



**Jerash University
Faculty of pharmacy**

Course Syllabus

Course Title: Practical pharmacognosy and phytochemistry	Course code: 1101218
Course Level: Second year	Course prerequisite (s) and/or co requisite (s): Pharmacognosy and phytochemistry
Laboratory Time: W 13:00-15:00	Credit hours: 1 hours

**Academic Staff
Specifics**

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Abdel Hadi Al Jafari	Doctor	Office (412) Faculty of Pharmacy, Phone (504)	11:00-13:00	abdelhadi.aljafari@jpu.edu.jo
Asma Alhassan	Instructor	Office (414) Faculty of Pharmacy		asmma92@hotmail.com

Course module description:

The course is designed to provide the student with basic information about practical pharmacognosy and phytochemistry: microscopical examination for the different plant parts, extraction and identification for: anthraquinone, saponin, anthocyanins and cardiac glycosides from pharmaceutical product, detection for alkaloid. Application of thin layer chromatography for volatile oil and detection of the isolated spots by appropriate spraying reagent.

Course module objectives:

The course is designed to provide the student basic information about Practical pharmacognosy and phytochemistry, including quality control using microscopy to identify different medicinal plants part including: root, leaves, barks, fruit and seeds in comparison with monographic data provided by pharmacopeias. on the other hand the student well practice different extraction method according to the chemical nature of phytochemical groups existed in medicinal plant or pharmaceutical product , identification of the extract is also done by chemical method provided by pharmacopeia or literature data, by the end of the lab the student should:

1. Acquire basic skills in using the microscope to identify plant powder using different mounting agent.

- Practice the knowledge gained in organic chemistry in the extraction of different phytochemical plant material according to solubility in suitable solvent relying on the fact that like dissolve like.
- Detection of the extracted phytochemical groups by different chemical methods and TLC profiles supported by pharmacopeia.

Course/ module components

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

Text book:

1. Trease and Evans' Pharmacognosy

By W C Evans, 15th Edition (2002). Saunders; ISBN: 0702026182

2. By Jean Bruneton (1995), English edition. Levoisier Publishing, Paris; ISBN: 1898298130

The above textbooks cover the course material in detail. However, additional practical tips, examples and conclusions are discussed in details by the lecturer and the student will be responsible for the additional material.

Teaching methods

Practical experimental work, tutorials, seminars .

Learning outcomes:

Interactive learning by participating the student into the lab work content.

- Communication skills (personal and academic).

Review concept at office hours

- Practical and subject specific skills (Transferable Skills).

Doing homework and simple reports.

Assessment instruments

<u>Allocation of Marks</u>	
Assessment Instruments	Mark
Midterms examination	30
Home works / Reports / Quizes	30
Final examination:	40
Total	100

Documentation and academic honesty

- Documentation style (with illustrative examples)

Taking headlines/notes from the lab manual with further elaborated/detailed discussion during the lab hours.

- Avoiding plagiarism.

Course/module academic calendar

week	Basic and support material to be covered
(1)	Introduction to the microscopy.
(2)	Microscopical identification for starch +Calcium oxalate
(3)	Microscopical identification for Ginger root + cinnamon barks
(4)	Microscopical identification for Senna leaves + chamomile flower
(5)	Microscopical identification for Aniseed +linseed
(6)	Extraction and identification for Anthraquinone glycosides
(7)	Midterm examination
(8)	Extraction and identification for cardiac glycosides
(9)	Extraction and identification for saponin and anthocyanins glycoside
(10)	TLC for volatile oil
(11)	Identification for alkaloid by general test and specific test (first part).
(12)	Identification for alkaloid by microcrystalline test (second part).
(13)	Extraction and identification of saponin and anthocyanins glycoside
(14)	Final examination

Expected workload:

On average students need to spend 1 hours of study and preparation for each 50-minute lecture/tutorial.

Attendance policy:

Absence from 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.

Module references

References:

Students will be expected to give the same attention to these references as given to the Module textbook(s)

1. The Complete German Commission E Monographs, Therapeutic Guide to Herbal Medicines
By Mark Blumenthal, Warner R. Busse, Licia Goldberg, Joerg Gruenwald, Tara Hall, Chance E. Riggins and Robert S. Riste, English Edition (1999). American Botanical Council; ISBN: 096555550X