



Course Specification

(Bachelor)

Course Title: Pharmacognosy-2

Course Code: 321 PHG-3

Program: Pharmaceutical Sciences

Department: Pharmacognosy

College: College of Pharmacy

Institution: Najran University

Version: 1

Last Revision Date: 25-12-2023



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A. General information about the course:

1. Course Identification

1. Credit hours: (3 h (2+1)

2. Course type

A. ☐ University ☐ College ☐ Department ☐ Track ☒ Program
B. ☒ Required ☐ Elective

3. Level/year at which this course is offered: (Level 5th / 3rd year)

4. Course general Description:

This course describes macroscopical and microscopical characters of medicinal plant seeds, fruits, herbs, roots, and rhizome to identify them and know their quality, purity and usability, as well as to know the active substances contained in these parts, how to detect them. The course aimed also at explanation of therapeutic and toxic effects for these parts of natural plants, and how to employ the safe one among them for overcoming some health problems.

5. Pre-requirements for this course (if any):

Pharmacognosy – 1 (221 PHG-3)

6. Co-requisites for this course (if any):

None

7. Course Main Objective(s):

1. Study of the general features of the macroscopic and microscopic characters of the seeds, fruits, roots, rhizomes, and herbs and how to differentiate between the different plant organs.
2. know the active constituents of each plant under study
3. Know the biological effects for each plant under study and how to employ alone or in combination of conventional drugs for solving human health problem.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4	Distance learning		



3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	30
3.	Field	0
4.	Tutorial	0
5.	Others (specify)	0
Total		60

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Identify the macroscopic and microscopic features of different organs of the natural drugs	K1	Lectures	Written exam Assignment
1.2	Recognize the pharmacological uses of several common natural seeds, fruits, roots, rhizomes, and herb.	K1	Lectures	Written exam Assignment
2.0	Skills			
2.1	Differentiate between medicinal plants based on morphological and microscopical characters.	S2	Lectures Lab. work	Written exam Practical exam Assignment
2.2	Design recipe from safe single or multiple medicinal plants to overcome or ameliorate some health problems	S2	Lectures Lab. work	Written exam Practical exam Assignment
2.3	Employ the plants under study alone or in combination with conventional drugs for solving human health problem	S2	Lectures Lab. work	Written exam Practical exam Assignment
3.0	Values, autonomy, and responsibility			
3.1	Work independently and use properly and confidently the tools and equipments in the pharmacognosy lab. to recognize	V1	Practice session	Practical exam Observation card

Code	Course Learning Outcomes	Code of PLOs aligned with program	Teaching Strategies	Assessment Methods
	genuine medicinal plant and detect admixture or adulteration.			

C. Course Content

No	List of Topics (Theoretical)	Contact Hours
1.	The seeds: - Introduction: Scientific definitions and general morphological and histological features of the seeds.	2
2.	Study of macroscopic and microscopic characters, active constituents, uses and chemical tests of the following seeds: Foenugreek, Nux-vomica and Linseed.	2
3.	Study of macroscopic and microscopic characters, active constituents, uses and chemical tests of the following seeds: Black mustard, White mustard, Cardamom and Strophanthus.	2
4.	The fruits: - Introduction: Scientific definitions and general morphological and histological features of the fruits.	2
5.	Study of macroscopic and microscopic characters, active constituents, uses and chemical tests of the following umbelliferous fruits: Fennel, Anise, Ammi visnaga and Coriander.	2
6.	Study of macroscopic and microscopic characters, active constituents, uses and chemical tests of the following fruits: Ammi-majus, Caraway, Dill, Cumin and Conium.	2
7.	Study of macroscopic characters, active constituents, uses and chemical tests of non-umbelliferous fruits capsicum and vanilla.	2
8.	The Herbs: - Introduction: Scientific definitions and general morphological and histological features of the fruits.	2
9.	Studying of macroscopic characters, active constituents' chemical tests and uses of peppermint, thyme-basil, lobelia.	2
10.	Study of macroscopic and microscopic characters, active constituents, uses and chemical tests of cannabis and solanaceous drugs.	2
11.	The Rhizomes: - Introduction: Scientific definitions and general morphological and histological features of the rhizomes.	2
12.	Study of macroscopic and microscopic characters, active constituents, chemical tests and uses of ginger, Rhubarb and Curcuma.	2
13.	Study of macroscopic and microscopic characters, active constituents, chemical tests and uses of Colchicum, male fern and Garlic.	2
14.	The Roots: - Introduction: Scientific definitions and general morphological and histological features of the roots.	2
15.	Study of macroscopic and microscopic characters, active constituents, chemical tests and uses of Liquorice, Ipecacuanha, Rauwolfia and Ginseng	2





Total		30
No	List of Topics (Practical)	Contact Hours
1.	Introduction of lab safety, handling of chemicals and reagents and drugs of natural origin.	2
2.	Introduction to seeds, macroscopic, microscopic studies of Nux vomica.	2
3.	Macroscopic and microscopic studies of Foenugreek and Linseed.	2
4.	Macroscopic study, active constituents and uses of Cardamom, Castor seed, black mustard, and white mustard.	2
5.	Introduction to fruits, umbelliferous fruits, Macroscopic and microscopic studies of fennel	2
6.	Macroscopic and microscopic studies of Ammi visnaga and Anise	2
7.	Macroscopic and microscopic studies of coriander.	2
8.	Macroscopic studies of Capsicum, Cumin, Conium, Caraway, dill, and star anise.	2
9.	Introduction of herbs, Macroscopic and microscopic studies of Thyme, and Mentha.	2
10.	Macroscopic studies of Basil, Hyoscyamus, Datura stramonium, Belladonna, Lobelia, and Cannabis.	2
11.	Introduction to rhizomes. Macroscopic and microscopic studies of ginger.	2
12.	Macroscopic and microscopic studies of Curcuma and rhubarb.	2
13.	Macroscopic study of Colchicum, Male fern and garlic bulb.	2
14.	Introduction to roots. Macroscopic and microscopic studies of Liquorice.	2
15.	Macroscopic study of Rauwolfia, Ginseng, Ipecacuanha and jalap.	2
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz-1		5
2.	Med-term		20
3.	Quiz-2		5
4.	Assignment		5
5.	Observation card		10
6.	Practical quiz		5
7.	Final practical exam		10
8.	Final written exam		40
Total			100

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).



E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	Trease and Evans Pharmacognosy, International Edition E-Book (Evans, Trease and Evans Pharmacognosy) 16th Edition, Kindle Edition by William Charles Evans
Supportive References	Textbook of pharmacognosy, by T. E. Wallis. J. and A. Churchill
Electronic Materials	www.dlaf.nu.edu.sa
Other Learning Materials	Videos and lectures available the webpages https://www.slideshare.net/jelalalaban5/group-4-ppt-44950682 https://www.slideshare.net/MarwaFayed1/seeds-52154912

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	1. A Suitable lecture room equipped with data show, internet, and sufficient number of seats. 2. Suitable laboratories equipped with health and safety tools, internet, and sufficient number of seats.
Technology equipment (projector, smart board, software)	1. Computer 2. Internet access 3. Data show
Other equipment (depending on the nature of the specialty)	1. Samples of different organs of medicinal plants 2. Optical microscope, glass slides and glass covers. 3. Test tubes 4. Chemical reagents for detection of different classes and individual components of plant metabolites 5. Water bath

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Head of department Students	Indirect Questionnaires (indirect)
Effectiveness of Students assessment	Faculty members Students	Indirect Questionnaires (indirect)
Quality of learning resources	Student Peer reviewer	Direct Indirect
The extent to which CLOs have been achieved	Faculty members Students	Direct Questionnaires (indirect)
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)





G. Specification Approval

COUNCIL /COMMITTEE	PHARMACOGNOSY DEPARTMENT COUNCIL
REFERENCE NO.	14450612-0511-00010
DATE	25-12-2023

