towards deadlines. d ₂ -	
	X			d ₃ . Biochemical skills and problem identification/solving.	
	X	X		d ₄ . Basic problem solving skills including understanding how to interpret experimental Biochemical data, core-concept knowledge.	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١٢)

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

توصيف مقرر دراسي
دراسي

١ - بيانات المقرر

الفرقة / المستوى :

2st term Pre-doctoral course -
2016-2017

اسم المقرر :

Metallo-organic chemistry

الرمز الكودي : 712E

التخصص :

-عملی

٣ نظری

عدد الوحدات الدراسية :

٢ - هدف المقرر :

1. To provide an introduction to the fundamental principles of Metallo-organic chemistry

٣ - المستهدف من تدريس المقرر :

a1- Define the bases and fundamentals of elements spectra, uses and application

أ - المعلومات و المفاهيم :

a2- Identify the recognition of reaction mechanisms

a3- Describe the brain storming approach in industrial interpretation

b1- Describe the logical thinking of elements properties

ب - المهارات الذهنية :

b2- Identify the bases of chemical reactions

b3- identify the best employment of mineral resources

c1- Discussion and team spirit.

ج - المهارات المهنية

c2- Handling and preparations

c3- Estimation and problem analysis.

الخاصة بالمقرر :



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

<p>d₁. Learning by a combination of lectures, textbooks, and laboratory.</p> <p>d₂. Time planning; working towards deadlines.</p> <p>d₃. Biochemical skills and problem identification/solving.</p>	<p>د – المهارات الهامة :</p>
<p>1- Synthesis , Stabilization, reactions and industrial</p> <p>2-synthetic and medical uses of metallo –organic compounds: Organometal reagents – and catalysts Metal carbonyls , cyanides , carbides and cyanates – Metallo Porphyrins complexes , chiral porphyrin Hemoproteins, metalloproteins , metalloenzymes</p> <p>3- Metalloheterocycles with carbon – metal or carbon metalloid bonds – Metalloheterocycles with no carbon – metal bond in the ring Heterocycles containing a transition metal</p> <p>4- Metallophthalocyanines, Metallo- organic communal polymers syntheses</p>	<p>٤- محتوى المقرر :</p>
<p>- Lectures using Data show</p> <p>- Discussion sessions</p> <p>-Assignments and reports</p>	<p>٥- أساليب التعليم و التعلم</p>
<p>- متابعة مشاكلهم اثناء الساعات المكتبية والسعى لحلها</p> <p>- تكليفهم بمهام او ابحاث اضافية.</p>	<p>٦- أساليب التعليم و التعلم للطلاب ذوى القدرات المحدودة</p>
<p>٧- تقويم الطلاب :</p>	
<p>Written exam to assess (short essay and MCQ).</p> <p>- Mid-Term exam to assess to assess proceeding in learning.</p> <p>-Final-Term examto assess knowledge and understanding problem solving.</p> <p>-Oral Exam to assess ability to understand knowledge.</p>	<p>أ- الأساليب المستخدمة</p>
<p>Assessment 1 Oral exam Week ... during the entire course.</p> <p>Assessment 2 ... Mid-Term exam Week9.....</p> <p>Assessment 3Final exam Week : to be decided by general exam</p>	<p>ب – التوقيت</p>



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

ج - توزيع الدرجات

Mid-Term exam	10	%	•	
Final-Term exam	70	%	•	
Oral exam	10	%	•	
Semester Work	10	%	•	
Total			100%	
٨- قائمة الكتب الدراسية و المراجع :				
			لا يوجد	أ- مذكرات
			Essential books (text books)	ب- كتب ملزمة
				ج- كتب مقترحة
			- Journal of chemical education (http://jchemed.chem.wisc.edu/index.html).	د- دوريات علمية أو نشرات ... إلخ

رئيس مجلس القسم العلمي: ا.د/ وفاء غنيم شوشة

أستاذ المقرر: ا.د/ هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Metallo-organic chemistry	مسمى المقرر
712E	كود المقرر

جامعة / أكاديمية : ... حلوان.....

كلية / معهد : ... العلوم.....

قسم :الكيمياء.....

(أ) مصفوفة المعارف و المهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	المهارات الذهنية	مهارات مهنية	مهارات عامة
Synthesis , Stabilization, reactions and industrial	1-2	a1, a3	b1, b3	c1, c2	d1, d2, d3
synthetic and medical uses of metallo – organic compounds: Organometal reagents – and catalystsMetal carbonyls , cyanides , carbides and cyanates – Metallo Porphyrins complexes , chiral porphyrin, Hemoproteins, metalloproteins , metalloenzymes	3-6	a1, a2	b2, b3	c1, c2, c3	d1, d2
Metallo-heterocycles with carbon – metal or carbon metalloid bonds – Metallo-heterocycles with no carbon – metal bond in the ring Heterocycles containing a transition metal	7-10	a3	b2	c1, c3	d2, d3
Metallophthalocyanines, Metallo-organic communal polymers syntheses	11-13	a1	b3	c2, c3	d1, d2

رئيس مجلس القسم العلمي: ا.د/ وفاء غنيم شوشة

أستاذ المقرر: ا.د/ هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Metallo-organic chemistry	مسمى المقرر
712 E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ب) مصفوفة تحقق ملائمة أساليب التقييم لمحتوى المقرر

Mid-term exam	Semester-work (Oral exam, report)	Final written examination	مخرجات التعلم ILOS	
X	X	X	a1- Define the bases and fundamentals of elements spectra, uses and application	المعلومات والمفاهيم
X		X	a2- Identify the recognition of reaction mechanisms	
X	X	X	a3- Identify the brain storming approach in industrial interpretation	
X	X	X	b1- Describe the logical thinking elements properties	المهارات الذهنية
X		X	b2- identify the bases of chemical reactions	
X	X	X	b3- identify the best employment of mineral resources	
X	X	X	c1- Discussion and team spirit.	المهارات المهنية
X	X	X	c2- Handling and preparations	
X	X	X	c3- Estimation and problem analysis.	
	X		d1. Learning by a combination of lectures, textbooks, and laboratory.	المهارات العامة
	X		d2. Time planning; working towards deadlines.	
	X		d3. Biochemical skills and problem identification/solving.	

رئيس مجلس القسم العلمي: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. / هدى شمس



Faculty of Science

" إن جودة العلوم الأساسية هي الضمان للعلوم الأخرى "

The Quality of Basic Sciences is the Assurance for Other Sciences



وحدة ضمان
الجودة

نموذج رقم (١١١)

Metallo-organic chemistry	مسمى المقرر
712 E	كود المقرر

جامعة: حلوان
كلية: العلوم
قسم: الكيمياء

(ج) مصفوفة تحقق ملائمة أساليب التعليم و التعلم لمحتوى مقرر

Brain storming	Problem solving	Group discussion	Lectures	مخرجات التعلم ILOS	
	X	X	X	a1- define the bases and fundamentals of elements spectra, uses and application	المعلومات والمفاهيم
	X		X	a2- identify the recognition of reaction mechanisms	
X	X	X	X	a3- Describe the brain storming approach in industrial interpretation	
X	X	X	X	b1- Identify the logical thinking elements properties	المهارات الذهنية
X	X	X	X	b2- identify the bases of chemical reactions	
X	X	X	X	b3- identify the best employment of mineral resources	
		X	X	c1- Discussion and team spirit.	المهارات المهنية
		X	X	c2- Handling and preparations	
		X	X	c3- Estimation and problem analysis.	
	X			d1. Learning by a combination of lectures, textbooks, and laboratory.	المهارات العامة
X		X		d2. Time planning; working towards deadlines.	
	X			d3. Biochemical skills and problem identification/solving.	

رئيس مجلس القسم العلمى: ا.د. وفاء غنيم شوشة

أستاذ المقرر: ا.د. هدى شمس