

	Ministry of Higher Education and Scientific Research - Iraq AL Mustaqbaj University College of science Department of Medical Biotechnology	
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## "COURSE PORTFOLIO"

Module Information					
معلومات المادة الدراسية					
Module Title	Medicinal Plants			Module Delivery	
Module Type	Basic			<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code	Bio-				
ECTS Credits	7.0				
SWL (hr/sem)	175				
Module Level		3		Semester	
Department		Biological		College	
Module Leader		Dr.Sarah Kamil Abbood		E-mail	
Module Leader's Acad. Title				Module Leader's Qualification	
Module Tutor		Name (if available)		e-mail	
Peer Reviewer Name		Name		E-mail	
Scientific Committee Approval Date				Version Number	

**Student Workload (SWL):** Structured SWL (h/w) (Two contact hours of lectures) + Unstructured SWL (h/w) .

Student Workload (SWL) الحمل الدراسي للطالب			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	64	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	4
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	111	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	7.40
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	175		

### Relation with other Modules:-

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
<b>Prerequisite module</b>	None	<b>Semester</b>	
<b>Co-requisites module</b>	None	<b>Semester</b>	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
<b>COURSE DESCRIPTION:</b>	
<b>Module Aims</b> أهداف المادة الدراسية	1-How to extract and isolate the active constituents using standard methods. 2-How to identify and evaluate of isolated products by physical and chemical methods, and also by chromatographic techniques and authentic materials. 3-How to discuss the therapeutic actions of main classes of phytochemical and their interactions with other herbs or drugs. 4-How evaluate the use of plant and plant products as medicinal agents
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	1-Practicing different methods of extraction methods of extraction on active constituents.  2-Practicing different methods of extraction methods of identification on active constituents.
<b>Indicative Contents</b> المحتويات الإرشادية	In lecture lab #1-#5 they will need (10hr). In lecture lab #7- #13 they will need (50 hr). In lecture lab #15 they will need (10hr).

Learning and Teaching Resources
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مصادر التعلم والتدريس		
	Text	Available in the Library?
<b>1- Required textbooks</b>	<ul style="list-style-type: none"> <li>- Pharmacognosy and Pharmaco biotechnology by Tyler, 1996.</li> <li>- Practical manual, college of pharmacy/ University of Baghdad.</li> <li>- Text books</li> </ul>	No
<b>2- Main references (sources)</b>		No
<b>A- Recommended books and references (scientific journals, reports, etc.)</b>	International network for information about medicinal plants Scientific journals Thesis and dissertation	No

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
<b>Success Group (50 - 100)</b>	<b>A – Excellent</b>	امتياز	90 – 100	Outstanding Performance
	<b>B - Very Good</b>	جيد جدا	80 – 89	Above average with some errors
	<b>C – Good</b>	جيد	70 – 79	Sound work with notable errors
	<b>D – Satisfactory</b>	متوسط	60 – 69	Fair but with major shortcomings
	<b>E – Sufficient</b>	مقبول	50 – 59	Work meets minimum criteria
<b>Fail Group (0 – 49)</b>	<b>FX – Fail</b>	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	<b>F – Fail</b>	راسب	(0-44)	A considerable amount of work is required

**Note:** Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example, a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails," so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

### **COURSE SCHEDULE:-**

<b>Week</b>	<b>hours</b>	<b>Topics Covered</b>	<b>Learning Outcomes</b>
<b>1</b>	2	General introduction	the scope of medical plants and pharmacognosy, definitions & basic principles, natural sources of drugs, crude drugs
<b>2</b>	2	Classification of natural products	plant nomenclature & taxonomy, production of crude drugs: cultivation, collection, drying, storage
<b>3</b>	2	Introduction:General biosynthesis pathway of secondary metabolites	
<b>4</b>	2	Major Classes of Secondary Metabolites	
<b>5</b>	2	Tannins , Introduction of volatile oils <b>Plant containing volatile oils</b>	
<b>6</b>	2	Mid Exam	
<b>7,8</b>	2	Chemistry of natural products Quality control of crude drugs	
<b>9</b>	2	Phytochemistry: Extraction of plant materials	
<b>10</b>	2	<b>Non medicinal toxic plants</b>	
<b>11</b>	2	Alkaloids	

<b>12</b>	2	Tissue culture of medicinal plants: introduction & history	
<b>13,14</b>	2	Application of plant tissue culture , environmental & biological control, production of secondary substances	
<b>15</b>	2	<b>Final Exam</b>	

<b>Delivery Plan (Weekly Lab. Syllabus)</b> <b>المنهاج الاسبوعي للمختبر</b>	
<b>Week</b>	<b>Material Covered</b>
<b>Week 1</b>	Extraction techniques
<b>Week 2</b>	Review and general talk about glycoside
<b>Week 3</b>	Identification of cardiac glycosides
<b>Week 4</b>	<b>First exam</b>
<b>Week 5</b>	Extraction of cardiac glycosides
<b>Week 6,7</b>	Extraction of anthra-quinone Identification of anthra-quinone
<b>Week 8</b>	Extraction of saponine glycosides
<b>Week 9</b>	<b>Identification</b> of saponine glycosides
<b>Week 10</b>	Second Exam
<b>Week 11</b>	Tannins extraction and identification

### Learning Outcomes and Assessment Methods for " Immunology " Course.

Topics Covered	Learning	Strategies for Achieving	Assessment Methods
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	Outcomes	Outcomes	
	1-6	Report Writing, Field Visits, Theoretical Lectures, Scientific Films, Exploratory Work Teams.	Quizzes, Major reports, discussions during lectures, Written Exams, and oral exams.
	1-3	Problem-Based Learning, Report Writing, Field Visits, Scientific Trips, Theoretical Lectures, Small Group Discussions, Scientific Films, Exploratory Work Teams.	Seminars, Major reports, and discussions during lectures. Written Exams, oral exams.
	3-6	Problem Based Learning, Report Writing, Theoretical Lectures, Small Group Discussions, Scientific Films.	Quizzes, discussions during lectures, Written Exams, homework, and oral exams.
	1-6	Report Writing, Scientific Trips. Theoretical Lectures, Small Group Discussions, and Scientific Films.	Seminars, Major reports, and discussions during lectures. Written Exams, oral exams.
	1-3	Theoretical Lectures, Small Group Discussions,	Seminars, quizzes, discussions during lectures, Written Exams, and oral exams.
	1-6	Problem-Based Learning, Report Writing, Field Visits, Scientific Trips, Theoretical Lectures, Small Group Discussions, Scientific Films, and Exploratory Work Teams.	Seminars, quizzes, Major reports, Written Exams, homework, and oral exams.
	2-3	Problem-Based Learning, Theoretical Lectures, Small Group Discussions.	Quizzes and discussions during lectures. Written Exams, Homework.

### Module Evaluation:-

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment (40%)	Quizzes	2	10% (10)	5, 10	LO #1, 3 and 5
	Assignments & H.W.	2	10% (10)	2, 12	LO # 1, 3 and 6
	Projects / Lab.	1	10% (10)	Continuous	
	Seminar	1	10% (10)		

	<b>Field Visits Report</b>	1	10% (10)	10	LO # 3, 6
	<b>Discussions During Lectures</b>	10	10% (10)	Continuous	ALL
<b>Summative assessment</b>	<b>Midterm Exam (10%)</b>	2 hr	10% (10)	8	LO # All
	<b>Final Exam (50%)</b>	3hr	50% (50)	16	All
<b>Total assessment</b>			100% (100 Marks)		

**(SWL= SSWL +USWL) توزيع الساعات المجدولة و الغير مجدولة**

Activity types	Structured SWL	Un structured SWL	No. of weeks	Time Factor	SWL (hr)
Class	32	66	15	2	98
Lab.	32	45	15	2	77
Tutorial					
Self Study		7.40	15		7.40
Quizzes	2		2	30 min.	2
discussions during lectures	5		15	20 min.	5
Projects / Lab.	15	2	15	1 hr.	16
Seminar	2	5	1	15 min.	12
Assignments, Home Work		4	1		4
Report		10	1		10
Midterm Exam (10%)	4		1		4
Final Exam (50%)	4		1		4
		Total SWL (hr/ Semester)			175
		ECTS			7