Course Description Form

1. Course Name:

Pharmacognosy II (Theoretical+ Practical)

2. Course Code:

Phcog24-315--

3. Semester / Year:

1st Semester/3rd year

4. Description Preparation Date:

01/9/2024

5. Available Attendance Forms:

Students' signature on attendance sheet

6. Number of Credit Hours (Total) / Number of Units (Total)

3 hours Theoretical + 2 hours Practical (75) /4 units

7. Course administrator's name

Theoretical

Name: Assist. Prof. Dr. Mohannad Emad
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Practical

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8. Course Objectives

Course Objectives Obtaining the theoretical information about plant components and how to extract them.	• The course includes the basics of extracting act glycosidic compounds from plants and knowing th importance to humans.

9. Teaching and Learning Strategies

Strategy	Lecturing Seminars Homework Quiz Practical laboratory demonstrations and extraction techniques.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3+2	Introduction; general	Introduction to Pharmacognosy	Theoretical lectures	Paper-based exams

		biosynthesis pathways of secondary metabolites. Cardioactive glycosides		Laboratory experiments	
2	3+2	Carbohydrates Anthraquinone glycosides	Introduction Pharmacognosy	Theoretical lectures Laboratory demonstration	Paper-based exams
3	3+2	Glycosides; biosynthesis, chemical and physical properties, cardiac glycosides, saponin glycosides, anthraquinone glycosides Saponin glycosides	Introduction Pharmacognosy	Theoretical lectures Laboratory demonstration	Paper-based exams
4	3	Flavonoid glycosides, cyanophore glycosides Tannins	Introduction Pharmacognosy	Theoretical lectures Laboratory demonstration	Paper-based exams
5	3+2	Glycosides; isothiocyanate glycosides, aldehyde glycosides, alcoholic glycosides, phenolic glycosides, lactone glycosides, coumarins and chromones Tannins	Introduction Pharmacognosy	Theoretical lectures Laboratory demonstration	Paper-based exams
6	3+2	Resins and resin combination; tannins Volatile oils	Introduction Pharmacognosy	Theoretical lectures Laboratory experiments	Paper-based exams

7	3+2	Lipids; fixed oils and waxes Isolation of pipenine from black pepper	Lipids	Theoretical lectures Laboratory demonstration	Paper-based exams
8	**Mid-term exam**				
9	3+2	Volatile oils; introduction, chemistry, biosynthesis, hydrocarbons as volatile oils, alcohols as volatile oils, aldehyde as volatile oils. Isolation of belladonna alkaloids and their identification	Volatile oils	Theoretical lectures Laboratory demonstration	Paper-based exams
10	3+2	Ketones as volatile oils; phenols as volatile oil, oxides as volatile oil, ester as volatile oil, phenolic ethers as volatile oils Isolation of caffeine from tea	Volatile oils	Theoretical lectures Laboratory demonstration	Paper-based exams
11	3+2	Non-medicinal toxic plants Isolation of Peganum harmala	Toxic plants	Theoretical lectures Laboratory demonstration	Paper-based exams
12	3+2	Water-soluble vitamins. Preparation of Khellin	Vitamins	Theoretical lectures Laboratory demonstration	Paper-based exams
13	3+2	Fat-soluble vitamins	Vitamins	Theoretical lectures Laboratory demonstration	Paper-based exams

		Flavonoids of Ruta graveolens			
14	3+2	Amino acids Isolation of pectin	Amino acids	Theoretical lectures Laboratory demonstration	Paper-based exams
15	**Students' seminars**				

11. Course Evaluation

- 20 M Theoretical assessment;
  (paper-based mid-term exam + quiz + attendance + seminar)
- 20 M practical assessment (attendance + quiz + practice)
- 60 M paper-based theoretical final exam

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  100 M total

12. Learning and Teaching Resources

Required textbooks	1. Robbers JE, Speedie MK, Tylor VE, Pharmacognosy and Pharmacobiotechnology; 2nd edition 2008.
Main references (sources)	1. Trease and Evans' Pharmacognosy 2. Practical Pharmacognosy techniques and experiment
Electronic References, Websites	• https://search.worldcat.org/en/title/605370819 • https://search.worldcat.org/en/title/1017798843