

Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E
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Study Plan No.	2021/2022	University Specialization	Bachelor of Pharmacy
Course No.	0201442	Course Name	Phytotherapy
Credit Hours	2	Prerequisite *Co-requisite	Pharmacology (1) + Chemistry of Natural Products
Course Type	<input type="checkbox"/> Mandatory University Requirement <input type="checkbox"/> University Elective Requirement	<input type="checkbox"/> Faculty Mandatory Requirement <input type="checkbox"/> Support course family requirements	<input checked="" type="checkbox"/> Mandatory Requirement <input type="checkbox"/> Elective Requirement
Teaching Style	<input type="checkbox"/> Full Online Learning	<input checked="" type="checkbox"/> Blended Learning	<input type="checkbox"/> Traditional Learning
Teaching Model	<input type="checkbox"/> 1 Synchronous: 1 Asynchronous	<input checked="" type="checkbox"/> 1 Face to Face: 1 Asynchronous	<input type="checkbox"/> 2 Traditional

### Faculty Member and Study Divisions Information (to be filled in each semester by the subject instructor)

Faculty of Education - Faculty					
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### Brief Description

#### Brief course description

This course is a complimentary of pharmacology and the chemistry of natural products. It gives a basic information about herbal medicine and natural products, including indications, dosing, side effects, contraindications, herb-herb, and herb-drug interactions. Information resources, quality control, and standardization of herbal products are also included.

### Learning Resources

Course Book Information (Title, author, date of issue, publisher ... etc)	1. Fundamentals of pharmacognosy and phytotherapy, 3 <sup>rd</sup> edition. Michael Heinrich, Joanne Barnes, Simon Gibbons Elizabeth M. Williamson. Elsevier, 2018.
Supportive Learning Resources (Books, databases, periodicals, software, applications, others)	2. Phytotherapy for pharmacy students, a textbook for pharmacy students, Dr. Dezső Csupor, University of Szeged, 2015. 3. Mosby's Handbook of Herbs & Natural Supplements. 4 <sup>th</sup> Edition by Linda Skidmore-Roth. RN, MSN, NP, 2010. 4. Herbal Medicines, Joanne Barnes, Linda A. Anderson and J. David Phillipson, Third Edition, ISBN 978 0 85369 623 0, 2008, RPS Publishing, UK. 5. Pharmacotherapy Casebook: A Patient-Focused Approach, 10 <sup>th</sup> edition

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	<p>Terry L. Schwinghammer, Julia M. Koehler, Jill S. Borchert, Douglas Slain, Sharon K. Park.</p> <p>6. National Center for Complementary and Integrative Health, National Institutes of Health (NIH). Available online at <a href="https://nccih.nih.gov">https://nccih.nih.gov</a></p> <p>7. Natural Medicines Comprehensive Database: <a href="http://www.naturaldatabase.com">http://www.naturaldatabase.com</a></p> <p>8. Medline Plus, the U.S. National Library of Medicine, National Institute of Health: <a href="http://www.nlm.nih.gov/medlineplus/druginfo/herb_All.html">http://www.nlm.nih.gov/medlineplus/druginfo/herb_All.html</a></p> <p>9. American Botanical Council: <a href="http://abc.herbalgram.org">http://abc.herbalgram.org</a></p> <p>10. FDA Medwatch, The FDA Safety Information and Adverse Event Reporting Program: <a href="http://www.fda.gov/medwatch">www.fda.gov/medwatch</a> The WHO monographs on selected medicinal plants: <a href="http://apps.who.int/medicinedocs/en/d/Js2200e/">http://apps.who.int/medicinedocs/en/d/Js2200e/</a></p>			
Supporting Websites				
The Physical Environment for Teaching	<input checked="" type="checkbox"/> Class room	<input type="checkbox"/> Labs	<input checked="" type="checkbox"/> Virtual Educational Platform	<input type="checkbox"/> Others
Necessary Equipment and Software	<ul style="list-style-type: none"> <li>- PC/laptop with headphones and camera.</li> <li>- Microsoft Office.</li> <li>- Microsoft Teams.</li> <li>- Moodle.</li> <li>- Zoom.</li> </ul>			
Supporting People with Special Needs				
For Technical Support	<p>E-Learning &amp; Open Educational Resources Center. Email: <a href="mailto:ellearning@zuj.edu.jo">ellearning@zuj.edu.jo</a>; Phone: +962 6 429 1511 ext. 425/362.</p>			

### Course learning outcomes (K= Knowledge, S= Skills, C= Competencies)

No.	Course Learning Outcomes	The Associated Program Learning Output Code
<b>Knowledge</b>		
K1	Recognize different types of complementary and alternative medicine including phytotherapy.	MK3
K2	Describe different regulations of herbal medicines in Jordan and worldwide.	MK3
K3	Give original examples of drugs from natural sources available in the local market for treatment of different disorders.	MK3
<b>Skills</b>		
S1	Categorize natural products based on therapeutic outcome.	MS2
S2	Illustrate the indications of herbal medicines, dosage, side effects, common herb-drug interactions, contraindications, precautions, and use during pregnancy and lactation	MS2
<b>Competencies</b>		
C1	Develop professional and personal performance by continuously following-up lectures, submitting tasks on time, and staying up to date with the latest natural drug information.	MC3
C2	Collaborate effectively with team members to achieve shared goals.	MC3

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### Mechanisms for Direct Evaluation of Learning Outcomes

Type of Assessment / Learning Style	Fully Electronic Learning	Blended Learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
Midterm Exam	30%	30%	30%	0%
Participation / Practical Applications	0%	0%	20%	50%
Asynchronous Interactive Activities	20%	20%	0%	0%
Final Exam	50%	50%	50%	50%

**Note 1:** Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, and work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.

**Note 2:** According to the Regulations of granting Master's degree at Al-Zaytoonah University of Jordan, 40% of final evaluation goes for the final exam, and 60% for the semester work (examinations, reports, research or any scientific activity assigned to the student).

### Schedule of Simultaneous / Face-to-Face Encounters and their Topics

Week	Subject	Learning Style*	Reference **
1-3	<b>Introduction to Phytotherapy</b> <ul style="list-style-type: none"> <li>Fundamentals of phytotherapy</li> <li>Quality control and standardization of herbal medicines</li> <li>Evidence Based Medicine</li> <li>Herbal formulations</li> <li>Herb-drug interactions</li> </ul>	Lectures	<b>Chapter 10 (162-172)</b>  <b>Chapter 11 (173-178)</b>
4-5	<b>Herbal therapy for the Cardiovascular System Disorders.</b> <ul style="list-style-type: none"> <li>Heart Failure: Foxglove and Hawthorn.</li> <li>Hypertension: Hawthorn, Garlic, Valerian and Rauwolfia.</li> <li>Chronic Venous Insufficiency: Horse chestnut and Butcher's broom.</li> </ul>	Lectures	<b>Chapter 21 (250-258)</b>

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6-7	<b>Herbal therapy for Central Nervous System Disorders.</b> <ul style="list-style-type: none"> <li>Anxiety, sleeping disorders: Valerian, Hop and Lavender, Lemon-balm, Passionflower, Oat and Motherwort.</li> <li>Depression: St. John's wort.</li> <li>Migraine: Feverfew and Aroma therapy.</li> </ul>	Lectures	<b>Chapter 23</b> (273-285)
8-9	<b>Herbal therapy for Genitourinary System Disorders.</b> <ul style="list-style-type: none"> <li>Infections of the urinary tract: Bearberry, Juniper, Goldenrod, Parsley and Java tea.</li> <li>Benign prostatic hyperplasia: Saw palmetto, Pumpkin and Nettle.</li> </ul> <b>Midterm Exam</b>	Lectures	<b>Chapter 24</b> (286-294)  <b>Chapter 25</b> (301-305)
10-12	<b>Herbal therapy for Gastrointestinal System Disorders.</b> <ul style="list-style-type: none"> <li>Carminatives: Caraway, Fennel and Peppermint.</li> <li>Loss of appetite: Wormwood, Centaury and Fenugreek.</li> <li>Bulk-forming laxatives: Linseed</li> <li>Stimulant laxatives: Senna, Aloe, Cascara, Frangula and Rhubarb.</li> </ul>	Lectures	<b>Chapter 20</b> (235-249)
13-14	<b>Herbal therapy for Respiratory System Disorders.</b> <ul style="list-style-type: none"> <li>Dry cough: Marshmallow and Iceland moss.</li> <li>Productive cough: Ivy and Thyme, Eucalyptus and Licorice/liquorice.</li> </ul>	Lectures	<b>Chapter 22</b> (259-272)
15	<b>Herbal Therapy for Dermatological Disorders:</b> <ul style="list-style-type: none"> <li>Aloe Vera, Evening Primrose oil, and Witch Hazel.</li> </ul>	Lectures	<b>Chapter 28</b> (318-325)
16	<b>Final Exam</b>		

\* Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.

\*\* Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.

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**Schedule of Asynchronous Interactive Activities** (in the case of e-learning and blended learning)

Week	Task / Activity	Reference	Expected Results
1-3	Assignment about herbal regulations in Jordan	JFDA website	Answer the assignment questions by reference to an official website.
4-5	Group presentation about drugs from natural sources available in the local market for treatment of cardiovascular system disorders	Different Resources	Prepare a scientific presentation accompanied with a brief explanation record by collaborating with group members.
6-7	Group presentation about drugs from natural sources available in the local market for treatment of central nervous system disorders.	Different Resources	Prepare a scientific presentation accompanied with a brief explanation record by collaborating with group members.
8-9	Group presentation about drugs from natural sources available in the local market for treatment of genitourinary system disorders.	Different Resources	Prepare a scientific presentation accompanied with a brief explanation record by collaborating with group members.
10-12	Group presentation about drugs from natural sources available in the local market for treatment of gastrointestinal system disorders.	Different Resources	Prepare a scientific presentation accompanied with a brief explanation record by collaborating with group members.
13-14	Group presentation about drugs from natural sources available in the local market for treatment of respiratory system disorders.	Different Resources	Prepare a scientific presentation accompanied with a brief explanation record by collaborating with group members.