Academic Program Description Form

University Name: Al-Nahrain university

Faculty/Institute: Faculty of pharmacy

Scientific Department: Pharmacognosy department

Academic or Professional Program Name: Bachelor

Final Certificate Name: Bacheloria degree

Academic System: semesters

Description Preparation Date: 28/07/ 2024

File Completion Date: 24/04/2024

Signature:

Head of Department Name:
Assist. Lec. Ayah AlQrimli

Date: 24/04/2024

Signature:

Scientific Associate Name:
Dr. Rafal Shakeeb

Date: 24/04/2024

The file is checked by:

Department of Quality Assurance and University Performance Director of the Quality Assurance and University Performance Department: Dr. Noor Adil Abood

Date: 24/04/2024

Signature:

كلية الصيدلة
جامعة النهرين
مكتب العميد
COLLEGE OF PHARMACY
AL-NAHRAIN UNIVERSITY

Approval of the Dean

أ.د. حيدر عباس

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Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

2024

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

1. Program Vision

Program vision This Program Specification provides a concise summary of the main features of the program and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the program.
is written here as stated in the university's catalogue and website.

2. Program Mission

- Provide excellent education and research in pharmacognosy and natural products chemistry.
- Be aware and updated regarding the present and future needs of pharmacognosy in pharmacy practice.

3. Program Objectives

Give better information regarding health claims for nutraceuticals, the validation of traditional medicines and the widespread use of phototherapeutics
To provide appropriate information for a wide range of natural products for researchers and students involved in pharmacognosy research. To make the natural products as the model for synthesis of new compounds that can contribute to drug discovery and treatment of diseases.

4. Program Accreditation

Bachelor Degree Requires (10) credits

5. Other external influences

none

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	3	10		
College Requirements				

Department Requirements				
Summer Training	**none**			
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	**practical**
2nd stage / 2nd semester	10303227	Pharmacognosy I	**4**	**2**
3rd stage/ 1st semester	10303333	Pharmacognosy II	**3**	**2**
3rd stage/ 2nd semester	10306342	Pharmacognosy III	**3**	**2**

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	1- identify semi- manufactured medications that are extracted from natural sources. 2-The vision of the pharmacognosy department to enable undergraduate students to extract, isolate and identify phytochemicals derived from natural sources 3- Provide excellent education and research in pharmacognosy and natural products chemistry. 4- Give better information regarding health claims for nutraceuticals, the validation of traditional medicines and the widespread use of phytotherapeutics
Skills	
Learning Outcomes 2	1. Understand pharmacognosy importance. 2. Be able to identify phytochemicals, extract medicinal plants.
Learning Outcomes 3	3. To be able to isolate and purify active ingredients in order to treat diseases, 4- Be able to use their knowledge to prescribe medicinal supplements , know their classification , mechanism and side effects
Ethics	
Learning Outcomes 4	Teamwork skills Phytochemical analysis practical skills
Learning Outcomes 5	Seminar and presentation skills

9. Teaching and Learning Strategies

- Lectures
- Laboratory practical Experiments
- Phytochemical medicinal garden inspection
- Group reports
- Educational conversations and dialogue

10. Evaluation methods

Quizzes
Oral examinations
Mental and in-lecture assessment
Assignments
Seminars
Final examination
Laboratory practical examination

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Lecturer Qais Majeed	biology	PHD				1
Assistant Lecturer Ayah AlQrimli	pharmacy	MSc Pharmacognosy				1
Assistant Lecturer Manal Hatem	biology	MSc				1

Professional Development

Mentoring new faculty members

1- The head of branch follows up new lecturers during lectures in classroom
2- Provide guidance in teaching and leadership skills
3- Provide supportive grounds for researchers

Professional development of faculty members
-Support lecturers and staff by providing multiple workshops and seminars for improving their skills in accordance to the latest global standards and that involves all aspects (scientific, leadership and research) -Encourage scientific research and attendance of scientific conferences and seminars.

12. Acceptance Criterion

Central Admission Committee in the higher education & Scientific Research Ministry according to student's marks

13. The most important sources of information about the program

• The Pharmacy Dean's Committee
• College of pharmacy syllabus

14. Program Development Plan

In addition to 100% completing the syllabus,

- further practical extraction methods and chromatography techniques are shown to and administered to students to prepare them to next courses.
- further practical extraction of several medicinal plants to extract and isolate phytochemicals to further examine and understand their chemistry and medicinal activity.
- further practical extraction of several medicinal plants to extract and isolate phytochemicals to further examine and understand their chemistry and medicinal activity.
- Antibacterial and antifungal agents can be demonstrated to students.
- Practical medicinal uses of in pharmacy medicinal supplements regarding dosing , mechanisms and side effects.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2nd year/2nd course	10303227	Pharmacognosy I	basic	V	V	V	V	V	V	V	V	V	V	V	V
3rd year /1st course	10303333	Pharmacognosy II	basic	V	V	V	V	V	V	V	V	V	V	V	V
3rd year/2nd course	10306342	Pharmacognosy III	basic	V	V	V	V	V	V	V	V	V	V	V	V

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Pharmacognosy Theory I.
2. Course Code:
3. Semester / Year:
First semester / 2nd year
4. Description Preparation Date:
2024
5. Available Attendance Forms:
Theory Lectures and practical laboratory
6. Number of Credit Hours (Total) / Number of Units (Total)
4
7. Course administrator's name (mention all, if more than one name)
Name: م.م ايه فاضلEmail: ayah.hrhr@yahoo.com theory Name : م.د قيس مجيد theory
8. Course Objectives

Course Objectives	Study the scope of pharmacognosy, medicinal plants and nomenclature Study the classification of natural products and phytochemistry Study the chromatographic techniques
9. Teaching and Learning Strategies	
Strategy	• Lectures • Laboratory and Experiments • Phytochemical medicinal garden inspection and visits Homework and report

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Understand pharmacognosy principles and importance	General Introduction: The Scope of Pharmacognosy,	Lectures	Quizzes •

			definitions and basic principles.	Laboratory and Experiments	Oral examinations • Mental and in-lecture assessment • Assignments Seminars Final examination • Laboratory practical examination • HomeWorks
2	1	Understand the main difference of official and non-official drugs	Drugs from natural sources, crud dr official and non-official drugs.		
3	1	To able to enumerate and explain the different ways of classifications and their advantages and disadvantages	Classification of natural products.		
4	1	Know how to name plants scientifically	Plant nomenclature and taxonomy		
5	3	To know the steps of crude drug production and importance of these factors on quality and quantity of crude drugs.	Production of crude drugs: Cultivation, collection, drying and storage.		
6	1	To know factors that cause deterioration	Deterioration of crude natural products.		
7	2	To know different examples of natural products with their pharmaceutical activity	Pharmacological activities of natural products.		
8	3	To know the chemical reactions that produce main natural metabolites	Chemistry of natural drug products.		
9	4	To know how different factors can effect end products and how to control the quality of finished products.	Quality control: Evaluation of natural products; macroscopical evaluation; physical evaluation; chemical evaluation; biological evaluation; spectroscopical evaluation.		
10	3	To be able to know the different methods of plant extraction and separation techniques	Phytochemical investigation of herbal products: Extraction of the plant material; Separation and isolation of constituents; characterization of the isolated compounds.		
11	7	Understand in details the parts , mechanism of functioning of the different extraction methods	Separation technique: Introduction; Mechanisms of separation and classification based on the type of technique; paper chromatography; Thin layer chromatography; lon-exchange chromatography; Gel filtration chromatography; Column chromatography; Gas chromatography; HPLC; Electrophoresis; Affinity chromatography.		
12	2	Taking some examples of herbal products as drug potential	Traditional plant medicines as a source of new drugs		

11. Course Evaluation

• Quizzes • Oral examinations • Mental and in-lecture assessment • Assignments • Seminars • Final examination • Laboratory practical examination Total of 100 distributed accordingly

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Robbers JE, Speedie MK, •Tyler VE(Eds); •pharmacognosy and pharmaco-biotechnology.
Main references (sources)	Robbers JE, Speedie MK, •Tyler VE(Eds);
Recommended books and references (scientific journals, reports…)	British pharmacopeia United states pharmacopeia European pharmacopeia Wagners
Electronic References, Websites	Electronic up to date WHO

Course Description Form

1. Course Name:

Pharmacognosy Theory II.

2. Course Code:

10303333

3. Semester / Year:

First semester / 3rd year

4. Description Preparation Date:

1-3-2024

5. Available Attendance Forms:

Theory Lectures and practical laboratory

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

3

7. Course administrator's name (mention all, if more than one name)

Name:
Email: ayah.hrhr@yahoo.com

8. Course Objectives

Course Objectives	Study the chemistry of natural products, namely glycosides, flavonoids, volatile oils, fixed oils, and tannins. Study the phytochemistry and pharmacology of secondary medicinal plant constituents. Study the uses of these constituents and the plants containing these constituents. Understand nature and role of hormones and vitamins

9. Teaching and Learning Strategies

Strategy	• Lectures • Laboratory and Experiments • Phytochemical medicinal garden inspection and visits

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	To be able to know the biosynthetic pathway steps of aromatic and non-aromatic compounds	Introduction, carbohydrates, and Biosynthetic pathways of secondary metabolites	Lectures Laboratory and Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments

					Seminars Final examination Laboratory practical examination
2	2	To know the main properties of glycosides Learn about the bio synthetic pathways and sources of cardiac and anthraquinone glycosides	Glycoside introduction, biosynthe chemical properties, Cardiac glycosi Anthraquinone glycosides	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
3	2	To have an idea of the uses , structures and pathways of flavonoids	Flavonoid glycosides	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
4	2	To have an idea of the uses , structures and pathways of saponins	Saponin glycosides	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
5	2	To have an idea of the uses , structures and pathways of these glycosides	Alcoholic, Phenolic, Aldehyde and Lactone glycosides	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
6	2	To have an idea of the uses , structures and pathways of these glycosides	Coumarins lactone glycosides Isothiocyanate and Cyanogenic glycosi	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
7	2	To know the properties , importance and sources of tannins	Tannins	Lectures Laboratory Experiments	Quizzes Oral examinations

					Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
8	2	To be able to know structures, properties and sources of fixed oils To know the different types, biosynthetic pathways and sources of volatile oils	Fixed oils and volatile oils: chemist biosynthesis / hydrocarbons as volatile alcohol as volatile oils/aldehydes	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
9	2	To know the different types, biosynthetic pathways and sources of volatile oils	Volatile oils; Ketones/ phenol/oxides/ ester/ phenolic ester	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
10	2	To be able to know vitamins and hormone sources and pathways	Vitamins and hormones	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
11	2	To be able to determine non-medical toxic plants	Non-medical toxic plants	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination

11. Course Evaluation

- Quizzes
- Oral examinations
- Mental and in-lecture assessment
- Assignments
- Seminars
- Final examination
- Laboratory practical examination

Total of 100 distributed accordingly

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Robbers JE, Speedie MK, •Tyler VE(Eds); •pharmacognosy and pharmaco-biotechnology.
Main references (sources)	Robbers JE, Speedie MK, •Tyler VE(Eds);
Recommended books and references (scientific journals, reports…)	British pharmacopeia United states pharmacopeia European pharmacopeia Wagners
Electronic References, Websites	Electronic up to date WHO

Course Description Form

1. Course Name:	
Pharmacognosy Theory III.	
2. Course Code:	
10306342	
3. Semester / Year:	
First semester / 3rd year	
4. Description Preparation Date:	
1-3-2024	
5. Available Attendance Forms:	
Theory Lectures and practical laboratory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
3	
7. Course administrator's name (mention all, if more than one name)	
Name: Email: ayah.hrhr@yahoo.com	
8. Course Objectives	
Course Objectives	Study the chemistry of natural products, namely alkaloids Study the phytochemistry and natural sources of antibiotics Study phytotherapy in pharmacy and medicine
9. Teaching and Learning Strategies	
Strategy	• Lectures • Laboratory and Experiments

	• Phytochemical medicinal garden inspection and visits

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	To be able to know the biosynthetic pathway steps of alkaloids.	Alkaloids: Introduction; Physical and chemical properties;	Lectures Laboratory and Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
2	2	To know the main properties and sources of Pyridine-piperidine alkaloids and tropane alkaloids.	Pyridine-piperidine alkaloids; tropane alkaloids.	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
3	2	To know the main properties and sources of : Quinoline and iso-quinoline alkaloids	Alkaloids: Quinoline and iso-quinoline alkaloids;	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
4	2	To have an idea of the uses , structures and pathways of antibiotics	Antibiotics: Natural sources; biosynthetic pathways, isolation, and purification.	Lectures Laboratory and Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars Final examination Laboratory practical examination
5	2	To be able to employ different natural drugs in treatment of some diseases	phytotherapy: Introduction, principles, medicinal plants in selected	Lectures Laboratory Experiments	Quizzes Oral examinations Mental and in-lecture assessment Assignments Seminars

					Final examination Laboratory practical examination

11. Course Evaluation

- Quizzes
- Oral examinations
- Mental and in-lecture assessment
- Assignments
- Seminars
- Final examination
- Laboratory practical examination

Total of 100 distributed accordingly

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Robbers JE, Speedie MK, •Tyler VE(Eds); •pharmacognosy and pharmaco-biotechnology.
Main references (sources)	Robbers JE, Speedie MK, •Tyler VE(Eds);
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