



Philadelphia University
Faculty of Pharmacy
Department of Pharmaceutical science
Second semester, academic year 2016/2017

Course Syllabus

Course Title: PHYTOTHERAPY

Course code: 0510542

Course Level: 4th Level

Course prerequisite:

Phytochemistry and Pharmacognosy (0510217)

Credit hours: 3 hours

Academic Staff

Name	Rank	Office Location / Number	Office hours	Lectures Time	E-mail
Dr. Pran Kishore Deb	Assistant professor	Faculty of Pharmacy (529)	Sun/Tues/Thurs 11.00 – 12.00 Mon/Wed 8.15 – 9.15	Sun/Tues/Thurs 9.10 -10.00 Mon/Wed 11.15 – 12.45	pdeb@philadelphia.edu.jo
Dr. Yousef Abusamra	Assistant professor	Faculty of Nursing (408)	Sun/Tues/Thurs 10.11 – 11.00 Mon/Wed 11.15 – 12.15	Mon/Wed 8.15 – 9.45	

Course descriptions:

- Phytotherapy is the medical use of plants and plant extracts for therapeutic purposes. It is treated as a synonym for herbal medicine by a variety of authorities including the American National Cancer Institute.
- This course is a complimentary part for previous courses of pharmacology, phytochemistry and pharmacognosy. It gives a basic idea about treatment using medicinal plant or what is known as phytotherapy. It includes definition of phytotherapy, terminology, historical background, available dosage form in the market, toxicity, precaution, regulation and legislation. The effects of common food ingredients and standardised plant extracts directly

pertinent to the pharmacological effects or overall safety of plant based medicines are also dis.

- Scientific evidences ascertaining clinical applications of herbs and natural products in medicine, from case histories to full clinical trials are also emphasised including herb-herb interaction and herb-drug interaction and other aspects of the safety of herbal medicines.
- All of those relationships are highlighted by introducing different clinical cases introduced to pharmacist with patient seeking for advice about the herbal medicinal; their efficacy, toxicity, precaution, and interaction with other herb or conventional drugs.

Course module objectives:

At the end of the syllabus students will be able to

- Describe the general history of herbal medicine
- Outline common dosage forms of herbal preparations
- Describe the current regulatory status of herbal medicine
- Explain the standardization of herbal products
- Explain herb-herb interaction and herb-drug interaction
- Outline popular herbal medicines and nutraceuticals according to their intended use
- Outline the active constituents, mechanism of action, clinical applications, recommended dosage, side effects and contraindications, as well as drug/herb interactions (when known) of selected herbals

Learning outcomes:

At the end of the course, the student should acquire

A. Knowledge and understanding

- a. Describe the basic methods used in the extraction of the active ingredient of medicinal plants.
- b. Explain the efficacy of medicinal plants/extracts in certain disease state, along with necessary precautions (if required).
- c. Explain the different herb-drug interactions and herb-herb interactions.

B. Cognitive Skills

- a. Able to identify the appropriate medicinal herb according to specific patient group.
- b. Able to identify different relationships between phytotherapy and conventional medicines

C. Transferable Skills

- a. Able to communicate with the patients regarding the proper use of herbal products.
- b. Demonstrate effective written and oral communication skills, especially the ability to transmit complex technical information in a clear and concise manner.
- c. Demonstrate ability to search and use the literature in both printed and electronic formats as well as and develop the habit of life-long self-directed learning.

Teaching methods:

Lectures as power point presentations, seminars and group discussions.

Assessment instruments:

- Formative Assessments (Workshops / Tutorials, Online quizzes)
- Summative Assessments

Allocation of Marks	
Summative Assessments	Marks
First examination	20
Second examination	20
Short reports, presentations/seminars, quizzes, home works	20
Final examination:	40
Total	100

Documentation and academic honesty:

- **Documentation style (with illustrative examples):** Whenever applicable, students should conduct their assignments themselves whether individually or in a group work referencing all information, data, figures and diagrams taken from literature. The references should be given according to the acceptable format.
- **Protection by copyright:** Students should realize that some published information or data are the property of their authors and they are not allowed to use it without asking permission from the originators.
- **Avoiding plagiarism:** Plagiarism is the unauthorized use or close imitation of the language and thoughts of another author and the representation of them as one's own original work, without proper acknowledgment of the author or the source. Students must pursue their studies honestly and ethically in accordance with the academic regulations. Cheating in exams and plagiarism are totally unacceptable and those who,

intentionally, commit such acts would be subjected for penalties according to the University regulations.

Course /module components:

Books (title, author (s), publisher, year of publication)

Textbooks:

1. Fundamentals of pharmacognosy and phytotherapy; by Michael Heinrich, Joanne Barnes, Simon Gibbons and Elizabeth M Williamson (2012), Elsevier Ltd ISBN: 978-0-7020-3388-9.
2. Foundamentals of pharmacognosy and Phytotherapy. A Guide for Health Care Professionals by Carol A. Newal, Linda A. Anderson and J. David Phillipson. (2010). the Pharmaceutical Press, London, UK; ISBN: 0 85369-474-5.
- 3.

Supplementary books:

1. Herbal therapy for human diseases: Irfan Ali Khan and Atiya Khanum (2007), Ukaaz publications ISBN: 81-88279-43-9.
2. **Comprehensive pharmacy review**; Leon Shargel Alan H. Mutnick et al; 4th edition ISBN:0-7817-2147-4.

Homework and laboratory guide (s) if (applicable):

1. Handouts/tutorials containing problems to solve related to each topic will be provided to the students.

Websites:

Natural Medicines Comprehensive Database (www.naturaldatabase.com)

www.pubmed.com

www.fda.gov(Food & Drug Administration)

www.uspharmacist.com(a pharmacy monthly publications that includes articles on herbals);

www.altmed.od.nih.gov (National Centre for Complementary & Alternative Medicine);

www.fda.gov/medwatch (Report an adverse effect due to an herb/herbal product);

www.nccam.nih.gov (National Centre for Comp.)

Course/module academic calendar:

Week	Basic and support material to be covered
1-6	<ul style="list-style-type: none">➤ Introduction to Phytotherapy➤ Saponin glycosides: Dioscoria, glycyrrhiza, quillaia, ivy, horse chestnut, centella➤ Flavonoid glycosides: rutin, hesperidin, genistin etc.➤ Anthocyanidins: pelargonidin, cyanidin, delphinidin, malvidin etc.➤ Cyanogenic / Cyanophore glycosides: amygdalin, prunasin➤ Isothiocyanate glycosides: sinigrin, sinalbin➤ Phenolic glycosides: arbutin, salicin➤ Aldehyde glycosides: glucovanillin, helicin➤ Bitter principles: Coumarins and Furanocoumarins: scopoletin, psoralen, khellin, bergapten, aesculetin, xanthotoxin➤ Terpenoids: monoterpenes, sesquiterpenes, diterpenes.➤ Tannins: nutgall, hamamelis, greentea, catechin
First examination	
7-11	<ul style="list-style-type: none">➤ Herbal medication and nutraceuticals for the management of dyslipidemia, atherosclerosis and hypertension.➤ Herbal medication for the management of colds, flu and asthma.➤ Herbal medication and nutraceuticals for the management of anxiety and depression.➤ Herbal therapy for the management of cancer.
Second examination	
12-15	<ul style="list-style-type: none">➤ Herbal medication and nutraceuticals for the management of diabetes.➤ Herbal medication and nutraceuticals used to treat rheumatoid or osteoarthritis.➤ Herbal medication and nutraceuticals used to treat gastrointestinal (GI) problems.➤ Herbal medicinal for dermatologic uses.➤ Gynecological and obstetric concerns regarding herbal medicinal use.➤ Herbal medication interferes with conventional medicine.
16	Final Examination week

Expected workload: On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.

Attendance policy: Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.