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

Academic Program Description Form

University Name: . Al-Furat Al-Awsat Technical University College

Faculty/Institute: Technological Institute / Kufa

Scientific Department: Department of Pharmacy Technology

Academic or Professional Program Name: Pharmacy Technique.

Final Certificate Name: Diploma in Pharmacy Technique

Academic System: Semester

Description Preparation Date: 23/3/2024

File Completion Date: 25/3/2024

Signature:

Head of Department Name:

assistant: Prof. Nadia Al Nuaimi

Date:

Signature:

Scientific Associate Name:

assistant: Prof. Nadia Al Nuaimi

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

academic program of the Pharmacy Technology Department seeks to prepare competent assistant pharmaceutical cadres capable of providing the highest levels of pharmaceutical and medical services and keeping pace with scientific developments.

2. Program Mission

mission of the Department of Pharmacy – Kufa Institute, was derived from the emerging social need for national pharmaceutical technical staff working in partnership with other health professionals to provide pharmaceutical care that Accessible, compassionate and integrative, in order to improve the quality of life through improved health care. Therefore, the department is committed to occupying a distinguished position among specialized international pharmaceutical institutions and adhering to modern international trends in activating the role played by the pharmaceutical technical staff in health, medical care and the pharmaceutical industry.

3. Program Objectives

The department aims to graduate qualified technical staff working in the field of clinical and pharmaceutical pharmacy under the supervision of apharmacist and in the field of pharmaceutical and chemical industries under the supervision of a pharmacist or chemist.

4. Program Accreditation

The application has been submitted for accreditation

5. **Other external influences**
Library, Internet, community, Pharmacists Syndicate, hospital

6. **Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
Institution Requirements	**4**	**9**		
College Requirements	**9**	**25**		
Department Requirements	**19**	**94**		
Summer Training				
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**
		Principles Pharmacy	**2**	**4**
First year/first semester		**Basics Of Organic Chemistry**	**2**	**4**
		Analytical Chemistry	**2**	**4**
		Medical terminology	**1**	**–**
		Microbiology	**2**	**4**
		Principle of Physiology	**2**	**4**
		Human Rights and Democracy	**2**	**–**
		Computer application1	**1**	**2**

First year/second semester		Pharmaceuticals Calculation	2	4
		Biochemistry	2	4
		Physiology	2	2
		Virology and parasite	2	2
		Biostatistics	2	–
		Computer application1	1	2
		English	2	–
Second year/first semester		Pharmaceutics	2	3
		Industrial Principles	2	3
		Principles Of Pharmaceutical Chemistry	2	3
		Principles of Drugs	2	3
		Basics of Therapeutic Application	2	2
		Medicinal Plants and Natural Products	2	2
		Toxicology	2	–
		Methodology	–	2
Second year/second semester		Industrial Pharmacy	2	
		Pharmaceutical Chemistry	2	
		Pharmaceutical Formulation	2	
		Pharmacology	2	
		Therapeutic Application	2	
		Pharmacognacy	2	
		Professional Ethics		
		Proposa		

8. Expected learning outcomes of the program

Knowledge

Learning Outcomes 1	A.1 Enabling the student to obtain knowledge in the basic subjects related to medical and pharmaceutical sciences, including physiology, microbiology, viruses and parasites A.2 The student's knowledgeof the structure of chemical substances and methods of discovering, preparing and diagnosing pharmaceutical chemical compounds and linking The chemical composition of the drug, its pharmacological effectiveness and its mechanism of action.Medicinal plants andnatural products A.3 The ability to read medical prescriptions, recognize medical terminology, prescribe the most appropriate treatment according to the diagnosis of the disease with the least side effects, and understand drug and disease interactions and their side and toxic effects on the human body. A.4 Identify the physical, chemical and biological properties of natural materials used for medica
Skills	
	B.1 Providing the student with the ability to link applied concepts and models to practical reality through applying practical experiments in laboratories and implementing safety and security instructions during laboratory work. B.2 Giving the graduate the ability to work in pharmaceutical laboratories, where he assists the pharmacist or chemist in Preparing medicines, supervising, following up and monitoring production lines and applying quality control methods during B.3 The ability to conduct pharmaceutical and clinical research, master the English language, and use electronic computers.
Ethics	
	C.1 Enhancing professional ethics, dealing with patients, and the ability to demonstrate high professional competence in addition to commitment to personal appearance and behavior.

9. Teaching and Learning Strategies

1- Theoretical lectures using illustration tools (Show Data, smart board)

2-Practical application of concepts studied in specialized laboratories.

3- Seminars (students are assigned a topic within the curriculum for presentation and discussion).

4- Field visits (visits to hospitals and pharmaceutical laboratories).

5- In-person and electronic blended learning for student activities via e-learning platforms.

10. Evaluation methods

1. Daily examinations.
2. Semester and final exams.
3. Homework assignments.
4. Seminars and discussions.
5. Scientific activities and graduation research

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	2	1			3	
Assistant Professor	1	1			2	
lecturer	1	2			3	
Assistant lecturer	7	6			13	

Professional Development

Mentoring new faculty members

preparing seminars and introductory courses for new faculty members, and holding periodic meetings to introduce them to work contexts, daily guidance, continuous follow-up, and giving advice .

Professional development of faculty members

1- Continuing education through scientific research.

2- Contributing to the establishment of the annual International Institute conference by presenting their work or supervising its organization.

3- Cooperating with health care institutions to establish educational activities aimed at addressing gaps in knowledge and skills.

12. Acceptance Criterion

Admission is centralized by the Ministry of Higher Education and Scientific Research, based on the student's grades in the sixth-grade Preparatory school. There are also multiple channels for admission, including general admission, the distinguished and martyred channel, and the parallel channel and foreign students.

13. The most important sources of information about the program

The website of the Ministry of Higher Education and Scientific Research, WHO, methodological books and scientific portfolios.

14. Program Development Plan

1- Updating and developing curricula according to the requirements of the labor market through the work of committees responsible for updating curricula.

2- Conducting questionnaires periodically for beneficiaries, including students, the community, and employers in pharmacies, hospitals, and pharmaceutical factories,

about the mission and objectives of the program, school curricula, and methods of education and evaluation.

3- Expanding the use of electronic technologies in teaching.

4- Openness to society and providing volunteer activities.

5 - Directing students 'research towards applied projects that address societal problems.

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
First year/first semester		Principles Pharmacy	Basic	•		•		•			•	•	•		
		Basics Of Organic Chemistry	Basic	•	•			•	•			•	•		
		Analytical Chemistry	Basic	•	•			•	•						
		Medical terminology	Basic			•						•	•		
		Microbiology	Basic	•				•					•		
		Principle of Physiology	Basic	•				•					•		
		Human Rights and Democracy	Basic											•	
		Computer application1	Basic								•				

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
First year/second semester		**Pharmaceutical Calculation**	Basic	•		•		•			•	•	•		
		Biochemistry	Basic	•	•			•	•			•	•		
		Physiology	Basic	•	•			•	•						
		Virology and parasite	Basic			•						•	•		
		Biostatistics	Basic	•				•					•		
		Computer application1	Basic	•				•					•		
		English	Basic											•	

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
Second year /first semester		Pharmaceutics	Basic	•		•		•			•	•	•		
		Industrial Principles	Basic	•	•			•	•			•	•		
		Principles Of Pharmaceutical Chemistry	Basic	•	•			•	•						
		Principles of Drugs	Basic			•						•	•		
		Basics of Therapeutic Application	Basic	•				•					•		
		Medicinal Plants and Natural Products	Basic	•				•					•		

		Toxicology	Basic											•	

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
Second year /second semester		**Industrial Pharmacy**	Basic	•		•		•			•	•	•		
		Pharmaceutical Chemistry	Basic	•	•			•	•			•	•		
		Pharmaceutical Formulation	Basic	•	•			•	•						
		Pharmacology	Basic			•						•	•		
		Therapeutic Application	Basic	•				•					•		
		Pharmacognacy	Basic	•				•					•		

		Professional Ethics		•				•					•		
		Proposa		•				•					•		

Course Description Form

1. Course Name:
Medical terminology
2. Course Code:
3. Semester / Year:
Semester/First Year
4. Description Preparation Date:
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)
15 hours
7. Course administrator's name (mention all, if more than one name)
Name: **assistant**: **Prof**. **Nadia Al Nuaimi** Email:
8. Course Objectives
Medical and pharmaceutical terms used in healthcare settings, spelling and definition Students use a word building strategy that helps them discover connections and relationships between wo roots, prefixes and suffixes Students will learn the meaning of each part of a complex medical a pharmaceutical term and be able to put the parts together and defineAt the end of the first semest the student will be able to speak pronunciation Objectives of the study subject term.
9. Teaching and Learning Strategies

Strategy	education strategies, e-learning strategy Practical field training strategy Conclusion strategy and half editorial Study strategy

10. Course Structure					

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1		Medical Terminology, Define and historical of medical terminology	lecture	Reports , Oral exams , and half editorial assignments
1	1		Medical Word Word root the Words Basic Elements of a Examples combining form.	lecture	=
1	1		Common prefix and suffixes.	lecture	=
1	1		Overview of Anatom and Physiology	lecture	=
1	1		Anatomical Position Body Planes and Boo Cavities.	lecture	=
1	1		Clinical, Radiologic, and Diagnostic Procedures.	lecture	=
1	1		Digestive system	lecture	=
1	1		Integumentary	lecture	=
1	1		The musculoskeletal System	lecture	=
1	1		The Reproductive System	lecture	=
1	1		The Respiratory System	lecture	=
1			The Urinary System	lecture	=
1			The Cardiovascular System	lecture	=
1			Blood, Lymph and Immune	lecture	=
11. Course Evaluation					

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any	Edward C.C., (Ed.); A Short course in Medical Terminology; Latest edition ; Lipincott Williams and Wilkins
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Pharmacy times (journal). Us pharmacist (journal).
Electronic References, Websites	The electronic library of the Ministry Higher Education

Course Description Form

1. Course Name:
Analytical Chemistry
2. Course Code:
3. Semester / Year:
Semester/First Year
4. Description Preparation Date:
23/3/2024
5. Available Attendance Forms:
In person
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours + 60 hours = 90 hours
7. Course administrator's name (mention all, if more than one name)
Name: Prof.Dr. Ebtisam Fares Email:
8. Course Objectives

Course Objectives	**At the end of the first semester, the student will have benefited from chemistry subject Analytical knowledge of the atom and its components, knowledge of matter and its types, conservation law Matter and energy. The student benefited from qualitative diagnostic methods and methods Determination, weight measurement, pH level, sediment types, and preparation Solutions: He benefited from analytical chemistry in knowing the chemical tools and equipment available in laboratory.**

9. Teaching and Learning Strategies	
Strategy	Discussion strategy Case study strategy Conclusion strategy

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The studen should be able: to define analytical chemistry and its types	Classification of analytical chemistry	lecture	Reports, assignments Study Quarterly and semesterly. And half editorial
2	2		Solutions, molecular weight, equivalent weight.	lecture	=
3	2		Reliability of analytical data	lecture	=
4	2		Gravimetric analysis- volume metric analysis, concentration of solutions.	lecture	=

5	2		Preparation of solutions (molarity and normality).	lecture	=
6	2		Examples: molarity, normality	lecture	=
7	2		Standard solution, classification, preparation methods	lecture	=
8	2		Standard solution, classification, preparation methods	lecture	=
9	2		Reduction reaction	lecture	=
10	2		Examples: volumetric analysis, chemi	lecture	=
11	2		PH-values (for strong and weak acid) and for (strong and weak base)	lecture	=
12	2		Beer-limber's law- Calibration curve	lecture	=
13	2		spectrum fracti	lecture	=
14	2		spectrum fracti	lecture	=
15	2		Determination of PH of hair shampoo-titration of weak acid with weak	lecture	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Analytical chemistry book
Main references (sources)	Gary analytical chemistry Chemistry analytical Skoog
Recommended books and references (scientific journals, reports…)	Analytical chemistry journal
Electronic References, Websites	The electronic library of the Ministry Higher Education, Google scholar

Course Description Form

1. Course Name:
Principle of physiology
2. Course Code:
3. Semester / Year:
First course/ First class
4. Description Preparation Date:
15/10/2023
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
16 hours
7. Course administrator's name (mention all, if more than one name)
Name: Asst. Lect. Zahraa Lateef Abed AL-Khakany Email: zahraa.lateef.iku@atu.edu.iq
8. Course Objectives

Course Objectives	the end of the semester, the student should be able –Define basic concepts explaining the functioning of different body systems. –Explain how different physiological functions integrate to maintain the body's internal stability. –Illustrate and rationalize the biological mechanisms controlling various body functions. –Understand the importance of maintaining normal physiological functions through a healthy lifestyle and increased awareness of environmental impacts.

	− Apply scientific knowledge of human body functions i medical and healthcare fields.

9. Teaching and Learning Strategies

Strategy	-Brainstorming Strategy -Active Learning Strategy -Cooperative Learning Strategy -Discussion Strategy -Concept Mapping Strategy -Self-Learning Strategy -Research and Discovery Strategy -Role-Playing Strategy - Critical Thinking Strategy

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Student should able to: Define the c List some c components	The cell and function	Lecture	Homework, report, midterm a final oral a written exan
2	1	Student should able to: Define tissu List types of tissues	Type of tissue	Lecture	Homework, report, midterm a final oral a written exan
3	1	Student should able to:	Transport substar across cell membra	Lecture	Homework, report,

		Differentiate betwe types of transp across the c membrane			midterm a final oral a written exan
4	1	Student should able to: Define bloo List functions of blo	Blood, function	Lecture	Homework, report, midterm a final oral a written exan
5	1	Student should able to: List types blood cells Define plasma	Type of cell, plasma	Lecture	Homework, report, midterm a final oral a written exan
6	1	Student should able to: Cardiovascular system	Cardiovascular system	Lecture	Homework, report, midterm a final oral a written exan
7	1	Student should able to: Define he rhythm |	Heart rhythm	Lecture	Homework, report, midterm a final oral a written exan
8	1	Student should able to: Create electrocardiogram |	Electrocardiogram	Lecture	Homework, report, midterm a final oral a written exan
9	1	Student should able to: Define he Differentiate betwe blood vessels	Heart and blo vessels	Lecture	Homework, report, midterm a final oral a written exan
10	1	Student should able to: Define card cycle Trace blo circulation	Cardiac cycle a blood circulation	Lecture	Homework, report, midterm a final oral a written exan
11	1	Student should able to: Defi respiratory system	Respiratory syste function	Lecture	Homework, report, midterm a

		List functions respiratory system			final oral a written exan
12	1	Student should able to: Defi digestive system List functions digestive system	Digestive syste function	Lecture	Homework, report, midterm a final oral a written exan
13	1	Student should able to: L components of t digestive system Organ of	digestive system a their secretion	Lecture	Homework, report, midterm a final oral a written exan
14	1	Student should able to: List accesso organs of t digestive system	Accessory organ digestive system	Lecture	Homework, report, midterm a final oral a written exan
15	1	Student should able to: Trace fo movement a digestion	Digestive tra movement	Lecture	Homework, report, midterm a final oral a written exan

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	uman Anatomy and Physiology
Recommended books and references (scientific journals, reports…)	rnal of Medical Research and view
Electronic References, Websites	ogle Scholar

Course Description Form

1. Course Name:
Physiology
2. Course Code:
3. Semester / Year:
Second semester/ First year
4. Description Preparation Date:
15/1/2024
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
16 hours
7. Course administrator's name (mention all, if more than one name)
Name: Asst. Lect. Zahraa Lateef Abed AL-Khakany Email: zahraa.lateef.iku@atu.edu.iq
8. Course Objectives

Course Objectives	**By the end of the semester, the student should be able to:** **- Define basic concepts explaining how different body systems operate.** **- Explain the integration of different physiological functions to maintain internal body stability.** **- Clarify and justify the biological mechanisms controlling variou body organ functions.** **- Understand the importance of maintaining normal physiological functions through a healthy lifestyle and greater awareness of environmental influences.** **- Prepare students for healthcare and medical careers by providi a strong foundation in understanding different body functions an how diseases and other factors impact these functions.**

	– **Apply scientific knowledge of how the human body works in th medical and healthcare fields.**

9. Teaching and Learning Strategies

Strategy	-Brainstorming Strategy -Active Learning Strategy -Cooperative Learning Strategy -Discussion Strategy -Concept Mapping Strategy -Self-Learning Strategy -Research and Discovery Strategy -Role-Playing Strategy - Critical Thinking Strategy

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Student can define t urinary system.	Urinary syste structure	Lecture	Homework, report, midterm a final oral a written exan
2	1	Student can list t functions of t urinary system.	Function of urina system	Lecture	Homework, report, midterm a final oral a written exan
3	1	Student can expla the process of uri formation.	Regulation function the kidney	Lecture	Homework, report, midterm a final oral a written exan
4	1	Student can define t role of the urina	Blood pressure	Lecture	Homework, report,

		system in blo pressure regulation			midterm a final oral a written exan
5	1	Student can list pa of the nervo system.-9	Nervous system	Lecture	Homework, report, midterm a final oral a written exan
6	1	Student can l functions of t nervous system.	Function of nervo system	Lecture	Homework, report, midterm a final oral a written exan
7	1	Student can list typ of nerves and expla the synaptic process	Nerves, synapse	Lecture	Homework, report, midterm a final oral a written exan
8	1	Student c differentiate betwe neurotransmitters.	Neurotransmitters	Lecture	Homework, report, midterm a final oral a written exan
9	1	Student can expla the differer between t sympathetic a parasympathetic nervous systems.	Autonomic nervo system	Lecture	Homework, report, midterm a final oral a written exan
10	1	Student can list typ of receptors.	Receptor of nervo system	Lecture	Homework, report, midterm a final oral a written exan
11	1	Student can defi endocrine glands.	Endocrine gla system, function	Lecture	Homework, report, midterm a final oral a written exan
12	1	Student can list so types of hormones.	Type of endocrine	Lecture	Homework, report, midterm a

					final oral a written exan
13	1	student can list typ and functions of t muscular system.	Muscular syste function, type	Lecture	Homework, report, midterm a final oral a written exan
14	1	Student can expla the mechanism muscle contraction.	Contraction	Lecture	Homework, report, midterm a final oral a written exan
15	1	Student can expla the process of bo temperature regulation.	Regulation of bo temperature	Lecture	Homework, report, midterm a final oral a written exan

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	uman Anatomy and Physiology
Recommended books and references (scientific journals, reports…)	urnal of Medical Research and view
Electronic References, Websites	ogle Scholar