University Name: Tikrit University

Faculty/Institute: Basic education in sharqat

Scientific Department: Department of Science

Academic or Professional Program Name: Bachelor's degree in Science

Final Certificate Name: Bachelor's degree in basic education

Academic System: Courses

Description Preparation Date: 2025/9/1

File Completion Date: 2025/9/18

Signature:

Head of Department Name:

Dr. Ali Alii Khader

Date: 18/9/2025

Signature:

Scientific Associate Name:

Dr. Saad gerges saaed

Date:

The file is checked by: Dr. Ahmed Abdulsalam Hasan

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature: .Dr Hamid Mohammed Saleh

Date: 18/9/2025

مكتب العميد

Approval of the Dean

1.Program vision

The Science Department is one of the applied science departments. Those who teach science must be equipped with pure sciences according to specific principles and rules, while keeping pace with the development of science. The department seeks to advance knowledge in the field of science to qualify them to .serve society and encourage them to develop their abilities and capabilities

2.Program message

Preparing qualified university teachers in the field of specialization and providing them with the principles of knowledge, scientific and logical thinking, scientific research skills in the sciences, and the skills necessary for future communication with society in the field of work, in addition to providing the student with a set of sciences and knowledge that complete the teacher's culture in general, including cultural requirements, educational requirements, sciences, .and others

3.Program objectives

1- Providing the Ministry of Education with specialized staff to work as university teachers.
2- Enabling students to master the principles of pure sciences.
3- Strengthening scientific concepts, and some basic terms and concepts related to it
4- Understanding the theoretical foundations on which sciences are based.
5- Providing graduates with skills and methods in teaching and learning.
6- Providing the Ministry of Education with specialized staff to work as university teachers.
7- Enabling students to master the principles of pure sciences.
8- Strengthening scientific concepts, and some basic terms and concepts related to it.
9- Understanding the theoretical foundations on which sciences are based.
10.Providing graduates with skills and methods in teaching and learning -10

4. Program Accreditation

Ministry of Higher Education and Scientific Research/National Accreditation Council caep

5. Other External Influences

Science Curriculum Development Project in Iraqi Universities/Ministry of Higher Education and Scientific Research Implementation in schools for two months, field visits to school.

6. Program Structure				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	***Reviews**
Institutional Requirements	**13**	**26**	**19%**	fundamental
College Requirements	**12**	**10**	**29%**	fundamental
Department Requirements	**25**	**70**	**52%**	fundamental
Summer Training				
Other				

.Notes may include whether the course is basic or optional *

7. Program Description				
Credit Hours		**Course Name**	**Course Code**	**Year/Level**
Practical	**Theoretical**			
	1	Democracy and Human Rights		First/First Semester
2	3	General Biology		
2	1	Computer Science		
	3	Developmental Psychology		
2	3	General Chemistry		
	2	Logic (Mathematics)		
	2	Arabic Language		
2	3	General Physics		First/Second Semester
	2	Arabic Language		
	2	English Language		

	3	Principles of Education		
	2	Islamic Education/Civilization		
2	2	Human Biology		
	2	Laboratory Safety and Security		
	2	Arabic Language		Second Chemistry Branch / First Semester
	2	English Language		
2	1	Computer		
	2	Curricula and Textbooks		
2	2	Inorganic Chemistry		
2	2	Volumetric Analytical Chemistry		
2	2	Physical Chemistry		
	2	Crimes of the Baath Regime		
	2	Arabic		Second Biology Branch/First Semester
	2	English		
2	1	Computer		
	2	Curricula and Textbooks		
	2	Crimes of the Baath Regime		
2	3	Microbiology		
2	2	Cytology		
	2	Virology		
2	2	Psychology of classroom learning		Second Chemistry Branch/
	3	Educational Psychology		

2	2	Gravimetric Analytical Chemistry		Second Semester
2	2	Organic Chemistry		
2	2	Representative Element Chemistry		
	2	Differential and Integral Calculus		
2	2	Psychology of classroom learning		Second Biology Branch/ Second Semester
	3	Educational Psychology		
2	2	Invertebrates		
2	2	Histology and Embryology		
	2	Biochemistry		
2	2	Plant Physiology		
	3	General Teaching Methods		Third Chemistry Branch/First Semester
	3	Educational Research Methodology		
2	2	Coordination Chemistry		
2	2	Organic Chemistry		
2	2	Industrial Chemistry		
	3	General Teaching Methods		Third Biology Branch/First Semester
	3	Educational Research Methodology		
2	2	Animal Physiology		
2	2	Parasitology		
2	3	Plant and Animal Production		

	2	Measurement and Evaluation		
	2	Science Teaching Methods		
	2	Curricula and Textbooks		Third Chemistry Branch/Second Semester
	2	Sustainable Development		
	2	Environmental and Health Education		
2	2	Soil Chemistry		
2	2	Oil and Petrochemicals		
2	2	Biochemistry		
	2	Measurement and Evaluation		
	2	Science Teaching Methods		
	2	Curricula and Textbooks		Third Biology Branch/Second Semester
	2	Sustainable Development		
	2	Environmental and Health Education		
	2	Plant classification		
2	2	Immunology		
2	2	Entomology		
	2	Professional Ethics		
	2	Arabic Literature		
	2	Educational Administration and Supervision		Fourth Chemistry Branch/First Semester
4		Practical Education (Observation)		
2	2	Organic Diagnosis		

2	2	Analysis		
	2	Clinical Chemistry		
	2	Chemistry of Natural Products		
	2	Professional Ethics		
	2	Arabic Literature		
	2	Educational Administration and Supervision		
4		Practical Education (Observation)		
2	2	Algae and Fungi		
2	2	Genetics		
	2	Serums and Vaccines		
	2	Endocrine Physiology		
12		Practical Education (Application)		
	2	Graduation Research Project		
12		Practical Education (Application)		
	2	Graduation Research Project		

8. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1	Learning Outcome Statement 1
Skills	
Learning Outcomes 2	Learning Outcome Statement 2
Learning Outcomes 3	Learning Outcome Statement 3
Values	
Learning Outcomes 4	Learning Outcome Statement 4
Learning Outcomes 5	Learning Outcome Statement 5
9. Teaching and learning strategies	

There are many teaching and learning methods used in the Science Department, the most important of which are: (lecture - theoretical and practical, discussion and dialogue, field visits, discussion groups on specific topics, theoretical and practical student research, office activities)

10. Evaluation methods

- Daily and monthly oral and written exams
-Daily assignments and extracurricular activitie

11. Faculty

Faculty members

Academic Rank	Specialization		Requirements/Skills (if any)	Number of Faculty Members	
	general	precise		Cadre	Lecturer
Professor	Educational and Psychological Sciences	Psychological Counseling and Educational Guidance		1	
Professor	Agricultural Sciences	Agricultural Extension		1	
Professor	History	Modern History		1	
Professor	Organic Chemistry	Organic Chemistry		1	
Professor	Agricultural Sciences	Food Science		1	
Assistant Professor	Geology			1	
Assistant Professor	Chemistry	Industrial Chemistry		1	
Lecturer	physics	solid physics		1	
Lecturer	Chemistry	Analytical Chemistry		2	

Lecturer	Chemistry	Physical Chemistry		1	
Lecturer	Chemistry	Organic Chemistry		1	
Lecturer	Management and Economics	Accounting		1	
Lecturer	Biology	Insects		1	
assist. Lecturer	Chemistry	Biochemistry		1	
assist. Lecturer	Agricultural Sciences	Agricultural Extension		2	
assist. Lecturer	Biology			2	
assist. Lecturer	physics			1	
assist. Lecturer	Biology	Plant/Environment and Pollution		2	
assist. Lecturer	Biology	Microbiology		1	
assist. Lecturer	Biology	Histology		2	
assist. Lecturer	Educational Sciences	Teaching Methods		1	
assist. Lecturer	Chemistry	Organic Chemistry		1	
assist. Lecturer	English language			1	
assist. Lecturer	Arabic	Linguistics		1	

assist. Lecturer	Chemistry	Analytical Chemistry		1	

Professional Development
Orientation of New Faculty
Mandatory and developmental courses, teaching qualifications, follow-up by experienced professors and evaluation
Professional development for faculty members
Encouraging them to obtain higher degrees, write research, use modern .scientific references, and keep pace with technical development
12. Acceptance Criteria
Central
13. The most important sources of information about the program
_ The program link on the Internet, and its applications in similar universities. - _ The training courses held by the quality and university performance departments about the program in various institutes and colleges in Iraq -Administrative and scientific data
14. Program Development Plan
Developing skills for teaching scientific and educational courses and developing study materials and curricula

Course Description Form

1. Course Name:
Chemistry Volumetric analysis
2. Course Code:
Chemistry Volumetric analysis
3. Semester / Year:
Chapter one 2025 -2026
4. Description Preparation Date:
2025-9-2
5. Available Attendance Forms:
In attendance (weekly)
6. Number of Credit Hours (Total) / Number of Units (Total)
26 hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant teacher Sara Abdullah Kamil Email: sara.ab.kamil@tu.edu.iq
8. Course Objectives

Course Objectives	• Introducing the importance of Chemistry Volumetric analysis and the relationship of this science to other sciences. • Developing students' skills in analytical Chemistry sciences. • Learn about voluntary corroction • Study the methods of expressing restrictions
9. Teaching and Learning Strategies	
The strategy	Use the standard method (lectures), discussion method, and problem-solving method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 3 September	2	Introduction to analytical Chemistry	Volume analysis	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
Week 4 September	2	Neutralization Titrations	Titrations Volume	Paper lecture Display	Daily and monthly exams,

				Screen Blackboard and pen	homework
Week 1 October	3	Oxidation and reduction reaction	Concepts relating to interactions, oxidation and reduction and calculation of the number	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
Week 2 October	4	Methods of expressing conquests	Calculate the rest solutions	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
Week 3 October	2	Methods of expressing conquests	Calculate the rest solutions	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
Week 4 October	2	Chemical accounts	Standard solutions and methods of preparation of solutions	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
Week 1 November	2	First-month exam			
Week 2 November	2	Calculate the pH for the acids and bases	Calculate the pH for solutions	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
Week 3 November	2	Calculate the pH of the salts	Calculate the pH for solutions	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
Week 4 November	2	Calculate the pH for common	Calculate the pH for solutions	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
Week 1 December	2	Calculate the pH for organized solutions	Calculate the pH for solutions	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
Week 2 December	2	Titrations precipitation	Concepts relating to sedimentation	Paper lecture Display	Daily and monthly exams,

			interactions-dissolve-applications	Screen Blackboard and pen	homework
Week 3 December	2	Second month exam			

11. Course Evaluation
Students are evaluated during the semester according to the following principles: • First-month exam from 10 / Second-month exam from 10 / Daily exam, attendance and participation from 10 • (Practical pursuit 10 + Theoretical pursuit of 30) Pursuit of 40 • Final exam of 60 • Final score out of 100

12. Learning and teaching resources	
Required textbooks (methodology, if any)	Theoretical basics of quantitative gravimetric and volumetric analysis of inorganic analytical chemistry, Prof. Dr. Hadi Kazem Awad
Primary references (sources)	Dr.. Moayad Qasim Al-Abaiji, Dr. Thabet Saeed Al-Ghabsheh, “Foundations of Analytical Chemistry,” University of Mosul, 1986
Recommended supporting books and references (scientific journals, reports...)	Dr.. Moayad Qasim Al-Abaiji, Dr. Thabet Saeed Al-Ghabsheh, “Foundations of Analytical Chemistry,” University of Mosul, 1986

Course Description Form

1. **Course Name:**
Chemistry gravimetric analysis
2. **Course Code:**
Chemistry gravimetric analysis
Semester / Year:
3. **Chapter two**
4. **Description Preparation Date:**
2025-9-1
5. Available Attendance Forms:
In attendance (weekly)
6. Number of Credit Hours (Total) / Number of Units (Total)
26 hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant teacher Sara Abdullah Kamel **Email: sara.ab.kamil@tu.edu.iq**
8. Course Objectives

Course Objectives	• Introducing the importance of Chemistry gravimetric analysis and the relationship of this science to other sciences. • Developing students' skills in analytical Chemistry sciences. • Learn about the types of qualitative and quantitative • • Identify sediments, sediment characteristics, and separation methods .....
9. Teaching and Learning Strategies	
The strategy	Use the standard method (lectures), discussion method, and problem-solving method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
January 4	2	Introducing the student to analytical chemistry	Types of analytical chemistry and its branches	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework

February 1	2	Explanation of laboratory tools and equipment and how to use them	Laboratory glassware and tools	Paper lectures Display screen with laboratory tools display Blackboard and pen	Daily and monthly exams, homework
February 2	2	Filtration and sedimentation reactions	An experiment on how to prepare sparingly soluble salt, methods of drying it and weighing it	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
February 3	2	Correction or calibration methods	Introduction to the titration method, its working conditions and specifications of the standard solution	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
February 2	2	Practical experience of applying calibration and how to find its practical and theoretical calculations	Calculating concentrations of unknown solutions	Manual laboratory methods - dialogue and discussion - blackboard and pen - display screen	Daily and monthly exams, homework
March 1	2	Introduction to chromatography methods and types	Chromatography methods	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
March 2	2	First-month exam			
March 3	2	Introduction to Thin Layer Chromatography and How to Use It	Paper and thin layer chromatography	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework

March 4	2	Practical experiment for separation of commercial inks by paper and thin layer chromatography	Paper and thin layer chromatography	Manual laboratory methods - dialogue and discussion - blackboard and pen - display screen	Daily and monthly exams, homework
April 1	2	Introduction to chemical separation methods and types and the objectives of the separation process	Chemical separation methods	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
April 2	2	Explanation of the solvent extraction method	Chemical separation methods	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework

April 3	2	Practical experiment on how to estimate the percentage of iodine extraction by an organic solvent	Chemical separation methods	Manual laboratory methods - Dialogue and discussion - Blackboard and pen - Display screen Blackboard and pen	Daily and monthly exams, homework
April 4	0	Second month exam			

11. Course Evaluation
Students are evaluated during the semester according to the following principles: - First-month exam from 10 / Second-month exam from 10 / Daily exam, attendance and participation from 10 - (Theoretical pursuit of 30 + Practical pursuit of 10) Pursuit of 40 - Final exam of 60 - Final score out of 100

12. Learning and teaching resources	
Required textbooks (methodology, if any)	Theoretical basics of quantitative gravimetric and volumetric analysis of inorganic analytical chemistry, Prof. Dr. Hadi Kazem Awad
Primary references (sources)	Dr.. Moayad Qasim Al-Abaiji, Dr. Thabet Saeed Al-Ghabsheh, “Foundations of Analytical Chemistry,” University of Mosul, 1986
Recommended supporting books and references (scientific journals, reports...)	Dr.. Moayad Qasim Al-Abaiji, Dr. Thabet Saeed Al-Ghabsheh, “Foundations of Analytical Chemistry,” University of Mosul, 1986

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

2026 - 2025

Course Description Form

1. Course Name:
biochemistry
2. Course Code:
The third stage is chemistry
3. Semester / Year:
Chapter II
4. Description Preparation Date:
2026/01/11
5. Available Attendance Forms:
In-person class lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
/**24** hours
7. Course administrator's name (mention all, if more than one name)
Name: Ziad Tariq Taha , Arkan Tawfiq Muhammad Email: ziad.taha21@tu.edu.iq , arkan.tawfh.m@tu.edu.iq
8. Course Objectives

Course Objectives	1-For the student to learn about the nature of biochemistry and the important biomolecules in the body, and to study their details. 2-Studying important life molecules in the bodies of living organisms such as humans, such as carbohydrates, fats, proteins, and amino acids. 3-Study the details of the compounds mentioned and distinguish between them. 4-Knowing how to write the structural formulas of these compounds and their important interactions. 5-The student's knowledge of the functions of these compounds and their importance to the health of the human body.

9. Teaching and Learning Strategies	
Strategy	- Using the lecture method and using the interactive whiteboard through explanation and clarification. - Providing students with the basics and additional topics related to the outcomes of biochemical thinking and analysis. - Asking students to write objective reports about some life molecules with the aim of learning and knowing the research method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
February, first week	2	**Introducing the student to biochemistry .Its importance in our lives**	**Introduction to biochemistry**	**Lecture and discussion**	**Class performance**
February, second week	2	**Introducing the studen molecules and life, models of living cells, properties and functions of cell parts. With hydrocarbons and their types**	**Biomolecules an living cells**	**Lecture and discussion**	**Class performance**
February, third week	2	**Familiarize the student with the characteristics Water, solutions, and dissolution of compounds Polarity and ion concentration calculations Hydrogen and measurement curve Al-Calibration**	**Water and solutions**	**Lecture and discussion**	**Class performance**

February, fourth week	2	**Introducing the student to carbohydrates Its importance, composition, classification, types .and characteristics**	**Carbohydrates**	**Lecture and discussion**	**Class performance**
April, first week	2	**Introducing the student to monosaccharides Its types, cyclic structure, and effectiveness Visual**	**Monosaccharides**	**Lecture and discussion**	**Class performance**
April, second week	2	**Introducing the student to interactions Monocarbohydrates are the most important Monosaccharides and their derivatives**	**Monocarbohydrate reactions and their most important types**	**Lecture and discussion**	**Class performance**
April, third week	2	**Student definition of limited sugars oligosaccharides units (Disaccharides, sugars Many units .polysaccharides**	**Complex sugars**	**Lecture and discussion**	**Class performance**
April, fourth week	2	**the first exam**	**First month exam**	**Lecture and discussion**	**Class performance**
The first week of May	2	**Fats, their properties and importance, Its composition, classification, types and functions**	**Fats**	**Lecture and discussion**	**Class performance**

May, second week	2	**Simple fats , Triglycerides Oils, fatty acids, Phospholipids**	**Types of fats**	**Lecture and discussion**	**Class performance**
May, third week	2	**Proteins, their structure and classification Plasma proteins, changing characteristics General proteins**	**Proteins**	**Lecture and discussion**	**Class performance**
May, fourth week	2	**Second exam**	**Second month exam**	**Lecture and discussion**	**Class performance**

11.Course evaluation	
First month exam from 15 / Second month exam from 15 / Add and divide by 2. Oral exam, daily preparation, attendance and participation of 10 + 15 marks, practical part. We extract from it a pursuit score of 40 The final written exam is 60 The final grade is 100	
12.Learning and teaching resources	
Introduction to biochemistry / Dr. Khawla Ahmed Biochemistry./ Dr. Sami Al-Mudhafer Al-Wajeez in Biochemistry./ Dr. Qusay Al-Chalabi	(Required textbooks (methodology, if any)
1- Harpers Revew of Biochemistry, 2- Principle of Bio Chemistry, Smith &White 3- Biochemistry by Armstrong	(Main references (sources)
Biochemistry book, part one / Dr. Tariq Younis	Recommended supporting books and (...references (scientific journals, reports
www.bytoco.com	Electronic references, Internet sites

Course Description Form

1. Course Name: Animal Physiology (theoretical)
2. Course Code: The Third stage is Biology
3. Semester / Year: Chapter I/2025-2026
4. Description Preparation Date: 1/9/2025
5. Available Attendance Forms: class lectures
6. Number of Credit Hours (Total) / Number of Units (Total) 30 hours
7. Course administrator's name (mention all, if more than one name)
Name: Huda Shareef Diab Email: huda.sh.diab@tu.edu.iq

8. Course Objectives

Course Objectives	1-To enable students to understand the complex functional mechanisms of various animal body system. 2-To study the integration between anatomical structure and physiological function. 3-To explain the mechanisms of homeostatic regulation under different environmental conditions.

9. Teaching and Learning Strategies

Strategy	**Interactive Lectures**: Direct explanation using whiteboards and colored markers for physiological diagrams. **Visual Learning:** Utilizing Smart Boards (Data Show) to present 3D videos and animated physiological models. **Brainstorming**: Presenting physiological scenarios to stimulate students' analytical thinking.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Sebtember, One week	2	Understanding the definition of physiology and how tissues adapt to temperatures	Introduction to Physiology and Effect/Impact	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method
Sebtember ,Two week	2	Describing the structure of the neuron and explaining the mechanism of ion exchange (action .potential)	Physiology of the Nervous System: Its Structure and Generation of the Nerve	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method
October,three week	2	Functional differentiation between the brain, spinal cord, and peripheral nerves	The Central and Peripheral Nervous System	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method
October ,four week	2	Explaining the sliding filament theory and the role of calcium and ATP in contraction.	Physiology of the Muscular System: Muscle Structure and the Mechanism of Their Contraction and Relaxation	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method
October ,Five week	2	Understanding the partial pressures of gases and how oxygen transfers from the lungs to the blood and the transfer of CO2 from tissues to the blood then to the lungs.	Physiology of the Respiratory System: The Structure of the System and the Mechanism of Inhalation and Exhalation and the Factors Affecting It	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method

Octobe r ,Six week	2	**Analyzing the cardiac cycle (systole and diastole) and the function of heart valves.**	**Physiology of the Circulatory System: The Structure of the Heart**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
Novem ber, seven week	2	**the first exam**			
Novem ber, Eight week	2	**nowing the proportions of blood components from cells and plasma, knowing the components of plasma, and the role of lymphatic fluid in balance.** **Explaining the functions of blood cells (RBC, WBC) and the blood clotting process**	**Blood Components and the Lymphatic System.** **Physiology of Blood**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
Novem ber, Nine week	**2**	Describing mechanical and chemical digestion and the role of salivary and gastric enzymes	**hysiology of the Digestive System: Structure of the Mouth, Esophagus, and Stomach**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
Novem ber, Ten week	**2**	Understanding the role of bile and pancreatic juice in the emulsification of fats.	**The Small and Large Intestine**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**

December, Eleven week	**2**	Explaining how amino acids and sugars are transported across the villi.	**he Mechanism of Digestion and Absorption in the Digestive System**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
Decembe, Twelve week	**2**	Understanding the stages of urine formation (filtration, reabsorption, secretion).	**Physiology of the Urinary System: Structure of the Kidney and Nephron**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
Decembe, Thirteen week	**2**	ntroduction and mechanism of action, classification of hormones according to chemical structure and understanding the function of receptors, studying the effect of pituitary and thyroid hormones on vital processes.	**Hormones and Functional Classification**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
Decembe, Fourteen week	**2**	nderstanding the Role of Sex Hormones in Regulating Reproductive Functions	**Reproduction Hormones**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
Decembe,Fifteen week	**2**	**Second exam**			

11. Course evaluation

First monthly exam out of 20/Second monthly exam out of 20/summed and divided by 2.

Daily quizzes,attendance , and Participation out of 10.

Theoretical courswork out of 30+ Practical coursework out of 10.

The final coursework grad is obtained out of 40.

Final written theoretical exam (50) +final practical exam (10).

The final grade is out of 100.

12. Learning and Teaching Resoures	
Required textbooks(curricular books, if any)	Physiology by Dr. Sabah Nasir Al-Allooji/2014 Principles of Animal Physiology by Dr. Khalid Ahmed Al-Hay
Main references(sources)	Textbook of Medical Physiology - (Guyton and Hall)
Recommended books and references (scientific journais, reports…)	journal of Basic and Applied Zoology,JOBA Journal of Animal Physiology and Animal Nutrition
Electronic references, websites	-Specialized topic websites from Google search - Pubmed موقع https://pubmed.ncbi.nlm.nih.gov

Course Description Form

1. Course Name: animal physiology Practical
2. Course Code: The Third stage is Biology
3. Semester / Year: Chapter 2/2025-2026
4. Description Preparation Date: **1/9/2025**
5. Available Attendance Forms: class lectures
6. Number of Credit Hours (Total) / Number of Units (Total) 30/ hours
7. Course administrator's name (mention all, if more than one name)
Name: Hhda Shareef Diab Email: huda.sh.diab@tu.edu.iq Name: Ragda Mahmood Hamad Email: raghada.hamad21@tu.edu.iq

8. Course Objectives

Course Objectives	quip students with fundamental practical skills in laboratory animal dissection and physiological specimen preparation 2. Train students to conduct physiological experiments and measure vital indicators using laboratory equipment 3. Develop students' ability to analyze physiological data, interpret results scientifically, and relate them to theoretical concepts 4. Enhance teamwork skills and students' commitment to laboratory safety rules and scientific ethics

9. Teaching and Learning Strategies

Strategy	Learning by Practice: Direct application of laboratory skills under instructor supervision • Collaborative Learning: Working in small groups to complete experiments and share experiences • Individual Guidance: Monitoring each student's performance and providing immediate feedback

	• Discovery Learning: Encouraging students to observe and draw conclusions from experimental results • Scientific Report Writing: Documenting experiments and results in a systematic scientific manner

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
september, 1 week	2	**Adhere to laboratory safety rules Master external frog identification techniques Perform accurate dissection**	**General Laboratory Guidelines Frog Identification / Frog Dissection**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
september, 2 week	2	**Accurately locate sciatic nerve Master gastrocnemius muscle isolation techniques Maintain tissue integrity**	**Preparation of Sciatic Nerve and Gastrocnemius Muscle**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
October, 3 week	2	**Study temperature effect on contraction • Understand summation and tetanus • Analyze results and relate to theory**	**Effect of Heat on Muscle Contraction / Summation and Tetanus Phenomena**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
October, 4 week	2	**Determine stimulus-response relationship • Plot response curve • Interpret data scientifically**	**Relationship Between Stimulus Strength and Response Magnitude**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**

October,5 week	2	**• Accurately measure nerve conduction speed • Understand nerve transmission mechanism • Perform necessary calculations**	**Measurement of Nerve Conduction Velocity**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
October,6 week	2	**Safely master toad dissection • Properly isolate the heart • Prepare heart for experiments**	**Toad Dissection and Heart Preparation**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
November,7 week	2	**The first Exam**			
November, 8 week	**2**	**Study effects of different ions • Understand drug effects on heart • Compare different effect**	**Effect of Ions and Drugs on Simple Contraction**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
November, 9 week	**2**	Master hemocytometer use • Accurately count blood cells • Calculate total concentration	**Counting Red and White Blood Cells**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
November, 10 week	**2**	Use hemoglobin meter • Accurately estimate hemoglobin percentage • Interpret results clinically	**Hemoglobin (HB) Estimation**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**

December,11 week	**2**	Measure erythrocyte sedimentation rate • Determine ABO blood groups • Apply compatibility tests	**ESR Estimation - Blood Group Determination**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
December,12 week	**2**	Perform electrocardiography • Measure heart rate • Read and interpret ECG	**ECG and Heart Rate Measuremen**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
December,13 week	**2**	Understand osmotic properties • Study cellular shrinkage and swelling • Apply concepts to living models	**Study of Osmotic Conditions (Using Hen Eggs and Blood Cells - Crenation and Swelling)**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
December,14 week	**2**	Master blood pressure measurement • Use different devices • Interpret normal and abnormal readings	**Blood Pressure and Measurement Methods Using Different Devices (Mercury, Electronic)**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
December,15 week	**2**	**The Second exam**			

11. Course evaluation

Students are assessed during the semester according to the following criteria:

First monthly exam out of 10 / Second monthly exam out of 10 / Daily quizzes

and participation out of 10. These grades are summed and divided by 3 to obtain the coursework grade of 10.

Final exam out of 10.

12. Learning and Teaching Resoures	
Required textbooks(curricular books, if any)	Handbook of Animal Physiology Practical Authors: Various contributors
Main references(sources)	**1-Laboratory Manual for Animal Physiology** **2. Comparative Animal Physiology - Knut Schmidt-Nielsen**
Recommended books and references (scientific journais, reports…)	journal of Experimental Biology Impact Factor: 3.24 https://journals.biologists.com/jeb American Journal of Physiology Impact Factor: 3.52 | Publisher: A merican Physiological Society
Electronic references, websites	Physiological Society https://www.physoc.org

Physiology Web https://www.physiologyweb.com موسوعة تعليمية في الفسلجة	

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

2026 - 2025

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 staP 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, quaJerly), 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 is written here as stated in the university's catalogue and website.
2. Program Mission
Program mission is written here as stated in the university's catalogue and website.
3. Program Objectives
General statements describing what the program or institution intends to achieve.
4. Program Accreditation
Does the program have program accreditation? And from which agency?
5. Other external influences
Is there a sponsor for the program?

6 Program Structure				
Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements				
College Requirements				

Department Requirements				
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

8. Expected learning outcomes of the program

Knowledge

Learning Outcomes 1	Learning Outcomes Statement 1

Skills

Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3

Ethics

Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes S	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in the implementation of the program in general.

10. Evaluation methods

Implemented at all stages of the program in general.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full—time, and part—time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12. Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13. The most important sources of information about the program

State briefly the sources of information about the program.

14. Program Development Plan

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

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

Course Description Form

1. Course Name:
Clinical Biochemistry
2. Course Code:
Fourth stage Chemistry
3. Semester / Year:
Chapter I
4. Description Preparation Date:
01/09/2025
5. Available Attendance Forms:
In-person class lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
/**24** hours
7. Course administrator's name (mention all, if more than one name)
Name: Ziad Tariq Taha , Arkan Tawfiq Mohammad Email: ziad.taha21@tu.edu.iq , arkan.tawfh.m@tu.edu.iq
8. Course Objectives

Course Objectives	1- For the student to become familiar with the nature of clinical biochemistry and the important biological fluids in the body, their nature, and to study their details. 2- Study of important biological molecules in the bodies of living organisms such as humans, such as carbohydrates, fats, proteins, and amino acids, and their clinical importance. 3-Study the details of the compounds mentioned and distinguish between them. 4- Knowing the normal levels of these fluids in the pathological state. 5- To familiarize the student with the functions and clinical importance of various fluids and their importance to human health.

9. Teaching and Learning Strategies	
Strategy	- Using the lecture method and using the interactive whiteboard through explanation and clarification. - Providing students with the basics and additional topics related to the outcomes of biochemical thinking and analysis. - Asking students to write objective reports about some life molecules with the aim of learning and knowing the research method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
September, fourth week	2	**Introducing the student to clinical chemistry and its importance in our lives**	**Introducing the student to clinical chemistry**	**Lecture and discussion**	**Class performance**
October, first week	2	**Introducing the studen the most important body fluids**	**Introducing the student to the most important body fluids**	**Lecture and discussion**	**Class performance**
October, third week	2	**Introducing the student to the clinical importance of urethra**	**clinical importance of urethra**	**Lecture and discussion**	**Class performance**
October, fourth week	2	**Introducing the student to urinary .tract stones**	**urinary tract stones**	**Lecture and discussion**	**Class performance**
November, first week	2	**Introducing the student to gallstones, salivary gland stones, and prostate stones**	**gallstones, salivary gland stones, and prostate stones**	**Lecture and discussion**	**Class performance**

November, second week	2	**Introducing the student to carbohydrates and their clinical importance**	**carbohydrates and their clinical importance**	**Lecture and discussion**	**Class performance**
November, third week	2	**Introducing the student to blood (its components, clotting factors), blood functions, and plasma**	**blood (its components, clotting factors), blood functions, and plasma**	**Lecture and discussion**	**Class performance**
November, fourth week	2	**the first exam**	**First month exam**	**Lecture and discussion**	**Class performance**
The first week of December	2	**Types of anticoagulants (their chemical composition and functions)**	**Types of anticoagulants**	**Lecture and discussion**	**Class performance**
December, second week	2	**Blood ions (sodium, potassium, phosphate, calcium, iron) and their clinical importance and normal and pathological levels.**	**Blood ions**	**Lecture and discussion**	**Class performance**
December, third week	2	**Methods of collecting blood samples**	**Methods of collecting blood samples**	**Lecture and discussion**	**Class performance**
December, fourth week	2	**Second exam**	**Second month exam**	**Lecture and discussion**	**Class performance**

11.Course evaluation	
First month exam from 15 / Second month exam from 15 / Collection only. Oral exam, daily preparation, attendance and participation of 10. We extract from it a pursuit score of 40 The final written exam is 60 The final grade is 100	
12.Learning and teaching resources	
Introduction to biochemistry / Dr. Khawla Ahmed Biochemistry./ Dr. Sami Al-Mudhafer Al-Wajeez in Biochemistry./ Dr. Qusay Al-Chalabi	(Required textbooks (methodology, if any)
1- Harpers Revew of Biochemistry, 2- Principle of Bio Chemistry, Smith &White 3- Biochemistry by Armstrong	(Main references (sources)
Biochemistry book, part one / Dr. Tariq Younis	Recommended supporting books and (...references (scientific journals, reports
www.bytoco.com	Electronic references, Internet sites

Course Description Form

1. Course Name: Practical biochemistry
2. Course Code: The second stage is biology
3. Semester / Year: Chapter II
4. Description Preparation Date: **11/1/2026**
5. Available Attendance Forms: class lectures
6. Number of Credit Hours (Total) / Number of Units (Total) **26**/ hours
7. Course administrator's name (mention all, if more than one name)
Name: Heba saad asal Sara Abdullah Kamil ， Suzan Gumaah Harim Email: heba.s.asal@tu.edu.iq Sara.ab.kami@tu.edu.iq Suzan.jumah.h@tu.edu.iq
8. Course Objectives

Course Objectives	1-For the student to learn about the nature of biochemistry and the important biomolecules in the body, and to study their details. 2-Studying important life molecules in the bodies of living organisms such as humans, such as carbohydrates, fats, proteins, and amino acids. 3-Study the details of the compounds mentioned and distinguish between them. 4-Knowing how to write the structural formulas of these compounds and their important interactions. 5-The student's knowledge of the functions of these compounds and their importance to the health of the human body.

9. Teaching and Learning Strategies	
Strategy	- Using the lecture method and using the interactive whiteboard through explanation and clarification. - Providing students with the basics and additional topics related to the outcomes of biochemical thinking and analysis. - Asking students to write objective reports about some life molecules with the aim of learning and knowing the research method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
February, first week	2	**Introducing the student to biochemistry .Its importance in our lives**	**Introduction to biochemistry**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
February, second week	2	**Introducing the studen molecules and life, models of living cells, properties and functions of cell parts. With hydrocarbons and their types**	**Biomolecules an living cells**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
februa ry, week3	2	**Familiarize the student with the characteristics Water, solutions, and dissolution of compounds Polarity and ion concentration calculations Hydrogen and**	**Water and solutions**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**

		measurement curve Al-Calibration			
februa ry, week 4	2	**Introducing the student to carbohydrates Its importance, composition, classification, types .and characteristics**	**Carbohydrates**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
march, week1	2	**Introducing the student to monosaccharides Its types, cyclic structure, and effectiveness Visual**	**Monosaccharide s**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
march, week2	2	**Introducing the student to interactions Monocarbohydrates are the most important Monosaccharides and their derivatives**	**Monocarbohydr ate reactions and their most important types**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
march, week 3	2	**Student definition of limited sugars oligosaccharides units (Disaccharides, sugars Many units .polysaccharides**	**Complex sugars**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**

march, week 4	2	**the first exam**	**First month exam**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
April, week 1	2	**Fats, their properties and importance, Its composition, classification, types and functions**	**Fats**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
April, week2	2	**Simple fats , Triglycerides Oils, fatty acids, Phospholipids**	**Types of fats**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
April, week3	2	**Proteins, their structure and classification Plasma proteins, changing characteristics General proteins**	**Proteins**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
April week4	2	**Second exam**	**Second month exam**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**

11.Course evaluation	
First month exam from 10 / Second month exam from 10 / Add and divide by 2. Oral exam, daily preparation, attendance and participation in the practical part and conduct experiments of 5 + 25 marks, practical part. We extract from it a pursuit score of 40 The final written exam is 60 The final grade is 100	
12.Learning and teaching resources	
Introduction to biochemistry / Dr. Khawla Ahmed Biochemistry./ Dr. Sami Al-Mudhafer Al-Wajeez in Biochemistry./ Dr. Qusay Al-Chalabi	(Required textbooks (methodology, if any)
1- Harpers Revew of Biochemistry, 2- Principle of Bio Chemistry, Smith &White 3- Biochemistry by Armstrong	(Main references (sources)
Biochemistry book, part one / Dr. Tariq Younis	Recommended supporting books and (...references (scientific journals, reports
www.bytoco.com	Electronic references, Internet sites

Course Description Form

1. Course Name: Practical biochemistry
2. Course Code: The second stage is biology
3. Semester / Year: Chapter II
4. Description Preparation Date: **11/1/2026**
5. Available Attendance Forms: class lectures
6. Number of Credit Hours (Total) / Number of Units (Total) **26**/ hours
7. Course administrator's name (mention all, if more than one name)
Name: Heba saad asal Sara Abdullah Kamil Email: heba.s.asal@tu.edu.iq Sara.ab.kami@tu.edu.iq
8. Course Objectives

Course Objectives	1-For the student to learn about the nature of biochemistry and the important biomolecules in the body, and to study their details. 2-Studying important life molecules in the bodies of living organisms such as humans, such as carbohydrates, fats, proteins, and amino acids. 3-Study the details of the compounds mentioned and distinguish between them. 4-Knowing how to write the structural formulas of these compounds and their important interactions. 5-The student's knowledge of the functions of these compounds and their importance to the health of the human body.

9. Teaching and Learning Strategies	
Strategy	- Using the lecture method and using the interactive whiteboard through explanation and clarification. - Providing students with the basics and additional topics related to the outcomes of biochemical thinking and analysis. - Asking students to write objective reports about some life molecules with the aim of learning and knowing the research method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
February, first week	2	**Introducing the student to biochemistry .Its importance in our lives**	**Introduction to biochemistry**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
February, second week	2	**Introducing the studen molecules and life, models of living cells, properties and functions of cell parts. With hydrocarbons and their types**	**Biomolecules an living cells**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
februa ry, week3	2	**Familiarize the student with the characteristics Water, solutions, and dissolution of compounds Polarity and ion concentration calculations Hydrogen and measurement curve Al-Calibration**	**Water and solutions**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**

februa ry, week 4	2	**Introducing the student to carbohydrates Its importance, composition, classification, types .and characteristics**	**Carbohydrates**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
march, week1	2	**Introducing the student to monosaccharides Its types, cyclic structure, and effectiveness Visual**	**Monosaccharide s**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
march, week2	2	**Introducing the student to interactions Monocarbohydrates are the most important Monosaccharides and their derivatives**	**Monocarbohydr ate reactions and their most important types**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
march, week 3	2	**Student definition of limited sugars oligosaccharides units (Disaccharides, sugars Many units .polysaccharides**	**Complex sugars**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
march, week 4	2	**the first exam**	**First month exam**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**

April, week 1	2	**Fats, their properties and importance, Its composition, classification, types and functions**	**Fats**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
April, week2	2	**Simple fats , Triglycerides Oils, fatty acids, Phospholipids**	**Types of fats**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
April, week3	2	**Proteins, their structure and classification Plasma proteins, changing characteristics General proteins**	**Proteins**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
April week4	2	**Second exam**	**Second month exam**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**

11.Course evaluation	
First month exam from 10 / Second month exam from 10 / Add and divide by 2. Oral exam, daily preparation, attendance and participation in the practical part and conduct experiments of 5 + 25 marks, practical part. We extract from it a pursuit score of 40 The final written exam is 60 The final grade is 100	
12.Learning and teaching resources	
Introduction to biochemistry / Dr. Khawla Ahmed Biochemistry./ Dr. Sami Al-Mudhafer Al-Wajeez in Biochemistry./ Dr. Qusay Al-Chalabi	(Required textbooks (methodology, if any)
1- Harpers Revew of Biochemistry, 2- Principle of Bio Chemistry, Smith &White 3- Biochemistry by Armstrong	(Main references (sources)
Biochemistry book, part one / Dr. Tariq Younis	Recommended supporting books and (...references (scientific journals, reports
www.bytoco.com	Electronic references, Internet sites

Course Description Form

1. Course Name: Practical Coordination chemistry
2. Course Code: The Third stage is chemistry
3. Semester / Year: Chapter I
4. Description Preparation Date:**1/9/2025**
5. Available Attendance Forms: class lectures
6. Number of Credit Hours (Total) / Number of Units (Total) 28/ hours
7. Course administrator's name (mention all, if more than one name)
Name: Heba Saad Asal Email: heba.s.asal@tu.edu.iq Name: Ziad Tariq Taha Email : ziad.taha21@tu.edu.iq
8. Course Objectives

Course Objectives	The student will be familiar with some basic concepts in coordination chemistry. At the end of the stage, the student will be able to name coordination compounds, identify coordination complexes, hybridize coordination compounds, geometric shapes of complexes, magnetic properties of isomers formed by these compounds and know the theories that explain coordination complexes.

9. Teaching and Learning Strategies

Strategy	A performance evaluation form according to a standard that depends on the nature of the scientific material. - Works within group work. - Tests (written and oral). - General and transferable qualification skills (other skills related to

	employability and personal development). - Training students to use modern teaching methods and techniques, including integrated education using technology. - Multimedia. - Assigning students to conduct research related to the fields of scientific material. - Enabling students to use their personal skills.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
September, 4 week	2	Introduction to Coordination Chemistry		**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
October, 1 week	2	General Guidelines for Using Glassware and Laboratory Handling		**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
October, 2 week	2	Preparation of Coordination Complexes		**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
October, 3 week	2	Nomenclature of Coordination Complexes		**A lecture and a display screen with blackboard and pen with**	**Daily and monthly exams and homework with discussion**

				procedure experiences practical	method
October, 4 week	2	Experiment One: Preparation of Copper Complexes		A lecture and a display screen with blackboard and pen with procedure experiences practical	Daily and monthly exams and homework with discussion method
November, 1week	2	the first exam			
November, 2week	2	Preparation of Cobalt Complexes		A lecture and a display screen with blackboard and pen with procedure experiences practical	Daily and monthly exams and homework with discussion method
November, 3 week	2	Geometric Isomers of Coordination Complexes		A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method
November, 4 week	2	Preparation of Cis and Trans Isomers of Chromium Complexes		A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method

December, 1 week	**2**	Preparation of Hexavalent Cobalt Complex.		**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
December, 2 week	**2**	Preparation of Hexacoordinated Cobalt Complex		**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
December, 3 week	**2**	**Second exam**			
December, 4 week	**2**	**General Review of the Syllabus**			

11. Course evaluation

First month's exam out of 5 / Second month's exam out of 5 / Gather and divide by 2.

Daily exam and attendance and participation in the practical part out of 5.

(The theoretical effort out of 30 + the practical part out of 10)

We extract from it the final effort grade out of 40.

The final exam is written out of 60.

The final grade is out of 100.

12. Learning and Teaching Resoures

Required textbooks(curricular books, if any)	Fundamentals of coordination chemistry - Al-Azhar University - Faculty of Science - Department of Chemistry
Main references(sources)	Inorganic chemistry; Chatherine E.Houscroft and Alan G.Sharpe
Recommended books and references (scientific journais, reports…)	- Inorganic Chemistry Transition Elements - Coordination Principles Authored by: Dr. Naaman Saad Al-Din Al-Naimi and his group. - Coordination Chemistry. Authored by: Dr. Essam Gerges
Electronic references, websites	Google searching for Coordination Chemistry

Course Description Form

1. Course Name: (Theoretical + Practical) biochemistry
2. Course Code: The second stage is biology
3. Semester / Year: Chapter II
4. Description Preparation Date:**11 /1/2026**
5. Available Attendance Forms: In-person class lectures
6. Number of Credit Hours (Total) / Number of Units (Total) **28**/ hours Theoretical and **26** hours Practical
7. Course administrator's name (mention all, if more than one name)
Name: Heba saad asal Email: heba.s.asal@tu.edu.iq
8. Course Objectives

Course Objectives	1-For the student to learn about the nature of biochemistry and the important biomolecules in the body, and to study their details. 2-Studying important life molecules in the bodies of living organisms such as humans, such as carbohydrates, fats, proteins, and amino acids. 3-Study the details of the compounds mentioned and distinguish between them. 4-Knowing how to write the structural formulas of these compounds and their important interactions. 5-The student's knowledge of the functions of these compounds and their importance to the health of the human body.

9. Teaching and Learning Strategies

Strategy	- Using the lecture method and using the interactive whiteboard through explanation and clarification. - Providing students with the basics and additional topics related to the outcomes of biochemical thinking and analysis. - Asking students to write objective reports about some life molecules with the aim of learning and knowing the research method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
february, first week	2	**Introducing the student to biochemistry .Its importance in our lives**	**Introduction to biochemistry**	**Lecture and discussion**	**Class performance**
february, second week	2	**Introducing the studen molecules and life, models of living cells, properties and functions of cell parts. With hydrocarbons and their types**	**Biomolecules an living cells**	**Lecture and discussion**	**Class performance**
february, week3	2	**Familiarize the student with the characteristics Water, solutions, and dissolution of compounds Polarity and ion concentration calculations Hydrogen and measurement curve Al-Calibration**	**Water and solutions**	**Lecture and discussion**	**Class performance**

februa ry, week 4	2	**Introducing the student to carbohydrates Its importance, composition, classification, types .and characteristics**	**Carbohydrates**	**Lecture and discussion**	**Class performance**
march, week1	2	**Introducing the student to monosaccharides Its types, cyclic structure, and effectiveness Visual**	**Monosaccharide s**	**Lecture and discussion**	**Class performance**
march, week2	2	**Introducing the student to interactions Monocarbohydrates are the most important Monosaccharides and their derivatives**	**Monocarbohydr ate reactions and their most important types**	**Lecture and discussion**	**Class performance**
march, week 3	2	**Student definition of limited sugars oligosaccharides units (Disaccharides, sugars Many units .polysaccharides**	**Complex sugars**	**Lecture and discussion**	**Class performance**
march, week4	2	**the first exam**	**First month exam**	**Lecture and discussion**	**Class performance**
April, week 1	2	**Fats, their properties and importance, Its composition, classification, types and functions**	**Fats**	**Lecture and discussion**	**Class performance**

April , week2	2	**Simple fats , Triglycerides Oils, fatty acids, Phospholipids**	**Types of fats**	**Lecture and discussion**	**Class performance**
April, week3	2	**Proteins, their structure and classification Plasma proteins, changing characteristics General proteins**	**Proteins**	**Lecture and discussion**	**Class performance**
April week4	2	**Second exam**			
May,1 week		**General Review of the Syllabus**			

11.Course evaluation	
First month exam from 15 / Second month exam from 15 / Add and divide by 2. Oral exam, daily preparation, attendance and participation of 10 + 15 marks, practical part. We extract from it a pursuit score of 40 The final written exam is 60 The final grade is 100	
12.Learning and teaching resources	
Introduction to biochemistry / Dr. Khawla Ahmed Biochemistry./ Dr. Sami Al-Mudhafer Al-Wajeez in Biochemistry./ Dr. Qusay Al-Chalabi	(Required textbooks (methodology, if any)
1- Harpers Revew of Biochemistry, 2- Principle of Bio Chemistry, Smith &White 3- Biochemistry by Armstrong	(Main references (sources)
Biochemistry book, part one / Dr. Tariq Younis	Recommended supporting books and (...references (scientific journals, reports
www.bytoco.com	Electronic references, Internet sites

Course Description Form

1. Course Name: Immunology (theoretical)
2. Course Code: The Third stage is Biology
3. Semester / Year: Chapter **2** /2025-2026
4. Description Preparation Date:11/1/2026
5. Available Attendance Forms: class lectures
6. Number of Credit Hours (Total) / Number of Units (Total) 30 hours
7. Course administrator's name (mention all, if more than one name)
Name: Huda Shareef Diab Email: huda.sh.diab@tu.edu.iq

8. Course Objectives	
Course Objectives	1. Understanding the fundamental principles of the immune system, its components, and mechanisms. 2. Identifying immune cells and organs and their various functions. 3. Studying normal and pathological immune responses in depth.

9. Teaching and Learning Strategies	
Strategy	Interactive Lectures: Explaining concepts and theories using visual aids • Group Discussions: Exchanging ideas about complex topics. • Case Studies: Analyzing real clinical cases. • Presentations: Developing research and scientific presentation skills. • E-Learning: Using digital resources and recorded lectures.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
February, One week	2	Understand the basic concepts of immunology the Recognize historical development of immunology	Definition of Immunology and Distinguishing the Development of Immunology	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method
February, Tow week	2	Distinguish between innate and acquired immunity Understand natural and artificial immunity types	Types of Immunity	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method
February, Three week	2	Identify components of the immune system Understand functions of lymphoid organs	immune System	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method
February, four week	2	Study primary and secondary lymphoid organs Understand functions of spleen and thymus	Immune Organs	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method
March, Five week	2	Identify types of immune cells Understand lymphocyte and phagocyte functions	Immune Cells (White Blood Cells)	A lecture and a display screen with blackboard and pen	Daily and monthly exams and homework with discussion method

March , Six week	2	**Explain T cell functions** **Distinguish between helper and killer T cells**	**Functions of T-Lymphocytes**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
March, seven week		**the first exam**			
March, Eight week	2	**Understand B cell role** **Explain antibody production mechanism**	**Functions of B-Lymphocytes**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
March, Nine week	**2**	**Distinguish between antibody types** **Understand structure and function of each type (IgG, IgM, IgA, IgE, IgD)**	**Types of Antibodies**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
April,Ten week	**2**	Understand antigen characteristics Distinguish between complete and incomplete antigens	**Antigens**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
April , Eleven week	**2**	Understand antigen-antibody interaction mechanisms Study factors affecting immune reactions	**Antibody and Antigen Interaction**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**

April, Twelve week	**2**	Understand complement system and components Study classical and alternative pathways	**Complement**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
April , Thirteen week	**2**	Compare humoral and cellular immunity Understand mechanisms of each response type	**Humoral and Cellular Immune Response**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
May, Fourteen week	**2**	Distinguish between four types of hypersensitivity Understand pathological mechanisms of each type Distinguish between primary and secondary immunodeficiency Study causes and mechanisms of immunodeficiency	**Hypersensitivity** **Immunodeficiency**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
May, Fifteen week		**Second exam**			

11.Course evaluation

First monthly exam out of 20/Second monthly exam out of 20/summed and divided by 2.

Daily quizzes,attendance , and Participation out of 10.

Theoretical courswork out of 30+ Practical coursework out of 10.

The final coursework grad is obtained out of 40.

Final written theoretical exam (50) +final practical exam (10).

The final grade is out of 100.

12. Learning and Teaching Resoures	
Required textbooks(curricular books, if any)	● **Cellular and Molecular Immunology (10th Edition, 2021)** Authors: Abul K. Abbas, Andrew H. Lichtman, Shiv Pillai ● **Janeway's Immunobiology (9th Edition, 2016)** Authors: Kenneth Murphy, Casey Weaver
Main references(sources)	● Basic Immunology: Functions and Disorders of the Immune System (6th Edition) Authors: Abul K. Abbas, Andrew H. Lichtman ● The Immune System (4th Edition) - Peter Parham ● How the Immune System Works (6th Edition) - Lauren Sompayrac ● Medical Immunology (7th Edition) - Gabriel Virella
Recommended books and references (scientific journais, reports…)	● **Nature Immunology** Impact Factor: 31.25 | Publisher: Nature Publishing Group Website: https://www.nature.com/ni/ ● **Immunity** Impact Factor: 43.47 | Publisher: Cell Press Website: https://www.cell.com/immunity/ ● **Journal of Experimental Medicine** Impact Factor: 16.58 | Publisher: Rockefeller University Press
Electronic references, websites	● American Association Immunologist (AAI) https://www.aai.org ● International Union of Immunological Societies(IUIS) https://www.iuis.org

Course Description Form

1. Course Name: Immunology Practical
2. Course Code: The Third stage is Biology
3. Semester / Year: Chapter 2/2025-2026
4. Description Preparation Date:11/1/2026
5. Available Attendance Forms: class lectures
6. Number of Credit Hours (Total) / Number of Units (Total)/30 hours
7. Course administrator's name (mention all, if more than one name)
Name: Hhda Shareef Diab Email: huda.sh.diab@tu.edu.iq Name:Dhuha Kahtan Taha Email: dhuha.k.taha@tu.edu.iq
8. Course Objectives

Course Objectives	1. Acquiring practical skills in conducting immunological tests and analyses. 2. Applying immunological knowledge in laboratory and clinical diagnosis. 3. Understanding immune diseases, their occurrence mechanisms, and diagnostic methods. 4. Developing scientific research skills and critical thinking in immunology.
9. Teaching and Learning Strategies	
Strategy	Laboratory Applications: Hands-on training in immunological techniques • Teamwork: Conducting experiments in groups • Scientific Report Writing: Documenting and analyzing results • Small Research Projects: Applying knowledge in practical research • Learning by Practice: Training on modern

	analytical equipment

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
February, One week	**2**	**Adhere to laboratory safety rules**	**Instructions and Conditions to be Followed in the Laboratory**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
February, Tow week	**2**	**Master handling laboratory animals** **Learn different injection techniques**	**Teaching Laboratory Animals and Injection Methods**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
February, three week	**2**	**Master blood drawing techniques safely** **Learn blood component separation methods**	**Methods of Blood Collection, Gathering, and Separation**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
February, Four week	**2**	**Prepare blood smears** **Differentiate types of white blood cells**	**Differential Blood Smear Examination**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**

March, Five week	**2**	**Perform serial dilutions** **Apply dilution concept in tests**	**Dilution Concept**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
March, Six week	**2**	**Understand titer concept** **Apply titer measurements**	**Titer Concept**	**A lecture and a display screen with blackboard and pen with procedure experiences practical**	**Daily and monthly exams and homework with discussion method**
March, Seven week	**2**	**Master serum collection and preservation** **Learn complement removal methods**	**Serum Extraction, Preservation, and Complement Removal**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
March, Eight week	**2**	**the first exam**			
March, Nine week	**2**	**Study complement system** **Measure complement activity in laboratory**	**Complement Activity in Bacterial Killing**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
April, Ten week	**2**	Measure total protein Estimate immunoglobulins	**Estimation of Total Protein and Immunoglobulin in Serum and Secretions**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**

April, Eleven week	**2**	Perform skin sensitivity tests Interpret skin test results	**Hypersensitivity Reactions (Skin Test Method**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
April, twelve week	**2**	Perform agglutination tests Interpret agglutination test results	**Agglutination Test**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
April, Thirteen week	**2**	Apply blood grouping tests Determine blood compatibility	**Direct Agglutination Applications (Blood Grouping**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
May,Four teen week	**2**	Perform RF and CRP tests Diagnose autoimmune diseases	**Indirect Agglutination Applications (C-Protein Test and/or RF Test and/or CRP Test)**	**A lecture and a display screen with blackboard and pen**	**Daily and monthly exams and homework with discussion method**
May,Fifte en week		**Second exam**			

11.Course evaluation

Students are assessed during the semester according to the following criteria:

First monthly exam out of 10 / Second monthly exam out of 10 / Daily quizzes and participation out of 10. These grades are summed and divided by 3 to obtain the coursework grade of 10.

Final exam out of 10.

12. Learning and Teaching Resoures	
Required textbooks(curricular books, if any)	
Main references(sources)	**1- Immunology for Medical Students (3rd Edition) - Matthew Helbert** **2- Case Studies in Immunology: A Clinical Companion (7th Edition) - Raif Geha, Luigi Notarangelo**
Recommended books and references (scientific journais, reports…)	Frontiers in Immunology(Open Access) Website: https://www.frontiersin.org/journals/immunology Clinical Immunology Website: https://www.sciencedirect.com/journal/clinical-immunologyl
Electronic references, websites	Pubmed https://pubmed.ncbi.nlm.nih.gov WHO-Immunization https://www.who.int

Course Description Form

1. Course Name:
General Chemistry
2. Course Code:
General Chemistry
3. Semester / Year:
Chapter one / 2025 - 2026
4. Description Preparation Date:
11-9-2025
5. Available Attendance Forms:
In attendance (weekly)
6. Number of Credit Hours (Total) / Number of Units (Total)
33 hours
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Abdulwahid AbdulSattar Talouh Email: altlwhbdalwahd @gmail.com Name: Assistant lecturer Sara Abdullah kamil Email: sara.ab.kamil@tu.edu.iq
8. Course Objectives

Course Objectives	A- Cognitive Objectives: 1- Providing the student with sufficient information to acquire expertise in the classification of chemical compounds. 2- Equipping the student with the knowledge of all branches of chemistry. 3- Providing the student with sufficient knowledge to understand the fundamentals of chemistry.

9. Teaching and Learning Strategies	
The strategy	Use the standard method (lectures), discussion method, and problem-solving method.

10. Course Structure

Week	Hou	Required Learning Outcomes	Unit or sub name	Learning method	Evaluation method
1	3	Understanding the nature of laboratory work and the types of tools, glassware, and equipment used within .the laboratory	General Chemistry	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily, monthly exams, homework

2	3	Understanding the instructions and guidelines to be followed within the laboratory	General Chemistry	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily and monthly exams, homework
3	3	Learn how to prepare solutions in a practical, hands-on way.	General Chemistry	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily and monthly exams, homework
4	3	Learn how to find the numbe water of crystallization molecules in chemical .compounds	General Chemistry	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily and monthly exams, homework
5	3	Learn how to form precipita and separate dissolved ions .from the precipitate	General Chemistry	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily and monthly exams, homework
6	3	First-month exam			
7	3	Learn how to separate sedime practically by first performing the calculations theoretically and then carrying out the .practical application	General Chem	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily and monthly exams, homework
8	3	Learn how to conduct distillation experiments	General Chemistry	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily and monthly exams, homework
9	3	Understanding the differences between types of distillation	General Chemistry	Projector screen, whiteboard, pen, and laboratory	Daily and monthly exams, homework

				equipment ,paper , Laboratory equipment	
10	3	Understanding the concept crystals in chemistry	General Chemistry	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily and monthly exams, homework
11	3	Conducting a practical experim involving the formation of crystals of specific compounds	General Chemistry	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily and monthly exams, homework
12	3	A comprehensive review of the basic concepts in the course	General Chemistry	Projector screen, whiteboard, pen, and laboratory equipment ,paper , Laboratory equipment	Daily and monthly exams, homework
13	3	Second month exam			

11. Course Evaluation

Students are evaluated during the semester according to the following principles:

- First-month exam from 20 / Second-month exam from 20 / Daily exam, attendance and participation from 10
- (Theoretical pursuit of 30 + Practical pursuit of 10) Pursuit of 40
- Final exam of 60
- Final score out of 100

12. Learning and teaching resources

Required textbooks	Chemistry: The Central Science

	: Brown, LeMay, Bursten, Murphy, Woodward
Primary references (sources)	General Chemistry: Principles and Modern Applications
Recommended supporting books and references (scientific journals, reports...)	1. Journal of the American Chemical Society (JACS) 2. Nature Chemistry 3. Chemical Reviews 4-Angewandte Chemical International Edition

Course Description Form

1. Course Name : Microbiology – practical
2. Course Code: 2nd class
3. Semester / Year: Courses system
4. Description Preparation Date: 2/ 9 / 2025
5. Available Attendance Forms:Presency class lectures
6. Number of Credit Hours (Total) / Number of Units (Total) : 39 hours
7. Course administrator's name (mention all, if more than one name)
Name: Assist. Lecturer : Abdulrahman Jirgees Younis Email: abdulrahman.j.younis@tu.edu.iq

8. Course Objectives	
Course Objectives	• Introducing the different types of bacteria and their relationship to the environment and humans , and knowing the beneficial and harmful types and their relationship to human diseases . •Raise student's practical skills in how to provide appropriate environmental conditions for the growth of microorganisms in the laboratory to study them , prepare the cultural media on which these organisms grow , and learn methods for their diagnosis. •Empowering students and raising their abilities in how to prepare the appropriate medium for the growth of each microorganism (bacterial) according to its requirements . •Training students on how to use the necessary equipments in the microbiology laboratory , especially the microscope .

9. Teaching and Learning Strategies	
Strategy	Using the standard method (delivering lectures) and presenting slides via Powerpoint .

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
September third week	3	Laboratory safety	Laboratory tools and devices and how to use them	Using the data show and presenting theoritical material	oral and written questions
September fourth week	3	Sterilizations and disinfection methods	Identify the mechanisms of physical sterilization and chemical disinfection	Use the Data show	Quiz , oral and written questions
October First week	3	Sterilizations and disinfection methods	Identify the mechanisms of physical sterilization and chemical disinfection	Use the Data show	Quiz , oral and written questions
October second week	3	Cultures media	Introducing the types of media , its components , function and structure.	Use the Data show + practical experience	Quiz , oral and written questions
October third week	3	Bacteria cultivation	Introducing the patterns of cultivation of bacteria on cultural media	Use the Data show + practical experience	Quiz , oral and written questions
October fourth week	3	Bacterial isolation	Detection of differnt sources of bacterial isolation	Use the Data show +practical experience	Quiz , oral and written questions
November first week	3	Production of pure bacterial cultures	Methods of transporting and isolationof bacteria under sterile conditions	Use the Data show + practical experience	Quiz , oral and written questions
November second week	3	Bacterial stains	Detection of differnt types of bacterial stains	Use the Data show +practical experience	Quiz , oral and written questions
November third week	3	Bacterial stains	Detection of differnt types of bacterial stains	Use the Data show +practical experience	Quiz , oral and written questions
November fourth week	3	Bacterial counting	Numerical and quantitative estimationa live and total counting of bacteria	Use the Data show +practical experience	Quiz , oral and written questions
December first week	3	Bacterial counting	Numerical and quantitative estimationa . live and total counting of bacteria	Use the Data show +practical experience	Quiz , oral and written questions
December second week	3	Bacterial movement	Detection of bacterial types according to their motility characterstics	Use the Data show + practical experience	Quiz , oral and written questions
December third week	3	Factors affecting bacterial growth	Introducing the intrinsic and genetic	Use the Data show +	Quiz , oral and written

			factors affecting	practical experience	questions

11.Course Evaluation

Exam of the first month is from 10 and second month is from 10 .
Attendance +participation + daily exams is from10
A degree becomes 30 in which divided by 3 .
the average is extracted from 10 .

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nothing
Main references (sources)	**Basics of the practical curriculum . Osama Nijris.2022** **Bergey's Manual of Systematic Bacteriology** .N.R. Krieg. W Ludwig .W B Whitman . B P Hedlund. B J Paster. J T Staley. N Ward. D Brown . A Es Parte . 2010. **Brock Biology of Microorganisms, 12th edn** . Michael T Madigan ,John Martinko . P.V.Dunlap. D.P.Clark. 2004 .
Recommended books and references (scientific journals , reports ...)	**Practical Medical Microbiology** . 14th ed . Collee , J.F. ; Fraser , A.G. ; Marmian, B.P. and Simons , A. 1996 .
Electronic References , Websites	Google Search . Pubmed. Google scholar

Course Description Form

1. Course Name: Immunology – practical

2. Course Code: 3rd class

3. Semester / Year : Courses system

4. Description Preparation Date: 25/ 1 / 2026

5. Available Attendance Forms : Presency class lectures

6. Number of Credit Hours (Total) / Number of Units (Total) : 39 hours

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

Name: Assist. Lecturer : Abdulrahman Jirjees Younis
Emai :abdulrahman.j.younis@tu.edu.iq

8. Course Objectives

Course Objectives	• Introducing the Immunology in general and knowledge its importancein protecting the body from pathogens . ..... •knowing the underlying causes that are related to the functioning of the immune system . •Revealing modern techniques used to diagnose the functioning of the immune system thtough practical experiments . •Identify the mechanisms of laboratory diagnosis and identify some diseases that rely on immunological laboratory diagnosis .

9. Teaching and Learning Strategies

Strategy	Using the standard method (delivering lectures) and presenting slides via Powerpoint .

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
February first week	3	Immune system cells	Introducing the different immune system cells	Using the data show and presenting	oral and written questions

				theoritical material	
February second week	3	Organs and tissues of the Immune system	Introducing the components of the immune system , including organs snd tissues .	Use the Data show	Quiz , oral and written questions
February third week	3	Drawing blood and injection antigens into laboratory animals	Detecting methods of injecting an antigens into laboratory animals	Use the Data show+practical experiments	Quiz , oral and written questions
February fourth week	3	Drawing blood and injection antigens into laboratory animals	. Detecting methods of injecting an antigens into laboratory animals	Use the Data show + practical experience	Quiz , oral and written questions
March first week	3	Agglutinations reactions	Pregnancy detection and blood type	Use the Data show + practical experience	Quiz , oral and written questions
March second week	3	Agglutinations reactions	Detection the presence of rheumatic factor (RF) and Widal test	Use the Data show +practical experience	Quiz , oral and written questions
March third week	3	Precipitation reactions	Introducing the patterns of precipitation reactions	Use the Data show + practical experience	Quiz , oral and written questions
March fourth week	3	Interaction between antigen and antibody	Introduction to complement fixation tests	Use the Data show +practical experience	Quiz , oral and written questions
April first week	3	ELISA test	Detection of antibodies through ELISA and its steps	Use the Data show +practical experience	Quiz , oral and written questions
April second week	3	Bacterial counting	Numerical and quantitative estimationa . live and total counting of bacteria	Use the Data show +practical experience	Quiz , oral and written questions
April third week	3	Phagocytosis	Introduction the different phagocytosis cells	Use the Data show +practical experience	Quiz , oral and written questions
April fourth week	3	Inflammation	Introducing the inflammation , type and causes .	Use the Data show + theorotical material	Quiz , oral and written questions
May First week	3	Hypersensitivity	Detection of hypersensitivity reactions patterns	Use the Data show + practical experience	Quiz , oral and written questions

11.Course Evaluation

Exam of the first month is from 10 and second month is from 10 .
Attendance +participation + daily exams is from10
A degree becomes 30 in which divided by 3 .
the average is extracted from 10 .

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Nothing
Main references (sources)	Stevens Christen Dorresteyn. (2010). Clinical immunology and serology: a laboratory perspective / Christen Dorresteyn Stevens. 3rd ed . Mary Louis Turgeon . 2014. Immunology and serology medicine 4th ed .
Recommended books and references (scientific journals , reports ...)	Review of Medical Microbiology and Immunology .Levinson. Journal of clinical immunology .
Electronic References , Websites	Google Search . Pubmed. Google scholar

Course Description Form

1. **Course Name:**
Chemistry gravimetric analysis
2. **Course Code:**
Chemistry gravimetric analysis
Semester / Year:
3. **Chapter two**
4. **Description Preparation Date:**
2025-1-11
5. Available Attendance Forms:
In attendance (weekly)
6. Number of Credit Hours (Total) / Number of Units (Total)
26 hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant teacher Sara Abdullah Kamil **Email: sara.ab.kamil@tu.edu.iq**
8. Course Objectives

Course Objectives	• Introducing the importance of Chemistry gravimetric analysis and the relationship of this science to other sciences. • Developing students' skills in analytical Chemistry sciences. • Learn about the types of qualitative and quantitative • • Identify sediments, sediment characteristics, and separation methods .....
9. Teaching and Learning Strategies	
The strategy	Use the standard method (lectures), discussion method, and problem-solving method.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject Name	Learning method	Evaluation method
January 4	0	Introducing the student to analytical chemistry	Introduction and general idea about weight analysis and basic principles	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework

February 1	0	Gravimetric analysis methods	Gravimetric analysis methods, sediments	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
February 2	0	Learn about weight analysis calculations	Weight analysis calculations, weight factor	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
February 3	0	Organic and inorganic precipitants	Organic and inorganic precipitants, their types, and the conditions that must be met	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
February 2	0	Solubility	Solubility, dissolution yield, applications of the dissolution yield	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
March 1	0	Factors affecting solubility	Factors affecting solubility: the common ion, the pH of the solution, and the complex ion	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
March 2	2	First-month exam			
March 3	0	Factors affecting solubility	Factors affecting solubility, temperature, type and nature of solvent. Hydrolysis of salt.	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
March 4	0	Crystalline formation of the sediment	Crystalline formation of sediments, particle size	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
April 1	0	Precipitate washing solutions	Precipitate washing solutions, effect on the precipitate	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
April 2	2	Gravimetric analysis steps	Steps of gravimetric analysis, sample weight, modeling, sample dissolution, sample	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework

April 3	0	Gravimetric analysis steps	Steps for gravimetric analysis, washing the precipitate, burning the precipitate, and dissolving the precipitate	Paper lecture Display Screen Blackboard and pen	Daily and monthly exams, homework
April 4	0	Second month exam			

11. Course Evaluation

Students are evaluated during the semester according to the following principles:

- First-month exam from 10 / Second-month exam from 10 / Daily exam, attendance and participation from 10
- (Theoretical pursuit of 30 + Practical pursuit of 10) Pursuit of 40
- Final exam of 60
- Final score out of 100

12. Learning and teaching resources

Required textbooks (methodology, if any)	Theoretical basics of quantitative gravimetric and volumetric analysis of inorganic analytical chemistry, Prof. Dr. Hadi Kazem Awad
Primary references (sources)	Dr.. Moayad Qasim Al-Abaiji, Dr. Thabet Saeed Al-Ghabsheh, “Foundations of Analytical Chemistry,” University of Mosul, 1986
Recommended supporting books and references (scientific journals, reports...)	Dr.. Moayad Qasim Al-Abaiji, Dr. Thabet Saeed Al-Ghabsheh, “Foundations of Analytical Chemistry,” University of Mosul, 1986

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

1.Program vision

The Science Department is one of the applied science departments. Those who teach science must be equipped with pure sciences according to specific principles and rules, while keeping pace with the development of science. The department seeks to advance knowledge in the field of science to qualify them to .serve society and encourage them to develop their abilities and capabilities

2.Program message

Preparing qualified university teachers in the field of specialization and providing them with the principles of knowledge, scientific and logical thinking, scientific research skills in the sciences, and the skills necessary for future communication with society in the field of work, in addition to providing the student with a set of sciences and knowledge that complete the teacher's culture in general, including cultural requirements, educational requirements, sciences, .and others

3.Program objectives

1- Providing the Ministry of Education with specialized staff to work as university teachers.
2- Enabling students to master the principles of pure sciences.
3- Strengthening scientific concepts, and some basic terms and concepts related to it
4- Understanding the theoretical foundations on which sciences are based.
5- Providing graduates with skills and methods in teaching and learning.
6- Providing the Ministry of Education with specialized staff to work as university teachers.
7- Enabling students to master the principles of pure sciences.
8- Strengthening scientific concepts, and some basic terms and concepts related to it.
9- Understanding the theoretical foundations on which sciences are based.
10.Providing graduates with skills and methods in teaching and learning -10

4. Program Accreditation

Ministry of Higher Education and Scientific Research/National Accreditation Council caep

5. Other External Influences

Science Curriculum Development Project in Iraqi Universities/Ministry of Higher Education and Scientific Research Implementation in schools for two months, field visits to school.

6. Program Structure				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	***Reviews**
Institutional Requirements	**13**	**26**	**19%**	fundamental
College Requirements	**12**	**10**	**29%**	fundamental
Department Requirements	**25**	**70**	**52%**	fundamental
Summer Training				
Other				

.Notes may include whether the course is basic or optional *

7. Program Description				
Credit Hours		**Course Name**	**Course Code**	**Year/Level**
Practical	**Theoretical**			
	1	Democracy and Human Rights		First/First Semester
2	3	General Biology		
2	1	Computer Science		
	3	Developmental Psychology		
2	3	General Chemistry		
	2	Logic (Mathematics)		
	2	Arabic Language		
2	3	General Physics		First/Second Semester
	2	Arabic Language		
	2	English Language		

	3	Principles of Education		
	2	Islamic Education/Civilization		
2	2	Human Biology		
	2	Laboratory Safety and Security		
	2	Arabic Language		Second Chemistry Branch / First Semester
	2	English Language		
2	1	Computer		
	2	Curricula and Textbooks		
2	2	Inorganic Chemistry		
2	2	Volumetric Analytical Chemistry		
2	2	Physical Chemistry		
	2	Crimes of the Baath Regime		
	2	Arabic		Second Biology Branch/First Semester
	2	English		
2	1	Computer		
	2	Curricula and Textbooks		
	2	Crimes of the Baath Regime		
2	3	Microbiology		
2	2	Cytology		
	2	Virology		
2	2	Psychology of classroom learning		Second Chemistry Branch/
	3	Educational Psychology		

2	2	Gravimetric Analytical Chemistry		Second Semester
2	2	Organic Chemistry		
2	2	Representative Element Chemistry		
	2	Differential and Integral Calculus		
2	2	Psychology of classroom learning		Second Biology Branch/ Second Semester
	3	Educational Psychology		
2	2	Invertebrates		
2	2	Histology and Embryology		
	2	Biochemistry		
2	2	Plant Physiology		
	3	General Teaching Methods		Third Chemistry Branch/First Semester
	3	Educational Research Methodology		
2	2	Coordination Chemistry		
2	2	Organic Chemistry		
2	2	Industrial Chemistry		
	3	General Teaching Methods		Third Biology Branch/First Semester
	3	Educational Research Methodology		
2	2	Animal Physiology		
2	2	Parasitology		
2	3	Plant and Animal Production		

	2	Measurement and Evaluation		
	2	Science Teaching Methods		
	2	Curricula and Textbooks		Third Chemistry Branch/Second Semester
	2	Sustainable Development		
	2	Environmental and Health Education		
2	2	Soil Chemistry		
2	2	Oil and Petrochemicals		
2	2	Biochemistry		
	2	Measurement and Evaluation		
	2	Science Teaching Methods		
	2	Curricula and Textbooks		Third Biology Branch/Second Semester
	2	Sustainable Development		
	2	Environmental and Health Education		
	2	Plant classification		
2	2	Immunology		
2	2	Entomology		
	2	Professional Ethics		
	2	Arabic Literature		
	2	Educational Administration and Supervision		Fourth Chemistry Branch/First Semester
4		Practical Education (Observation)		
2	2	Organic Diagnosis		

2	2	Analysis		
	2	Clinical Chemistry		
	2	Chemistry of Natural Products		
	2	Professional Ethics		
	2	Arabic Literature		
	2	Educational Administration and Supervision		
4		Practical Education (Observation)		
2	2	Algae and Fungi		
2	2	Genetics		
	2	Serums and Vaccines		
	2	Endocrine Physiology		
12		Practical Education (Application)		
	2	Graduation Research Project		
12		Practical Education (Application)		
	2	Graduation Research Project		

8. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1	Learning Outcome Statement 1
Skills	
Learning Outcomes 2	Learning Outcome Statement 2
Learning Outcomes 3	Learning Outcome Statement 3
Values	
Learning Outcomes 4	Learning Outcome Statement 4
Learning Outcomes 5	Learning Outcome Statement 5
9. Teaching and learning strategies	

There are many teaching and learning methods used in the Science Department, the most important of which are: (lecture - theoretical and practical, discussion and dialogue, field visits, discussion groups on specific topics, theoretical and practical student research, office activities)

10. Evaluation methods

- Daily and monthly oral and written exams
-Daily assignments and extracurricular activitie

11. Faculty

Faculty members

Academic Rank	Specialization		Requirements/Skills (if any)	Number of Faculty Members	
	general	precise		Cadre	Lecturer
Professor	Educational and Psychological Sciences	Psychological Counseling and Educational Guidance		1	
Professor	Agricultural Sciences	Agricultural Extension		1	
Professor	History	Modern History		1	
Professor	Organic Chemistry	Organic Chemistry		1	
Professor	Agricultural Sciences	Food Science		1	
Assistant Professor	Geology			1	
Assistant Professor	Chemistry	Industrial Chemistry		1	
Lecturer	physics	solid physics		1	
Lecturer	Chemistry	Analytical Chemistry		2	

Lecturer	Chemistry	Physical Chemistry		1	
Lecturer	Chemistry	Organic Chemistry		1	
Lecturer	Management and Economics	Accounting		1	
Lecturer	Biology	Insects		1	
assist. Lecturer	Chemistry	Biochemistry		1	
assist. Lecturer	Agricultural Sciences	Agricultural Extension		2	
assist. Lecturer	Biology			2	
assist. Lecturer	physics			1	
assist. Lecturer	Biology	Plant/Environment and Pollution		2	
assist. Lecturer	Biology	Microbiology		1	
assist. Lecturer	Biology	Histology		2	
assist. Lecturer	Educational Sciences	Teaching Methods		1	
assist. Lecturer	Chemistry	Organic Chemistry		1	
assist. Lecturer	English language			1	
assist. Lecturer	Arabic	Linguistics		1	

assist. Lecturer	Chemistry	Analytical Chemistry		1	

Professional Development
Orientation of New Faculty
Mandatory and developmental courses, teaching qualifications, follow-up by experienced professors and evaluation
Professional development for faculty members
Encouraging them to obtain higher degrees, write research, use modern .scientific references, and keep pace with technical development
12. Acceptance Criteria
Central
13. The most important sources of information about the program
_ The program link on the Internet, and its applications in similar universities. - _ The training courses held by the quality and university performance departments about the program in various institutes and colleges in Iraq -Administrative and scientific data
14. Program Development Plan
Developing skills for teaching scientific and educational courses and developing study materials and curricula

Course Description Form

1. Course Name:
English Language
2. Course Code:
English Language
3. Semester / Year:
Second Course (Semester) 2025-2026
4. Description Preparation Date:
11-1-2026
5. Available Attendance Forms:
Classroom Lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
(48) Hours / (2) Units
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Ahmed Ali Hasan Email: ahmed.ali06@tu.edu.iq
8. Course Objectives

A) Cognitive Aims:

1- Understand and comprehend the basic composition of words and the types of grammatical structures (forms) in English.
2- Understand and comprehend the grammar of English words and sentences.
3- Understand and comprehend word types in English (simple, complex, complex)
4- Understand and comprehend available English word formation methods, such as borrowing or using specific acronyms from other languages.
5- Understand and comprehend the types of English Tenses.
6- Understand and comprehend the methods of analyzing English sentences structure based on its own tense.

B) Course-specific skill objectives

1- The ability to understand different words related to students major according to their basic forms.
2- Ability to use and differentiate between emission and derivative additive types.
3- Able to use simple, complex, and complex words
4- The ability to communicate with each other in English

9. Teaching and Learning Strategies

- Presenting the subject on PowerPoint in detail, supported by examples and the required rules, directing questions to the students, discussing with them the information presented, and helping them participate by giving examples and asking questions in turn.
- Helping students to learn and self-explore knowledge by visiting the college library and websites to obtain additional knowledge of the course vocabulary.
- Dividing students into work groups and assigning them additional duties and homework's.

10. Course Structure

Week	*Hours*	*Required learning outcomes*	*Unit or subject name*	*Learning method*	*Evaluation method*
1st week of March	2	Comprehending Verbs to be, greetings	Verb "to be", greetings and numbers.	Classroom Lectures and Discussion	Oral and written questions
2nd week of March	2	Comprehending Singular and plural	Singular and plural nouns. practicing conversations.	Classroom Lectures and Discussion	Oral and written questions
3rd week of March	2	Comprehending Pronouns	Pronouns (subjective, objective and possessive)	Classroom Lectures and Discussion	Oral and written questions
4th week of March	2	Comprehending Numbers and countries	Countries, numbers (11-30)	Classroom Lectures and Discussion	Oral and written questions
1st week of April	2	Exam			
2nd week of April	2	Comprehending Verbs to be and questions	*Verb "to be" (is, are, am). Questions with question word as well as Yes /No questions*	Classroom Lectures and Discussion	Oral and written questions
3rd week of April	2	Comprehending possessive adjectives	Possessive adjectives (my, your, his, her, their, our, its)	Classroom Lectures and Discussion	Oral and written questions
4th week of April	2	Comprehending how to pluralize nouns	How to pluralize nouns by -s, - es. *Have* and *has* as irregular verbs.	Classroom Lectures and Discussion	Oral and written questions
1st week of May	2	Comprehending present simple tense	Present simple tense positive, negative and Questions	Classroom Lectures and Discussion	Oral and written questions
2nd week of May	2	Exam			
3rd week of May	2	Comprehending past simple tense	Past simple tense positive, negative and Questions	Classroom Lectures and Discussion	Oral and written questions

4th week of May	2	Comprehending pronouns	Pronouns (subjective, objective and possessive)	Classroom Lectures and Discussion	Oral and written questions

11. Course Evaluation

The 1st course exam is out of 15. The 2nd course exam is out of 15. Concern oral exam, daily preparation, and participation all are out of 10. Then, we accumulate course grade to be out of 40. Finally, the final written exam is out of 60 and the final grade is out of 100.

12. Learning and Teaching Recourses

Required textbooks (curricular books, if any):
Headway for Beginners

Main references (resources):
A Comprehensive Grammar of English by R. Quirk

Recommended books and references (Scientific journals, reports):
Listening, reading, and speaking in English reports or media and communication between each other.

Electronic references, websites:
English 4Arabs, Easyenglishlesson.com, Slideshare.

Course Description Form

1. Course Name:
English Language
2. Course Code:
English Language
3. Semester / Year:
First Course (Semester) 2025-2026
4. Description Preparation Date:
1-9-2025
5. Available Attendance Forms:
Classroom Lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
(30) Hours / (2) Units
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Ahmed Ali Hasan Email: ahmed.ali06@tu.edu.iq
8. Course Objectives

A) Cognitive Aims:

1- Understand and comprehend the basic composition of words and the types of grammatical structures (forms) in English.
2- Understand and comprehend the grammar of English words and sentences.
3- Understand and comprehend word types in English (simple, complex, complex)
4- Understand and comprehend available English word formation methods, such as borrowing or using specific acronyms from other languages.
5- Understand and comprehend the types of English Tenses.
6- Understand and comprehend the methods of analyzing English sentences structure based on its own tense.

B) Course-specific skill objectives

1- The ability to understand different words related to students major according to their basic forms.
2- Ability to use and differentiate between emission and derivative additive types.
3- Able to use simple, complex, and complex words
4- The ability to communicate with each other in English

9. Teaching and Learning Strategies

- Presenting the subject on PowerPoint in detail, supported by examples and the required rules, directing questions to the students, discussing with them the information presented, and helping them participate by giving examples and asking questions in turn.
- Helping students to learn and self-explore knowledge by visiting the college library and websites to obtain additional knowledge of the course vocabulary.
- Dividing students into work groups and assigning them additional duties and homework's.

10. Course Structure

Week	*Hours*	*Required learning outcomes*	*Unit or subject name*	*Learning method*	*Evaluation method*
Fourth week of September	2	Comprehending Verbs to be, greetings	Verb "to be", greetings and numbers.	Classroom Lectures and Discussion	Oral and written questions
First week of October	2	Comprehending Singular and plural	Singular and plural nouns. practicing conversations.	Classroom Lectures and Discussion	Oral and written questions
Second week of October	2	Comprehending Pronouns	Pronouns (subjective, objective and possessive)	Classroom Lectures and Discussion	Oral and written questions
Third week of October	2	Comprehending Numbers and countries	Countries, numbers (11-30)	Classroom Lectures and Discussion	Oral and written questions
Fourth week of October	2	Exam			
Fifth week of October	2	Comprehending Verbs to be and questions	*Verb "to be" (is, are, am). Questions with question word as well as Yes /No questions*	Classroom Lectures and Discussion	Oral and written questions
First week of November	2	Comprehending possessive adjectives	Possessive adjectives (my, your, his, her, their, our, its)	Classroom Lectures and Discussion	Oral and written questions
Second week of November	2	Comprehending how to pluralize nouns	How to pluralize nouns by -s, - es. *Have* and *has* as irregular verbs.	Classroom Lectures and Discussion	Oral and written questions
Third week of November	2	Comprehending present simple tense	Present simple tense positive, negative and Questions	Classroom Lectures and Discussion	Oral and written questions
Fourth week of November	2	Exam			
Fifth week of November	2	Comprehending past simple tense	Past simple tense positive, negative and Questions	Classroom Lectures and Discussion	Oral and written questions

First week of December	2	Comprehending pronouns	Pronouns (subjective, objective and possessive)	Classroom Lectures and Discussion	Oral and written questions
Second week of December	2	Comprehending spelling words within present simple tense	Spelling – present simple: he, she, it	Classroom Lectures and Discussion	Oral and written questions
Third week of December	2	Comprehending writing skills	Writing Skills	Classroom Lectures and Discussion	Oral and written questions
Fourth week of December	2	Comprehending definite and indefinite articles	Definite and Indefinite articles (a, an)	Classroom Lectures and Discussion	Oral and written questions

11. Course Evaluation

The 1st course exam is out of 15. The 2nd course exam is out of 15. Concern oral exam, daily preparation, and participation all are out of 10. Then, we accumulate course grade to be out of 40. Finally, the final written exam is out of 60 and the final grade is out of 100.

12. Learning and Teaching Recourses

Required textbooks (curricular books, if any):
Headway for Beginners

Main references (resources):
A Comprehensive Grammar of English by R. Quirk

Recommended books and references (Scientific journals, reports):
Listening, reading, and speaking in English reports or media and communication between each other.

Electronic references, websites:
English 4Arabs, Easyenglishlesson.com, Slideshare.

Course Description Form

1. Course Name:
Phonetics
2. Course Code:
Phonetics (theoretical and Practical)
3. Semester / Year:
Second Course (Semester) 2025-2026
4. Description Preparation Date:
11-1-2026
5. Available Attendance Forms:
Classroom Lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
(72) Hours / (3) Units
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Ahmed Ali Hasan Email: ahmed.ali06@tu.edu.iq
8. Course Objectives
Developing students' skills to pronounce English sounds, consonants and vowels , mastering the articulation of sound sequences, besides enabling the students' developing their usage of stress and intonation. 1- Identifying the different phonemes (Consonants and Vowels) that are found in standard English and making the students able to pronounce them correctly. 2- To help the students to acquire different skills about the articulation of sounds and being able to use these sounds correctly. 3- To help the students to acquire the positive side towards Phonetics.
9. Teaching and Learning Strategies
1. Giving the students the basic concepts about Phonetics. 2. Encouraging the students to do different practices about Phonetics. 3. Arranging the different concepts of Phonetics within different chapters. 4. Concentrating on symbols and transcription. 5. Dealing with one of the different types of transcription, that is phonemic transcription. 6. Using figures and diagrams to facilitate the subjects. 7. Using the tape-recorder to listen for native speakers of English. 8. Using different programs for the articulation of sounds.

10. Course Structure					
Week	*Hours*	*Required learning outcomes*	*Unit or subject name*	*Learning method*	*Evaluation method*
1st week of March	3	Reviewing some concepts in phonetics and phonology: dialects, accents, RP English, letters and sounds.	concepts in phonetics and phonology: dialects, accents, RP English, letters and sounds.	Classroom Lectures and Discussion	Oral and written questions
2nd week of March	3	Explaining the production of speech sounds and reviewing the organs of speech and their functions in the articulation of speech.	the production of speech sounds and reviewing the organs of speech and their functions in the articulation of speech.	Classroom Lectures and Discussion	Oral and written questions
3rd week of March	3	Comprehending the English vowel system and reviewing pure, diphthong, and triphthong sounds and their description.	Exposing the English vowel system and reviewing pure, diphthong, and triphthong sounds and their description.	Classroom Lectures and Discussion	Oral and written questions
4th week of March	3	Comprehending Explaining the difference between vowel quality and vowel quantity.	Explaining the difference between vowel quality and vowel quantity.	Classroom Lectures and Discussion	Oral and written questions
1st week of April	3	Exam	Exam		
2nd week of April	3	Reviewing the English consonant system and their classification and description.	Reviewing the English consonant system and their classification and description.	Classroom Lectures and Discussion	Oral and written questions
3rd week of April	3	Explaining the distribution of all English consonants and vowels in words.	Explaining the distribution of all English consonants and vowels in words.	Classroom Lectures and Discussion	Oral and written questions
4th week of April	3	Explaining a number of phonological terms, such as phoneme, allophone, difference between segmental and supra-segmental phonology.	Explaining a number of phonological terms, such as phoneme, allophone, difference between segmental and supra-segmental phonology.	Classroom Lectures and Discussion	Oral and written questions
1st week of May	3	Reviewing phonological terms like minimal pairs, Complementary distribution, free and defective distribution.	Reviewing phonological terms like minimal pairs, Complementary distribution, free and defective distribution.	Classroom Lectures and Discussion	Oral and written questions
2nd week of May	3	Exam	Exam		

3rd week of May	3	Explaining Fricative and affricate sounds, their production and distribution.	Explaining Fricative and affricate sounds, their production and distribution.	Classroom Lectures and Discussion	Oral and written questions
4th week of May	3	Explaining the difference between fortis and lenis consonants, and exposing the rules of pronouncing these sounds in words and their influence on adjacent sounds.	Explaining the difference between fortis and lenis consonants, and exposing the rules of pronouncing these sounds in words and their influence on adjacent sounds.	Classroom Lectures and Discussion	Oral and written questions

11. Course Evaluation

The 1st course exam is out of 15. The 2nd course exam is out of 15. Concern oral exam, daily preparation, and participation all are out of 10. Then, we accumulate course grade to be out of 40. Finally, the final written exam is out of 60 and the final grade is out of 100.

12. Learning and Teaching Recourses

- Roach, P. English Phonetics and Phonology.
- Barnard, G. Better Spoken English.
- Gimson, A. C. The Pronunciation of English.
- Ladefoged, P. A Course in Phonetics.
- Jones, D. An Outline of English Phonetics.
- O'Connor, J. D. Better English Pronunciation.

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 arrange

d 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 staP 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, quaJerly), 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.

Academic Program Description Form

University Name: Tikrit

Faculty/Institute: College of Basic Education in Sharqat

Scientific Department: Department of Sciences

Academic or Professional Program Name: Master's degree in Life Sciences

Final Certificate Name: Master's degree in Life Sciences

Academic System: Courses

Description Preparation Date: 2/9/2025

File Completion Date:15/9/2025

Signature:

Head of Department Name:
Prof. Dr. Ali Alaje Khudhair

Date:

Signature:

Scientific Associate Name:
Prof. Dr. Saad Georges Saeed

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

Course Description Form

1. Course Name:
Educational Administration and Supervision
2. Course Code:
3. Semester / Year:
The Fourth Semester/
4. Description Preparation Date:
2/9/202
5. Available Attendance Forms:
In-person (Weekly)
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant teacher :Dr. Ali Olaij Khudhur Email: dr.al7763@tu.edu.iq
8. Course Objectives

Course Objectives	The student should be familiar with the following concepts 1.The concept of management and its development, educational management, and school management. ..... 2. Understanding the most important management theories. 3. Understanding the most important functions of management. 4. The concept of leadership, its development, and its most important theories. 5. Understanding educational supervision and its methods. 6. Evaluation in educational supervision (evaluation of the principal, evaluation of the teacher, and evaluation of the students).

9. Teaching and Learning Strategies	
Strategy	Standard method (lectures) Discussion method Method of solving problems

10. Course Structure					
Week	**Hours**	**Required Learning**	**Unit or subject name5**	**Learning method**	**Evaluation**

		Outcomes			method
1	2	The concept of management, educational management, and school management with examples	Educational Administration and Supervision	lecture	Class performance
2	2	Theories of Educational Administration	Educational Administration and Supervision	lecture	Class performance
3	2	Functions of Educational Administration	Educational Administration and Supervision	lecture	Class performance
4	2	Styles of Educational Administration	Educational Administration and Supervision	lecture	Class performance
5	2	Leadership: Its Concept and Evolution	Educational Administration and Supervision	lecture	Class performance
6	2	Key Leadership Theories	Educational Administration and Supervision	lecture	Class performance
7	2	The first-month exam			
8	2	Key Leadership Theories	Educational Administration and Supervision	lecture	Class performance
9	2	Some Leadership Behavior Models, Their Concepts, and Types	Educational Administration and Supervision	lecture	Class performance

10	2	Educational Supervision and Its Development	Educational Administration and Supervision	lecture	Class performance
11	2	Types and Methods of Educational Supervision	Educational Administration and Supervision	lecture	Class performance
12	2	Evaluation in Educational Supervision	Educational Administration and Supervision	lecture	Class performance
13	2	Evaluation of the Principal, Teacher, and Students	Educational Administration and Supervision	lecture	Class performance
14	2	Final review			
15		The Second-month exam			

11. Course Evaluation
Students are assessed during the semester based on the following criteria: First-month exam: 20% Second-month exam: 20% Daily exams, attendance, and participation: 15% (The semester's grade is now out of 40) Final exam: 60% Final grade: 100%

12. Learning and Teaching Resources	
	1_ Educational Administration: Its Concept, Theories, and Methods. Dr. Salah Abdel Hamid Mustafa, Dr. Najat Abdullah Al-Nabih.

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

Course Description Form

1. Course Name:
Developmental Psychology
2. Course Code:
3. Semester / Year:
The First Semester/
4. Description Preparation Date:
10/11/2025
5. Available Attendance Forms:
In-person (Weekly)
6. Number of Credit Hours (Total) / Number of Units (Total)
45 hours
7. Course administrator's name (mention all, if more than one name)
Name: Assistant teacher :Dr. Ali Olaij Khudhur Email: dr.ali7763@tu.edu.iq
8. Course Objectives

Course Objectives	. Learn about the subject of developmental psychology and what it contains in its folds of important educational and psychological aspects and foundations for learners who will become teachers in the near future. Learn about the great importance of the subject of developmental psychology for the teacher in his dealings with students in the primary stage. Enabling the learner to identify the stages of development and the problems he suffers from in a scientific manner. Helps the teacher diagnose the strengths and weaknesses in the learners' personality and address them.

9. Teaching and Learning Strategies	
Strategy	_ Presenting many theories of growth and some of the problems that children and adolescents suffer from, models and guidance methods for dealing with these psychological and academic problems. _ Providing motivation and psychological motivation for students.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
October- 2	3	Introduction to Psychology	developmental psychology	lecture	Class performance
October- 3	3	Definition of Psychology and its Objectives	developmental psychology	lecture	Class performance
October- 4	3	Schools of Psychology	developmental psychology	lecture	Class performance
November -1	3	Definitions in Developmental Psychology Laws of Developmental Psychology	developmental psychology	lecture	Class performance
November -2	3	Developmental Theories First: Mental and Cognitive Development (Piagetian Theory)	developmental psychology	lecture	Class performance
November -3	3	Second: Moral Development (Kohlberg's Theory)	developmental psychology	lecture	Class performance
November -4	3	Third: Social Development (Erikson's Theory)	developmental psychology	lecture	Class performance
January - 1	3	Physical Growth and Emotional Growth	developmental psychology	lecture	Class performance
January - 2	3	**The first-month exam**			
January - 3	3	Some Childhood Problems First - Slow Learning	developmental psychology	lecture	Class performance
January -4	3	Digital Addiction and Digital Addiction in	developmental psychology	lecture	Class performance

		Children			
February-1	3	_Some Adolescence Problems: First - Identity Achievement and Its Crisis	developmental psychology	lecture	Class performance
February-2	3	Second - Dangers of Drug Addiction	developmental psychology	lecture	Class performance
February-3	3	**The Second-month exam**			

11. Course Evaluation
Students are assessed during the semester based on the following criteria: First-month exam: 20% Second-month exam: 20% Daily exams, attendance, and participation: 15% (The semester's grade is now out of 40) Final exam: 60% Final grade: 100%

12. Learning and Teaching Resources	
	_ Developmental Psychology / Dr. Adel Ezz El-Din Al-Ashwal, Anglo-Egyptian Library, 1998 2_ Introduction to Developmental Psychology / Dr. Abbas Mahmoud Awad, Dar Al-Ma'rifah Al-Jami'ah, Suez, 1999.
	_ Developmental Psychology / Dr. Adel Ezz El-Din Al-Ashwal, Anglo-Egyptian Library, 1998 2_ Introduction to Developmental Psychology / Dr. Abbas Mahmoud Awad, Dar Al-Ma'rifah Al-Jami'ah, Suez, 1999.

Course Description Form

1. Course Name:

Curricula and Textbooks.

2. Course Code:

Curricula and Textbooks (Theoretical).

3. Semester / Year:

Second Semester / Third Stage / 2025–2026

4. Description Preparation Date:

2026/01/11

5. Available Attendance Forms:

In-person (Weekly).

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

45 hours, (2) Units.

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

Name: Assistant teacher Layth Jamal Khalaf
Email: layth.j.khalaf@tu.edu.iq

8. Course Objectives

Course Objectives	• Identify the concept, characteristics, and importance of the curriculum, including contemporary trends. • Understand the foundations of the curriculum (Philosophical, Psychological, and Social foundations). • Identify curriculum elements (Educational goals and instructional content). • Recognize types of curricula (Separate subjects, Correlated subjects, Core curriculum, and Activity curriculum). • Understand curriculum evaluation: concepts, goals, criteria, and steps. • Understand curriculum development: concepts, motives, principles, and basic models. • Identify the concept and importance of the textbook. • Distinguish between printed (paper) books and electronic books. • Learn about textbook evaluation and development.

9. Teaching and Learning Strategies

Strategy	Utilizing diverse teaching methods, including: Lecture method, Discussion method, Problem-solving method, Cooperative learning, Modern active learning strategies.

10. Course Structure

Week	Hours	Unit or subject	Required Learning Outcomes	Learning method	Evaluation method

Fourth week of September	3	Concept of Curriculum	Concept, characteristics, importance, and contemporary trends.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
First week of October	3	Curriculum Foundations1	Philosophical foundation: Idealism, Realism, Pragmatism.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Second week of October	3	Curriculum Foundations 2	Psychological and Socio-cultural foundations: Culture components.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Third week of October	3	Curriculum Elements 1	Educational goals: Sources and types.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fourth week of October	3	Curriculum Elements 2	Content: Knowledge structure, standards, and methods.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fifth week of October	3	Types of Curricula 1	Subject-matter curriculum: Characteristics, pros, and cons.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
First week of November	3	The first-month exam			
Second week of November	3	Types of Curricula 2	Core and Activity curricula: Characteristics, pros, and cons.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments

Third week of November	3	Curriculum Evaluation	Concept, goals, criteria, and steps of evaluation.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fourth week of November	3	Curriculum Development	Concept, motives, principles, and basic models.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fifth week of November	3	The Textbook	Concept, importance, and authorship methods.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
First week of December	3	Paper vs. Electronic Books	Concepts and importance of paper and e-books.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Second week of December	3	Textbook Evaluation	Evaluation methods, steps, and development principles.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Third week of December	3	The Second-month exam			
Fourth week of December	3	General review of the prescribed curriculum		• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams

11. Course Evaluation	
"Students are assessed during the semester according to the following criteria: First-month exam: 15% Second-month exam: 15% Daily exams, attendance, and participation: 10% (The annual grade is now out of 40) Final exam: 60% Final grade: 100%"	
12. Learning and Teaching Resources	
Required Textbooks (Methodology, if available)	1. Ibrahim, Fadel Khalil (2011). ***Basics in School Curricula***. 2. Al-Tamimi, Raed Ramthan Hussein (2018). ***Curricula and Textbooks*.**
Primary References (Sources)	Al-Jabri, Kadhim Karim (2011). **The Curriculum and the Textbook**
Recommended Supplementary Books and References (Scientific Journals, Reports, etc.)	**1.** Al-Sirr, Khalid Khamis (2018). ***Basics of Educational Curricula*.** 2. Mustafa, Salah Abdel-Hamid (2000). ***School Curricula: Foundations and Application*.**
Electronic References, Internet Websites	Websites related to specialized topics from Google search, Google Scholar, Wikipedia: Google Search: Link to Google Search Google Scholar: Link to Google Scholar Wikipedia: Link to Wikipedia

Course Description Form

1. Course Name:

Curricula and Textbooks.

2. Course Code:

Curricula and Textbooks (Theoretical).

3. Semester / Year:

First Semester/ Second Stage / 2025–2026

4. Description Preparation Date:

2026/09/1

5. Available Attendance Forms:

In-person (Weekly).

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

45 hours, (2) Units.

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

Name: Assistant teacher Layth Jamal Khalaf
Email: layth.j.khalaf@tu.edu.iq

8. Course Objectives

Course Objectives	• Identify the concept, characteristics, and importance of the curriculum, including contemporary trends. • Understand the foundations of the curriculum (Philosophical, Psychological, and Social foundations). • Identify curriculum elements (Educational goals and instructional content). • Recognize types of curricula (Separate subjects, Correlated subjects, Core curriculum, and Activity curriculum). • Understand curriculum evaluation: concepts, goals, criteria, and steps. • Understand curriculum development: concepts, motives, principles, and basic models. • Identify the concept and importance of the textbook. • Distinguish between printed (paper) books and electronic books. • Learn about textbook evaluation and development.

9. Teaching and Learning Strategies

Strategy	Utilizing diverse teaching methods, including: Lecture method, Discussion method, Problem-solving method, Cooperative learning, Modern active learning strategies.

10. Course Structure

Week	Hours	Unit or subject	Required Learning Outcomes	Learning method	Evaluation method

Fourth week of September	3	Concept of Curriculum	Concept, characteristics, importance, and contemporary trends.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
First week of October	3	Curriculum Foundations1	Philosophical foundation: Idealism, Realism, Pragmatism.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Second week of October	3	Curriculum Foundations 2	Psychological and Socio-cultural foundations: Culture components.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Third week of October	3	Curriculum Elements 1	Educational goals: Sources and types.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fourth week of October	3	Curriculum Elements 2	Content: Knowledge structure, standards, and methods.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fifth week of October	3	Types of Curricula 1	Subject-matter curriculum: Characteristics, pros, and cons.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
First week of November	3	The first-month exam			
Second week of November	3	Types of Curricula 2	Core and Activity curricula: Characteristics, pros, and cons.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments

Third week of November	3	Curriculum Evaluation	Concept, goals, criteria, and steps of evaluation.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fourth week of November	3	Curriculum Development	Concept, motives, principles, and basic models.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fifth week of November	3	The Textbook	Concept, importance, and authorship methods.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
First week of December	3	Paper vs. Electronic Books	Concepts and importance of paper and e-books.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Second week of December	3	Textbook Evaluation	Evaluation methods, steps, and development principles.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Third week of December	3	The Second-month exam			
Fourth week of December	3	General review of the prescribed curriculum		• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams

11. Course Evaluation	
"Students are assessed during the semester according to the following criteria: First-month exam: 15% Second-month exam: 15% Daily exams, attendance, and participation: 10% (The annual grade is now out of 40) Final exam: 60% Final grade: 100%"	
12. Learning and Teaching Resources	
Required Textbooks (Methodology, if available)	1. Ibrahim, Fadel Khalil (2011). ***Basics in School Curricula***. 2. Al-Tamimi, Raed Ramthan Hussein (2018). ***Curricula and Textbooks*.**
Primary References (Sources)	Al-Jabri, Kadhim Karim (2011). **The Curriculum and the Textbook**
Recommended Supplementary Books and References (Scientific Journals, Reports, etc.)	**1.** Al-Sirr, Khalid Khamis (2018). ***Basics of Educational Curricula*.** 2. Mustafa, Salah Abdel-Hamid (2000). ***School Curricula: Foundations and Application*.**
Electronic References, Internet Websites	Websites related to specialized topics from Google search, Google Scholar, Wikipedia: Google Search: Link to Google Search Google Scholar: Link to Google Scholar Wikipedia: Link to Wikipedia

Course Description Form

1. Course Name:
General teaching methods
2. Course Code:
Theoretical General teaching methods
3. Semester / Year:
First semester/ third stage/ 2026_2025
4. Description Preparation Date:
2025/9 / 1
5. Available Attendance Forms:
In-person (Weekly)
6. Number of Credit Hours (Total) / Number of Units (Total)
45 hours, (3) Units
7. Course administrator's name (mention all, if more than one name)
Name: Assistant teacher Layth Jamal Khalaf Email: layth.j.khalaf@tu.edu.iq
8. Course Objectives

Course Objectives	•Understanding the concept of teaching, its elements, terminology, and the classification of teaching methods. • Understanding the concept of effective teaching, its dimensions, components, and the characteristics of an effective teacher. • Identify the concept of the automatic method, its conditions, steps and types. • Identify the concept of the interrogation method, its conditions, types, pros and cons. • Identify the concept of the method of discussion, its conditions, types and steps. • Identify the concept of the discovery method, its types, steps and advantages. • Recognize the concept, steps, and justifications of the Flipped Learning Method. • Familiarize yourself with the concept, steps, and features of the collaborative learning method. • Identify the concept of the brainstorming method, its forms, stages and obstacles. • Identify the concept of role-playing, peer teaching, and differentiated teaching.
9. Teaching and Learning Strategies	
Strategy	Utilizing diverse teaching methods, including: Lecture method, Discussion method, Problem-solving method, Cooperative learning, Modern active learning strategies.

10. Course Structure

Week	Hours	Unit or subject	Required Learning Outcomes	Learning method	Evaluation method
Fourth week of September	3	Teaching1	The concept of teaching, its elements.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
First week of October	3	Teaching2	Effective Teaching: Concept, Dimensions, Components, and the Effective Teacher's Roles.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Second week of October	3	Directive method	The concept of the method, conditions, steps, types, advantages, disadvantages.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Third week of October	3	Interrogative method	The concept of the method, conditions, importance, types, positives, negatives.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fourth week of October	3	Discussion method	The concept of the method, conditions, types, steps, advantages, disadvantages.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fifth week of October	3	Discovery method	The concept of the method, types, steps, advantages, disadvantages.	• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
First week of November	3	The first-month exam			

Second week of November	3	Flipped learning method	Method concept, principles, steps, justifications, teacher's role, learner's role.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Third week of November	3	Cooperative learning method	Method concept, principles, steps, advantages, difficulties.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fourth week of November	3	Role playing method.	Method concept, patterns, steps, advantages, elements.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Fifth week of November	3	Peer teaching method.	Method concept, types, conditions, steps, benefits, obstacles.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
First week of December	3	Brainstorming method.	Method concept, principles, forms, stages, advantages, obstacles.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Second week of December	3	Differentiated teaching method.	Method concept, forms, fields, steps, importance, justifications.	Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams • Homework assignments
Third week of December	3	The Second-month exam			
Fourth week of December	3	General review of the prescribed curriculum		• Paper lecture Projection screen Whiteboard and marker	• Daily exams Monthly exams

11. Course Evaluation	
"Students are assessed during the semester according to the following criteria: First-month exam: 15% Second-month exam: 15% Daily exams, attendance, and participation: 10% (The annual grade is now out of 40) Final exam: 60% Final grade: 100%"	
12. Learning and Teaching Resources	
Required Textbooks (Methodology, if available)	1. Ibrahim, Fadel Khalil. (2010). Introduction to General Teaching Methods. 2. Saada, Jawdat Ahmed. (2018). General Teaching Methods and Their Educational Applications.
Primary References (Sources)	Abdel-Azim, Sabry Abdel-Azim. (2015). General teaching strategies and methods.
Recommended Supplementary Books and References (Scientific Journals, Reports, etc.)	Salim Ibrahim Al Khazraji. (2011). "Contemporary Methods in Teaching Science." Mohamed Nagib Mustafa. (2006). "Teaching Methods in Science: Between Theory and Application."
Electronic References, Internet Websites	Websites related to specialized topics from Google search, Google Scholar, Wikipedia: Google Search: Link to Google Search Google Scholar: Link to Google Scholar Wikipedia: Link to Wikipedia

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

2026-2025

Course Description Form

1. Course Name:
Computer
2. Course Code:
Without
3. Semester / Year:
Course system/ First Semester /2025-2026
4. Description Preparation Date:
25/1/2026
5. Available Attendance Forms:
Face to Face (compulsory)
6. Number of Credit Hours (Total) / Number of Units (Total)
45
7. Course administrator's name (mention all, if more than one name)
Name: Hamad Abed Mustafa Email: hamad.abd@tu,.edu.iq Name: Sultan Jawhar Dakheel Email: sultan.aljawhar@tu.edu.iq ....

8. Course Objectives	
Course Objectives	This course aims to 1- Understanding the fundamentals of computers and artificial intelligence 2- Understanding the material read and creating a connection between its various components 3- Increasing the awareness of second-year students about artificial intelligence and how to use it. 4- Understanding the components and features of artificial intelligence 5- Graduating highly educated, qualified, and distinguished personnel

9. Teaching and Learning Strategies	
Strategy	1- Method of giving lectures 2- Discussion method 3- Reports and research 4- Wall flyers

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Introduction	The concept of networks, their types, and their components	Lectures and discussion	Exams and class assignments
2	3	Chapter One	Network threats and understanding network errors	Lectures and discussion	Exams and class assignments
3	3	Chapter One	The concept of electronic commerce	Lectures and discussion	Exams and class assignments
4	3	Chapter Two	Electronic banking and its associated devices	Lectures and discussion	Exams and class assignments
5	3	EXAM1	EXAM1		
6	3	Chapter Three	Troubleshooting computer problems and how to fix them	Lectures and discussion	Exams and class assignments
7	3	Chapter Three	artificial intelligence	Lectures and discussion	Exams and class assignments
8	3	Chapter Four	Artificial intelligence technologies	Lectures and discussion	Exams and class assignments
9	3	Chapter Five	Artificial intelligence and society	Lectures and discussion	Exams and class assignments
10	3	EXAM2	EXAM2		
11	3	Chapter six	Artificial intelligence in our daily lives	Lectures and discussion	Exams and class assignments
12	3	Chapter seven	Uses of artificial intelligence	Lectures and discussion	Exams and class assignments
13	3	Chapter eight	Artificial intelligence and the future of humanity	Lectures and discussion	Exams and class assignments
14	3	Chapter nine	Ethical challenges of artificial intelligence	Lectures and discussion	Exams and class assignments
15	3		The future of artificial intelligence	Lectures and discussion	Exams and class assignments

11. course Evaluation	
daily The grade is distributed out of 40% according to the tasks assigned to the student, such as preparation, daily and monthly exams, written exams, reports, etc	
12.Learning and Teaching Resoures	
uired textbooks (curricular Books, if any	Archived lectures by subject-matter instructors for each subject, whether in print or video format.
n references (sources)	
ommended Books and references (scientific journais, reports…)	Archived lectures by the specialized instructors for each
tronic References ,Websites	

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

2026 - 2025

Course Description Form

1. Course Name:
Ethics of the teaching profession
2. Course Code:
3. Semester / Year:
Course system/ First Semester /2025-2026
4. Description Preparation Date:
1/9/2025
5. Available Attendance Forms:
Face to Face (compulsory)
6. Number of Credit Hours (Total) / Number of Units (Total)
30
7. Course administrator's name (mention all, if more than one name)
Name: Hamad Abed Mustafa Email: hamad.abd@tu,.edu.iq

8. Course Objectives	
Course Objectives	**This course aims to:** **1 - Understand the basics of teaching ethics** **2 - Understand the reading material and create a connection between its various components** **3- Increase the awareness of fourth-stage students of the laws of job discipline** **4- Understand the duties of the teacher and what his goals and advantages are** **5- Graduate cadres with a high degree of education, qualification and excellence**

9. Teaching and Learning Strategies	
Strategy	1- Method of giving lectures 2- Discussion method 3- Reports and research 4- Wall flyers

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction to Professional Ethics	Introduction	Lectures and discussion	Exams and class assignments
2	2	The concept of professional ethics	Chapter One	Lectures and discussion	Exams and class assignments
3	2	The importance and benefits of teaching ethics	Chapter One	Lectures and discussion	Exams and class assignments
4	2	Principles and sources of ethics of the teaching profession	Chapter Two	Lectures and discussion	Exams and class assignments
5	2		**EXAM1**		
6	2	Teacher characteristics/effects of unethical behavior	Chapter Three	Lectures and discussion	Exams and class assignments
7	2	The concept of job discipline	Chapter Three	Lectures and discussion	Exams and class assignments
8	2	Factors of social responsibility development	Chapter Four	Lectures and discussion	Exams and class assignments
9	2	Some unethical phenomena in the teaching profession/cheating	Chapter Five	Lectures and discussion	Exams and class assignments
10	2		**EXAM2**		
11	2	Reasons for cheating in exams	Chapter six	Lectures and discussion	Exams and class assignments
12	2	The concept of bribery, its models and effects	Chapter seven	Lectures and discussion	Exams and class assignments
13	2	Long term effects of bribery	Chapter eight	Lectures and discussion	Exams and class assignments
14	2	Burnout and its causes	Chapter nine	Lectures and discussion	Exams and class assignments
15	2	routine work		Lectures and discussion	Exams and class assignments

11. course Evaluation

daily The grade is distributed out of 40% according to the tasks assigned to the student, such as preparation, daily and monthly exams, written exams, reports, etc

12.Learning and Teaching Resoures	
Required textbooks (curricular Books,if any	
Main references (sources)	Archived lectures by the specialized instructors for each
Recommended Books and references (scientific journais, reports…)	
Electronic References ,Websites	

Course Description Form

1- Course Name
entomology
2-CourseCode
Entomology (Theoretical)
3-semester/ year
Chapter two
4. Date of preparation of this description
25/01/2026
5. Available Attendance Forms
In-person (Weekly)
6. Number of study hours (total) / number of units (total)
|||UNTRANSLATED_CONTENT_START|||30 ساعة|||UNTRANSLATED_CONTENT_END|||
7. Name of Course Administrator
Name: M. Fatima Abdelkader Mohamed Email: fatema.a.mahaed@tu.edu.iq
8. Course Objectives

Objectives of the course :	• Definition of entomology, including its types. • Statement of the components of her body. • Identify the types of tentacles, wings and legs. • Identify insect-borne diseases. • To know the composition of the insect. • Draws the structure of the insect's body
TEACHING AND LEARNING STRATEGIES	
STRATEGY	Use a variety of teaching methods, including: lecture method/discussion method/problem-solving method.

10. Course Structure

Week	Hours	Unit or Topic Name	Learning	Learning

			outcomes required for the program*	method
CANON	2	Entomogenesis theories	The head, the types of tentacles, the compound and the simple eye.	Paper lecture Display screen Blackboard
February	2	Factors that helped insects spread.	Types of parts of the mouth, the direction of the organs of the mouth with the head in relation to the longitudinal axis of the body in insects.	Paper lecture Display screen Blackboard
February	2	Insect Body Wall	Wings, sweating in the wing, types of wing mutations.	Paper lecture Display screen Blackboard
February	2	Head and appendages	The abdomen, the posterior limb of the male and female in the American cockroach, the egg-laying machine in the ranks, the membranes of the wings, the anal differences in insects, the respiratory openings.	Paper lecture Display screen Blackboard
February	2	|||UNTRANSLATED_CONTENT_START|||التحول |||UNTRANSLATED_CONTENT_END|||	Insect transformation:	Paper lecture Display screen

			types of eggs, types of larvae in insects, types of transformation.	Blackboard
March	2	Chest and its parts and appendages	The abdomen, the posterior limb of the male and female in the American cockroach, the egg-laying machine in the ranks, the membranes of the wings, the anal differences in insects, the respiratory openings.	Paper lecture Display screen Blackboard
March	2	First Month		
March	2	The ventricle and its parts	Term	Paper lecture Display screen Blackboard
March	2	Mobility	Classification of insects (use of keys to isolate insect ranks).	Paper lecture Display screen Blackboard
March	2	Proliferative system	Concept and types.	Paper lecture Display screen Blackboard
April	2	Genitalia (male and female)	The abdomen, the posterior limb of the male and	Paper lecture Display screen Blackboard

			female in the American cockroach, the egg-laying machine in the ranks, the membranes of the wings, the anal differences in insects, the respiratory openings.	
April	2	Reduced insect infestation		Paper lecture Display screen Blackboard
April	2	Insect Damage and Benefits		Paper lecture Display screen Blackboard
April	2	Second month		
أيار	2	General review of the planned curriculum		Paper lecture Display screen Blackboard

Course##$_0A$##Evaluation

Students are evaluated during the semester according to the following principles:

- Examination of the first month of 10/ Examination of the second month of 10/Daily exam and attendance and participation of 10
- (The pursuit of the theoretical aspect of 30 and the practical aspect of 10 became the annual pursuit of 40)
- final examination
- Final Grade

12. Learning and Teaching Resources

Required textbooks (methodology if any)	Nizar Mustafa Al-Mallah ,(2016), Classification of theoretical and practical insects. Ibn Al-Athir Printing and Publishing House.
Key References (Sources)	Ashraf Kaddah , (2009), Insect Secrets.
Recommended supporting books and references (scientific journals, reports…)	Ramadan Abdelkader Salma ,(2014), Economic Insects.
E-References, Websites	Specialist topic websites from Google search, Google Scholar, Wikipedia.