

Course Syllabus

وصف المقرر الدراسي

<p>Name of the First instructor of the Course: Dr. Thukaa Zuhair Abdul-jalil</p> <p>Academic Rank: Lecturer</p> <p>Degree: Ph.D. in pharmacognosy and medicinal plants</p> <p>E-mail: Zakaa.Abd@copharm.uobaghdad.edu.iq</p>
<p>Name of the second instructor of the Course: Ali Rahman Jassim</p> <p>Academic Rank: : Lecturer</p> <p>Degree: Ph.D. in pharmacognosy and medicinal plants</p> <p>E-mail: Ali.abd@copharm.uobaghdad.edu.iq</p>
<p>Lab instructors</p> <p>Name of the First instructor of the Course: Ruaa Mohammed Ibrahim</p> <p>Accademic Rank: Lecturer</p> <p>Degree: Master in pharmacognosy and medicinal plants</p> <p>E-mail: ruaamohammed@copharm.uobaghdad.edu.iq</p>
<p>Name of the second instructor of the Course: Zahraa Suhail Nassir</p> <p>Accademic Rank: Assisstant lecturer</p> <p>Degree: Master in pharmacognosy and medicinal plants</p> <p>E-mail: zahraa.hussein@copharm.uobaghdad.edu.iq</p>

Name of the second instructor of the Course: Mais Abdul- ridah Abood

Accademic Rank: Assisstant lecturer

Degree: Master in pharmacognosy and medicinal plants

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1. College	Pharmacy	١. المؤسسة التعليمية
2. Department	Pharmacognosy & medicinal plant	٢. القسم العلمي / المركز
3. Course name/code	Pharmacognosy I	٣. اسم / رمز المقرر
4. Delivery format (on campus- hybrid – online)	online	٤. أشكال الحضور المتاحة
5. Semester – year	2nd Class, 2nd Semester	٥. الفصل / السنة
6. Total credit hours	Theory 3 hours	٦. عدد الساعات الدراسية (الكلي)
7. Date this document is prepared	2024	٧. تاريخ إعداد هذا الوصف
8. Aims of the cours	This course is intended to study the scope of Pharmacognosy, Medicinal plant nomenclature, classification of natural products, phytochemistry which include extraction and isolation of active constituents from natural sources.	٨. أهداف المقرر

9. Course outcomes and learning methods applied

مخرجات المقرر وطرائق التعليم والتعلم والتقييم

a. Knowledge

الاهداف المعرفية

Pharmacognosy is described as systematic science of morphological, chemical, and biological properties along with history, cultivation, collection, extraction, isolation, bio assaying, quality control, and preparation of crude drugs of natural origin

Learning and teaching methods

طرائق التعليم والتعلم

clear objectives (these can be put in the course handbook, with the lecture summaries, to avoid provision of them being forgotten by individual lecturers

clear overhead acetates or slides;

• a paced delivery (the larger the class and/or the more difficult the material the slower this should be);

• appropriate handouts which provide students with complex diagrams or difficult or critical text.

independent learning tasks;

• essays, dissertations and projects;

• library searches;

• portfolios;

• posters;

• videos.

b. Skills

الاهداف المهاراتية

Learning outcomes describe the measurable skills, abilities, knowledge or values that students should be able to demonstrate as a result of a completing a course so study the natural products give the origin of stereochemistry, optical activity, regioselectivity, chirality, and many other concepts and directions within science, also

- Analyze ideas and use logic to determine safe using of herbal medicine.
- Follow guidelines to arrange objects or actions in a certain order.
- Use reasoning to discover answers about different supplements .
- Recognize the nature of each natural drug and side effect for each one.
- Understand new information about natural

c. Attitude

الاهداف الوجدانية والقيمية

Pharmacognosy is a highly multidisciplinary field and may be considered the very first core of the pharmacy profession. Its ancient history causes extraordinary fractionation and the emergence of new disciplines over centuries. This fractionating has reached such great proportions upon the specialization trends of modern science that it has become questionable whether there is a certain discipline left from Pharmacognosy. However, crucial needs in natural health products, natural crude drugs, discovery of new molecules, and intersections of biology and chemistry with the increasing incidence of traditional/complementary/alternative/integrative medicine practices make pharmacognosy-educated pharmacists essential

d. Other skills acquired through the course (related to personal

development and employment) المهارات العامة والتأهيلية

المنقولة (المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي)

Medical students have consistently expressed interest in learning about alternative healing modalities, especially herbal and natural products. To fill this void in medical education at our institution, a novel elective was developed and implemented for fourth year medical students. This herbal/natural product course uses guest lecturers, classroom presentations, and active learning mechanisms that include experiential rotations, case-based learning, and team-based learning to increase student knowledge of herbal/natural product safety and efficacy.

Learning and teaching method:

• **Problem-Solving Method**

This approach is used mainly at the time of necessity. The issue should be presented to the pupils in plain language and in accordance with their comprehension and prior learning. With the assistance of the teacher, the students will be expected to analyse and synthesise the issue and attempt to identify a solution.

- Students get the ability to solve their own challenges.
- They improve their ability to make observations and make arguments.

• **Laboratory Method**

It is also referred to as the experimental approach. It takes more than just lecturing to make science instruction meaningful, efficient, engaging, and understandable. You also need to provide students with the chance to practise what they are learning. Students are provided all the tools they need in the lab, together with the appropriate instruments, to do their experiments on their own initiative and with their own initiative, then they

conduct the experiment, record the observation, and deduce their conclusion. Where necessary, the teacher leads the class.

- Students gain practical knowledge and competence using scientific tools and equipment.
- It aids in the formation of thinking, logical reasoning, and problem-solving habits.
- It is completely a student's-centred approach
- It supports the development of a more scientific mindset, attitude, and disposition.

It opens the door for the investigation, testing, and confirmation of scientific truths and principles.

- **Observation Method**

In this method, students learn new things by acquiring knowledge through observing. Students might be able to recognise nature in their surroundings through observations. Careful observation and listening are required during consideration.

- The students efficiently and clearly observe the similarities and differences between objects.
- They can develop confidence, self-reliance, and self-dependence.

- **Project Method**

This method involves discovery, and investigation to find out something, which was unknown to the students. Here, the student has the authority to choose which experiments are required and how he would do them. The student will behave scientifically. With this approach, the students are given a challenge and asked to come up with a solution.

- They learn how to be patient, content, and satisfied.
- They'll be able to establish a connection between the numerous topics.

9. Assessments methods

A wide range of assessment methods currently available include essay questions, patient management problems, modified essay questions (MEQs) checklists, OSCE, student projects, Constructed Response Questions (CRQs), MCQs, Critical reading papers, rating scales, extended matching items, tutor reports, portfolios, short case assessment and long case assessment, log book, trainer's report, audit, simulated patient surgeries, video assessment, simulators, self assessment, peer assessment and standardized patients.

*public of Iraq
Ministry of Higher Education and
scientific research
University of Baghdad
Quality Assurance and Academic
Performance Department*

*College: Pharmacy
Department:
pharmacognosy
and medicinal
plants
Stage: 2nd stage/2nd term*



10.Course structure					
week	hours	Learning outcomes	Subject/chapter	Learning methods	Assessment methods
1 st	3	General Introduction: The Scope of Pharmacognosy, definitions and basic principles, Drugs from natural sources, crude drugs, official and non-official drugs.	Pharmacognosy by Trease & Tylor	Lecture using different methods	Quiz (oral or written)
2 nd	3	Classification of natural products, Plant nomenclature and taxonomy.		Lecture using different methods	Quiz (oral or written)
3 rd	3	Production of crude drugs: Cultivation, collection, drying and storage, Deterioration of crude natural products.		Lecture using different methods	Quiz (oral or written)
4 th	3	Quality control: Evaluation of natural products; macroscopical evaluation; physical evaluation; chemical evaluation; biological evaluation; spectroscopical evaluation.		Lecture using different methods	Quiz (oral or written)
5 th , 6 th	6	Phytochemical investigation of herbal products: Extraction of the plant material; Separation and isolation of constituents; characterization of the isolated compounds.		Lecture using different methods	Quiz (oral or written)
7 th - 12 th	18	separation technique: Introduction; Mechanisms of		Lecture using different	Quiz (oral or written)

		separation and classification based on the type of technique; paper chromatography; Thin layer chromatography; Ion-exchange chromatography; Gel filtration chromatography; Column chromatography; Gas chromatography; HPLC; Electrophoresis; Affinity chromatography		methods	
13 th - 15 th	9	Tissue culture of medicinal plant: Introduction and history; laboratory of the plant tissue culture; aseptic techniques Application of the plant tissue culture; environmental and biological control; plant growth regulators.		Lecture using different methods	Quiz (oral or written)

11. Infrastructure		بنية المقرر	
1. Required text books	<ul style="list-style-type: none"> • Trease and Evans Pharmacognosy; 20th ed., 2020 • Robbers JE, Speedie MK, Tyler VE (Eds.); Pharmacognosy and Pharmacobiotechnology; the latest edition. • Michael Heinrich, Joanne Barnes; Fundamentals of Pharmacognosy & Phytotherapy. 		١- الكتب المقررة المطلوبة

<p>2. Fundamental readings</p> <p>Text book of Pharmacognosy by C. K. Kokate, S. B. Gokhale, A.P. Purohit, Nirali Prakashan Text book of Pharmacognosy by C.S. Shah and J. S. Qadry, CBS Publishers & Distributors Pvt. Ltd. Text Book of Pharmacognosy by T. E. Wallis. CBS Publishers & Distributors Pvt. Ltd.</p>		<p>2. المراجع الرئيسية (المصادر)</p>	
<p>a. Books and other recommended reading</p> <p>Study of crude drugs by M. A. Iyengar, Manipal Press Ltd, Manipal Powder crude drugs by M. A. Iyengar, Manipal Press Ltd, Manipal Anatomy of crude drugs by M. A. Iyengar, Manipal Press Ltd, Manipal Augmented Text Book of Homeopathic Pharmacy by Dr. D D Banerjee, B Jain Publishers (P) Ltd</p> <p>Journals</p> <ul style="list-style-type: none"> • <u>Chemistry of Natural Compounds</u> • <u>Journal of Natural Products</u> • <u>Natural Product Reports</u> • <u>Natural Product</u> 			<p>أ الكتب والمراجع التي يوصى بها (المجلات العلمية، التقارير،)</p>

<u>Research</u>			
b. Electronic resources From authenticated online sources like Scopus, Science Direct, Elsevier, PubMed and Web of Science			بأ المراجع الالكترونية، مواقع الانترنت،
12. Course development plan		خطة تطوير المقرر الدراسي	
<p>التعاون مع جامعات عالمية عن طريق توطيد العلاقات من خلال الأستاذ الزائر لتبادل الخبرات بين التدريسيين وتحديث الادوية النباتية بما يتاسب مع ماموجود في السوق الحالية حيث يتم تدريس ادوية نباتية تم سحبها من السوق ولايدرس مركب نباتي يباع الان في الاسواق العالمية وعلى مستوى من الاهمية مثال على ذلك Etoposide from Podophyllum plant and sillymarin from <i>silybum marianum</i></p>			