

|   |   |   |
|---|---|---|
|  | <p>Ministry of Higher Education and<br/>Scientific Research - Iraq<br/>AL Mustaqbaj University<br/>College of science<br/>Department of Medical Biotechnology</p> |  |
|---|---|---|

## "COURSE PORTFOLIO"

| Module Information                 |                       |   |  |
|------------------------------------|-----------------------|---|--|
| معلومات المادة الدراسية            |                       |   |  |
| Module Title                       | Medicinal Plants      | Module Delivery   |  |
| Module Type                        | Basic                 | <input checked="" type="checkbox"/> Theory<br><input checked="" type="checkbox"/> Lecture<br><input checked="" type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |  |
| Module Code                        | Bio-                  |   |  |
| ECTS Credits                       | 7.0                   |   |  |
| SWL (hr/sem)                       | 175                   |   |  |
| Module Level                       | 3                     | Semester  | 1  |
| Department                         | Biological            | College   | College of Science   |
| Module Leader                      | Dr.Sarah Kamil Abbood | E-mail  | <a href="mailto:sarah.kamil@uomus.edu.iq">sarah.kamil@uomus.edu.iq</a> |
| Module Leader's Acad. Title        |                       | Module Leader's Qualification   |  |
| Module Tutor                       | Name (if available)   | e-mail  | E-mail   |
| Peer Reviewer Name                 | Name                  | e-mail  | E-mail   |
| Scientific Committee Approval Date |                       | Version Number  |  |

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

| <h3 style="text-align: center;">Student Workload (SWL)</h3> <h4 style="text-align: center;">الحمل الدراسي للطالب</h4> |     |   |      |
|---|-----|---|------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطالب خلال الفصل  | 64  | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطالب أسبوعيا       | 4    |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطالب خلال الفصل  | 111 | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطالب أسبوعيا | 7.40 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطالب خلال الفصل   | 175 |   |      |

#### Relation with other Modules:-

| <h4>Relation with other Modules</h4> <h4>العلاقة مع المواد الدراسية الأخرى</h4> |             |                 |  |
|---|-------------|-----------------|--|
| <b>Prerequisite module</b>  | <b>None</b> | <b>Semester</b> |  |
| <b>Co-requisites module</b>   | <b>None</b> | <b>Semester</b> |  |

| <h3 style="text-align: center;">Module Aims, Learning Outcomes and Indicative Contents</h3> <h4 style="text-align: center;">أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</h4> |  |
|---|--|
| <b>COURSE DESCRIPTION:</b>  |  |
| <b>Module Aims</b><br>أهداف المادة الدراسية   | 1-How to extract and isolate the active constituents using standard methods.<br>2-How to identify and evaluate of isolated products by physical and chemical methods, and also by chromatographic techniques and authentic materials.<br>3-How to discuss the therapeutic actions of main classes of phytochemical and their interactions with other herbs or drugs.<br>4-How evaluate the use of plant and plant products as medicinal agents |
| <b>Module Learning Outcomes</b><br>مخرجات التعلم للمادة الدراسية  | 1-Practicing different methods of extraction methods of extraction on active constituents.<br><br>2-Practicing different methods of extraction methods of identification on active constituents.   |
| <b>Indicative Contents</b><br>المحتويات الإرشادية   | In lecture lab #1-#5 they will need (10hr).<br><br>In lecture lab #7- #13 they will need (50 hr).<br><br>In lecture lab #15 they will need (10hr).   |

#### Learning and Teaching Resources

| مصادر التعلم والتدریس   |   |                           |
|---|---|---------------------------|
|   | 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> | <p>International network for information about medicinal plants</p> <p>Scientific journals</p> <p>Thesis and dissertation</p>   | 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 الأسبوعي 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<br>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.**

| <b>Topics Covered</b> | <b>Learning</b> | <b>Strategies for Achieving</b> | <b>Assessment Methods</b> |
|-----------------------|-----------------|---------------------------------|---------------------------|
|-----------------------|-----------------|---------------------------------|---------------------------|

|  | <b>Outcomes</b> | <b>Outcomes</b>  |   |
|--|-----------------|--|---|
|  | 1-6             | Report Writing, Field Visits, Theoretical Lectures, Scientific Films, Exploratory Work Teams.  | Quizzes, Major reports, discussions during lectures, Written Exams, <b>and oral exams.</b>          |
|  | 1-3             | Problem-Based Learning, Report Writing, Field Visits, Scientific Trips, Theoretical Lectures, Small Group Discussions, Scientific Films, Exploratory Work Teams.     | <b>Seminars</b> , Major reports, and discussions during lectures. Written Exams, <b>oral exams.</b> |
|  | 3-6             | Problem Based Learning, Report Writing, Theoretical Lectures, Small Group Discussions, Scientific Films.   | Quizzes, discussions during lectures, Written Exams, homework, and <b>oral exams.</b>               |
|  | 1-6             | Report Writing, Scientific Trips. Theoretical Lectures, Small Group Discussions, and Scientific Films.   | <b>Seminars</b> , Major reports, and discussions during lectures. Written Exams, <b>oral exams.</b> |
|  | 1-3             | Theoretical Lectures, Small Group Discussions,   | <b>Seminars</b> , quizzes, discussions during lectures, Written Exams, <b>and oral exams.</b>       |
|  | 1-6             | Problem-Based Learning, Report Writing, Field Visits, Scientific Trips, Theoretical Lectures, Small Group Discussions, Scientific Films, and Exploratory Work Teams. | <b>Seminars</b> , quizzes, Major reports, Written Exams, homework, and <b>oral exams.</b>           |
|  | 2-3             | Problem-Based Learning, Theoretical Lectures, Small Group Discussions.   | Quizzes and discussions during lectures. Written Exams, Homework.                                   |

### **Module Evaluation:-**

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

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

| 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        |