Course Specification

(2026-2027)

1. Basic Information

Course Title	Pharmacognosy			
Course Code	PHG112			
Department/s participating in delivery of the course	Pharmacognosy			
Number of credit hours of the course	Theoretical	Practical	Other (specify)	Total
	2	1	0	3
Course Type	Compulsory			
Academic level at which the course is taught	1			
Academic Program	Bachelor of Pharmacy (PharmD)			
Faculty	Pharmacy			
University	October University for Modern Sciences and Arts (MSA)			
Name of Course Coordinator	Assoc. Prof. Dr. Soumaya Saad Zaghloul			
Course Specification Approval Date	7/9/2026			
Course Specification Approval (Attach the minutes of the department council)	https://drive.google.com/drive/u/2/folders/1lkQnOcpWKFo-3Ip8iZs4Ff62QKQMojeo			

2. Course Overview (Brief summary of scientific content)

This course builds upon the foundational knowledge of plant-derived medicines, extending the study to a broader range of crude drug sources and their critical role in drug discovery. Students will explore the pharmaceutical importance of crude drugs obtained from diverse botanical organs—including seeds, fruits, herbs, and subterranean structures—as well as unorganized plant exudates and selected drugs of animal origin. The course emphasizes how these natural materials serve as essential leads for the development and preparation of modern therapeutic agents.

3. Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS) (according to the matrix in the program specs)		**Course Learning Outcomes** Upon completion of the course, the student will be able to:	
Code	**Text**	**Code**	**Text**
1.1.1	**Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.**	1-1-1-1	Integrate knowledge from core pharmaceutical sciences by explaining how the active metabolites from seeds, fruits, herbs, and subterranean structures of medicinal plants connect to their pharmaceutical properties, biomedical actions, historical-social uses, regulatory status, and evidence-based clinical applications.
1.1.3	**Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyze, and assure quality of synthetic/natural pharmaceutical materials/products.**	1-1-3-1	Demonstrate how knowledge of plant biology and chemistry forms the scientific basis for the proper handling, macroscopic and microscopic identification of medicinal plants.
1-1-4	**Articulate knowledge from fundamental sciences to explain drugs' actions and evaluate their appropriateness, effectiveness, and safety in individuals and populations.**	1-1-4-1	Integrate foundational botanical and chemical knowledge to describe the identification, source, and basic preparation of active plant metabolites, and to explain their relationship to the quality, safety, and appropriate use of herbal medicines.
2-2-1	**Isolate, design, identify, synthesize, purify, analyze, and standardize**	2-2-1-1	Identify the important crude drugs belonging to the seeds, fruits, herbs, and subterranean

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	**Text**	**Code**	**Text**
	synthetic/natural pharmaceutical materials.		structures morphologically and microscopically
2.3.1	**Handle, identify, and dispose biologicals, synthetic/natural materials, biotechnology-based and radio-labeled products, and other materials/products used in pharmaceutical field.**	2-3-1-1	Identify the methods of cultivation, collection and drying of medicinal plants with the differentiation between plant organs according to their morphological and microscopical structures.
3-2-6	**Maintain public awareness on social health hazards of drug misuse and abuse.**	3-2-6-1	Promote public awareness on the health hazards and social implications of natural drug addiction.
4-1-1	**Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills.**	4-1-1-1	Develop time-management skills through working in a team to a definite deadline.
4-2-2	**Use contemporary technologies and media to demonstrate effective presentation skills**	4-2-2-1	Demonstrate effective presentation skills by applying contemporary digital technologies and media to communicate content clearly, professionally, and audience-appropriately.

4. Teaching and Learning Methods

1- Lectures
2. Practical work
3. Turnitin Assignments
4. Case Study
5. Team-Based Learning (Group Discussion, Group Presentations, Projects)
6. Computer-based learning-Interactive teaching and audio-visual aids

Course Schedule (Theoretical)

Number of the Week	Scientific content of the course (Course Topics)	Expected number of the Learning Hours		
		Theoretical teaching (lectures/discussion groups/ .....)	Self-learning (Tasks/ Assignments/ Projects/ ...)	Other (to be determined)
1	Introduction to Nutraceuticals and Cosmeceuticals Introduction to seeds	2	6 hours per week	
2	Examples of seeds used as nutraceuticals & cosmeceuticals (Linseed, Foenugreek, Strophanthus, Psyllium)	2		
3	Examples of seeds used as nutraceuticals & cosmeceuticals (Quinoa, Chia seeds, Nigella, Pumpkin, Jojoba, Colchicum, Castor seeds, Calabar, Evening primrose)	2		
4	Introduction to fruits Umbelliferous Fruits (Ammi visnaga, Ammi majus)	2		
5	Examples of fruits used as nutraceuticals & cosmeceuticals (Anise, star anise, Hemlock, Fennel, Coriander)	2		**Extra hour not scheduled**
6	Examples of fruits used as nutraceuticals & cosmeceuticals (Capsicum, Wheat, Papaya, Avocado, Lychee, Lemon)	2		
7	**Midterm**			
8	Examples of herbs (Ergot, Lobelia, Cannabis)	2		
9	Examples of herbs used as nutraceuticals & cosmeceuticals and herbs containing volatile oils (Mentha, thyme, basil, rosemary and artemisia)	2		
10	Introduction to subterranean organs, Examples of roots and rhizomes used as nutraceuticals & cosmeceuticals (Liquorice, Ginger, Rauwolfia and Curcuma)	2		
11	Examples of roots and rhizomes used as nutraceuticals & cosmeceuticals (Rhubarb, Ashawagandha, Potato, Onion, Chinese knotweed)	2		
12	Introduction to unorganized drugs (classification & some examples)	2		
13	Drugs of animal origin (some important examples)	2		**Extra hour not scheduled**
14	**Revision**	2		
15	**Final Exams**	2		

*For each contact hour of lecture, students will need 2 hours of independent study. For each contact hour of tutorial or practical, students will need 1 hour of independent study.

Course Schedule (Practical)

Number of the Week	Scientific content of the course (Course Topics)	Expected number of the Learning Hours		
		Training (Practical/Clinical/ .....)	Self-learning (Tasks/ Assignments/ Projects/ ...)	Other (to be determined)
1	Introduction Seeds, Linseed	2	6 hours per week	
2	Black Mustard , Foenugreek and Cardamom seeds	2		
3	Introduction Fruits- Fennel	2		
4	*Ammi visnaga* , Anise	2		
5	**(Quiz 1) -** Revision	2		
6	Practical exam 1	2		
7	**Midterm**	2		
8	Introduction to herbs, Mentha+ Lobelia	2		
9	Introduction to subterranean, Liquorice	2		
10	Ginger+ Rhubarb	2		
11	Unorganized drugs:, Agar,Gelatin, Aloe, Myrrh	2		
12	**(Quiz 2) -** Revision	2		
13	Practical exam 2	2		
14	**Assignment discussion**	2		
15	Final exam			

*For each contact hour of lecture, students will need 2 hours of independent study. For each contact hour of tutorial or practical, students will need 1 hour of independent study.

5. Methods of students' assessment

No.	Assessment Methods	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Quiz 1)	Week 4	2.5	1.67%

2	Exam 2 written (Quiz 2)	**Week 10**	**2.5**	**1.67%**
3	Midterm Written Exam	**Week 7**	**30**	**20%**
4	Final Written Exam	**Week 15**	**60**	**40%**
5	Final Practical	**Week 6 &14**	**40**	**26.7**
6	Final Oral Exam	**-**	**-**	**-**
7	Assignments	**Week 13**	**15**	**10%**
8	Field training	**-**	**-**	**-**
9	Formative quizzes (Mention)	**Every week**	**-**	**-**
	Total		**150**	**100%**

6. Learning Resources and Supportive Facilities

Learning resources (books, scientific references, etc.)	**The main (essential) reference for the course**	**PDF of lecture and practical handouts**
	Other References	• Leisegang, K. (2021). Herbal pharmacognosy: An introduction. In Herbal Medicine in Andrology (pp. 17-26). Academic Press. • Heinrich, M., Barnes, J., Prieto-Garcia, J., Gibbons, S., & Williamson, E. M. (Eds.). (2023). Fundamentals of Pharmacognosy and Phytotherapy E-Book: Fundamentals of Pharmacognosy and Phytotherapy E-Book. Elsevier Health Sciences.
	Electronic Sources (Links must be added)	http://www.hort.purdue.edu/newcrop/med- aro/default.html http://www.herbmed.org/ http://www.danish-schnapps-recipes.com/plants.html /http://www.botanical.com
	Learning Platforms (Links must be added)	**MSA e-learning**
	Other (to be mentioned)	**----**
Supportive facilities & equipment for teaching and learning	**Devices/Instruments**	
	Supplies	**Microscopes**
	Electronic Programs	**------**
	Skill Labs/ Simulators	**---**
	Virtual Labs	**-----**
	Other (to be mentioned)	**-----**

Matrix (1): Mapping CLOs to course content

Theoretical Course Content Vs CLOs

Week	Scientific content	CLO fulfilled
1	Introduction to Nutraceuticals and Cosmeceuticals Introduction to seeds	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
2	Examples of seeds used as nutraceuticals & cosmeceuticals (Linseed, Foenugreek, Strophanthus, Psyllium)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
3	Examples of seeds used as nutraceuticals & cosmeceuticals (Quinoa, Chia seeds, Nigella, Pumpkin, Jojoba, Colchicum, Castor seeds, Calabar, Evening primrose)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
4	Introduction to fruits Umbelliferous Fruits (Ammi visnaga, Ammi majus)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
5	Examples of fruits used as nutraceuticals & cosmeceuticals (Anise, star anise, Hemlock, Fennel, Coriander)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
6	Examples of fruits used as nutraceuticals & cosmeceuticals (Capsicum, Wheat, Papaya, Avocado, Lychee, Lemon)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
7	**Midterm**	
8	Examples of herbs (Ergot, Lobelia, Cannabis)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
9	Examples of herbs used as nutraceuticals & cosmeceuticals and herbs containing volatile oils (Mentha, thyme, basil, rosemary and artemisia)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
10	Introduction to subterranean organs, Examples of roots and rhizomes used as nutraceuticals & cosmeceuticals (Liquorice, Ginger, Rauwolfia and Curcuma)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
11	Examples of roots and rhizomes used as nutraceuticals & cosmeceuticals (Rhubarb, Ashawagandha, Potato, Onion, Chinese knotweed)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
12	Introduction to unorganized drugs (classification & some examples)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
13	Drugs of animal origin (some important examples)	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
14	Revision	

Practical Course Content Vs CLOs

Week	Scientific content	CLO fulfilled
1	Introduction Seeds, Linseed	2-2-1-1, 2-3-1-1

2	Black Mustard , Foenugreek and Cardamom seeds	2-2-1-1, 2-3-1-1
3	Introduction- Fruits- Umbelliferous , Fennel	2-2-1-1, 2-3-1-1
4	Ammi visnaga ,Anise	2-2-1-1, 2-3-1-1
5	Revision (Quiz 1)	2-2-1-1, 2-3-1-1
6	Practical exam 1	
7	**Midterm**	2-2-1-1, 2-3-1-1
8	Introduction to herbs Mentha+ Lobelia ,	2-2-1-1, 2-3-1-1
9	Introduction to subterranean, Liquorice	2-2-1-1, 2-3-1-1
10	Ginger+ Rhubarb	2-2-1-1, 2-3-1-1
11	Unorganized drugs:, Agar,Gelatin ,Aloe ,Myrrh	2-2-1-1, 2-3-1-1
12	Revision (Quiz 2)	2-2-1-1, 2-3-1-1
13	Practical exam 2	4-1-1-1, 4-2-2-1
14	Assignment discussion	2-2-1-1, 2-3-1-1

Matrix (2): Teaching and Learning methods Vs CLOs

Teaching and Learning Strategies:		
Strategy/Method	**Applied strategy**	**CLO fulfilled**
Traditional Teaching strategies		
Lectures	✓	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
Practical Work	✓	2-2-1-1, 2-3-1-1
Tutorials		
Cooperative Learning Strategy		
Group Presentations	✓	4-1-1-1, 4-2-2-1
Group Discussions	✓	4-1-1-1, 4-2-2-1
Self-Learning Strategy		
Assignments	✓	4-1-1-1, 4-2-2-1
Research Projects		
Flipped Class		
Community-Based Learning Strategy		
Field Training		

Site Visits		
Problem-Based Learning Strategy		
Case Study	✓	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
Role Play		
Computer Based Learning Strategy		
Interactive Teaching		
Virtual Labs		
Audio-visual Aids		
Simulations		
Others		
Interprofessional Education (IPE)		
AI Applications Strategy (Nominate)		
Chat GPT, Notebook LM,		

Matrix (3): Assessment methods Vs CLOs

Assessment Methods:		
Assessment Methods	**Applied Method**	**CLO fulfilled**
Summative Assessment methods		
Written Exams	✓	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
Practical Exams	✓	2-2-1-1, 2-3-1-1
Tutorial Exams		
Oral Exams		
Assignments	✓	4-1-1-1, 4-2-2-1
Quizzes	✓	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1
Research Projects		
Objective Structured Clinical Examination (OSCE)Flipped Class		

Formative Assessment Methods (Nominate)		
Socrative, Quizizz, Cross word puzzle, flash cards	✓	1-1-1-1, 1-1-3-1, 1-1-4-1, 3-2-6-1

Name and Signature Course Coordinator Soumaya Saad Zaghloul	Name and Signature Program Coordinator Prof. Reham Wasfi