Academic Program Description Form

University Name: Tikrit
Faculty/Institute: College for Women Education
Scientific Department: Biology
Academic or Professional Program Name: Biology
Final Certificate Name:
Academic System: .....
Description Preparation
Date:18/9/2024
File Completion Date:18/9/2024

Signature:
Head of Department Name:
Dr. Ali M uayad Sultan
Date:

Signature:
Scientific Associate Name:
Dr.Ashraf jamal Mahmoud
Date:

The file is checked by: Shahad Khalid Hameed
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

أ.د. نجاة عبد الحسين المحمداوي
عميد كلية التربية للبنات

١. Program Vision

The vision of the Department of Life Sciences revolves around the number of scientifically and educationally qualified teachers in order to create good generations that bear responsibility and build the personality of the graduate in an integrated manner to provide them with knowledge and skills to face and solve difficulties in the field of scientific research that contributes to the progress of society and contributes to the process of preparing and developing manpower and preparing teaching staff that provide middle and secondary schools to serve the scientific and educational process and achieve the goals of higher education and the goals of the College of Education in the light of the central philosophy of the state, civil society service, and holding conferences, seminars and workshops. Whether in person or electronically remotely and conducting a series of seminars, workshops, courses and seminars.

٢. Program Mission

Program mission is written here as stated in the university's catalogue and website.

The Department of Life Sciences is one of the departments of the College of Education for Girls, and it is one of the departments that were established In ١٩٨٧, the initial study period is four years, this department grants a bachelor's degree
To enable her to work in the teaching profession in secondary education for biology and science

٣. Program Objectives

General statements describing what the program or institution intends to achieve.

The objectives of the Department of Life Sciences are divided into three types: cognitive and scientific goals at the theoretical and applied levels, valuable goals at the scientific level, and skill goals at all levels. Building the capabilities and capabilities of graduates and employees of the Department of Life Sciences In addition to the goals mentioned, there are other goals: ١- Preparing and developing students and expanding their sensory, intellectual and scientific perceptions of all subjects, whether scientific or literary, so as to qualify them for teaching and scientific research in the institutions of the Ministry of Education and other ministries that can benefit from experiences Scientific for students graduating from

the department. ٢- Enabling students to rely in their practical lives from the application of scientific methods in addressing problems and situations by relying on practical studies in analysis and study, especially in the fields and research studies that serve and benefit the community. ٣- Preparing and developing the scientific sense of some distinguished students in order to keep pace with their scientific studies, including their submission to postgraduate studies through urging and encouraging them to be a basic base in the academy's institutions with these experiences and the need of departments as teachers serving in their multiple fields ٤- Building and preparing scientific, professional and cultural students and graduates of the Department of Life Sciences and enabling them to master and know the facts and theoretical concepts of biology ٥- Qualifying students and graduates of the Department of Life Sciences for the purpose of understanding the basic principles that qualify them to teach in educational institutions and contribute to scientific research in all cognitive disciplines ٦- Developing beneficial behaviors and values among students in line with Arab and Islamic values and the principles of other monotheistic religions and to reach them to the highest levels of value, intellectual and scientific maturity

٤. Program Accreditation

Does the program have program accreditation? And from which agency?

NO Find

٥. Other external influences

Is there a sponsor for the program?

Field visits – conducting training and educational courses – school application – laboratory practical training

٦ Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	٥٦	١١٢	١٠٠	
College Requirements	٥٦	١١٢	١٠٠	

Department Requirements	٥٦	١١٢		
Summer Training	**Not find**			
Other	٥٦	١١٢	١٠٠	

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

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤/٢٠٢٥		**Animal physiology**	**theoretical**	**Practical**
Four stage				

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١ Learning Outcomes Statement ١

Skills

Learning Outcomes ٢ Learning Outcomes Statement ٢ Learning Outcomes ٣ Learning Outcomes Statement ٣ Ethics

Learning Outcomes ٤ Learning Outcomes Statement ٤ Learning Outcomes ٥ Learning Outcomes Statement ٥

Learning Outcomes 2 Learning Outcomes Statement 2

Learning Outcomes 3 Learning Outcomes Statement 3

Learning Outcomes 4 Learning Outcomes Statement 4

Learning Outcomes 5 Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

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

١- The standard method (delivery) and (e-learning).
٢- Inductive (deductive) method.
٣- How to solve problems.
٤- Classroom interaction and exchange of views between students and teachers to raise learning difficulties and discuss their solutions.
٥- Clarifying and explaining the study materials by the academic staff through the use of the whiteboard, smart board, educational laboratory, videos, photos and data show.

٦- Providing students with knowledge through homework for academic vocabulary.
٧- Asking students to visit the library to obtain academic knowledge **related to vocabulary**

١٠. Evaluation methods

Implemented at all stages of the program in general.

- Daily and monthly exams
- Semester and final exams
- Homework grades
- Individual and group participations
-Practical tests in laboratories
- Assigning students to prepare scientific research to test their abilities to think, conclude and solve problems
- Field visits to the laboratories of various departments at the university
- Distribution of grades according to the tasks assigned to students such as daily attendance, practical side, scientific reports, daily, monthly and final exams

١١. Faculty

Faculty Members

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

Professional Development

Mentoring new faculty members

١- Using modern scientific sources.

٢- Using fast communication networks to transfer information such as the Internet.

٣- Visits and practical practices in service laboratories.

٤- Acquiring scientific and modern experiences and skills in the field of modern technical communicatio

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty

١- Continuous improvement and development of faculty members through training programs and workshops inside and outside Department, university and country.

٢- Increasing extra-curricular activities such as holding conferences, scientific seminars, personal and sports creations locally

regionally and internationally.

٣- Encouraging faculty members

١٢. Acceptance Criterion

Acceptance according to the general and central average system.

Admission to departments according to the student's desire and grade point average.

The student must be a graduate of preparatory school and the scientific stream exclusively.

The accepted student's personal and mental safety and freedom from physical disabilities.

The absorptive capacity of the college department.

١٣. The most important sources of information about the program

The central library at the university and college

.The Internet information network

.Experiences of Arab and international universities -

Current curricula

١٤. Program Development Plan

Developing the academic content by deleting, adding, and replacing

Using modern teaching methods according to the nature of the subject and the level of the

.learners from time to time

.Using modern orthodontic methods such as alternative and electronic evaluation

.Holding curriculum development courses

Holding seminars and workshops to keep pace with the development of curricula

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
		Animal physiology													

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

Course Description Form

1. Course Name:
Animal physiology
2. Course Code:
3. Semester / Year:
٢٠٢٤/٢٠٢٥
4. Description Preparation Date:
٢٠٢٤/٩/١٨
٥. Available Attendance Forms:
Class attendance in the classroom + attendance in the laboratory + electronic classes on theGoogle platform classroom It will be a supporting class for the attendance class and according to the controls and .instructions of the Ministry of Higher Education And search Scientific
٦. Number of Credit Hours (Total) / Number of Units (Total)
hours/٢ units ٦٠
٧. Course administrator's name (mention all, if more than one name)
Name: Hanan Adhoe Abdalla Email: **Hanan.abdalla١٥٢@st.tu.edu.iq** .....
8. Course Objectives

Course Objectives	• Providing students with experience analyses in conducting laboratory • Developing students' ability to follow and understand the conversation-٣ • Developing their ability to distinguish between main and secondary ideas. – • Urging students to obtain knowledge, information and the ability to draw conclusions. Developing their abilities to make quick and comprehensive summaries of aspects of the topic.

9. Teaching and Learning Strategies

It can be defined as a set of rules Strategy can be defined as a set of rules General and broad outlines that concern the means of investigation The desired goals of teaching indicate methods and plans Followed by faculty members to .achieve goals Learning	.The standard method (giving lectures) .The method of discussion and interrogation Method of solving problem- . .Brainstorming method

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
the first	٢	The students get to know	The students get to know	giving a lecture Explanation and training	Class performance and exams
the second	٢		Microscope and use it	Delivering an explanation and training lecture	Class performance and exams
the third - The tenth	٢		Faslja Nerves and reflexive actions of the common frog and the non-cerebral frog And spinal	Delivering an explanation and training lecture	Class performance and exams
Eleventh	٢		Practical exam, first semester		
Twelfth + thirteenth +	٢		Frog heart frog Faslja Skeletal muscle snatch , temporal summation, spatial	Delivering an explanation and training lecture	Class performance and exams

fourteent			summation, repetition, fatigue	Delivering an explanation and training lecture	
Fifteenth - twenty	٢		Faslja Skeletal muscle snatch , temporal summation, spatial summation, repetition, fatigue of the circulatory system,	Delivering an explanation and training lecture	Class performance and exams
For the twenty-first - twenty-fourth	٢		The circulatory system : capillary blood vessels , medium-sized vein , and large-sized vein, The artery is large and medium the size	Delivering an explanation and training lecture	Class performance and exams
Twenty-fifth - twenty-seventh	٢		Blood flow		Class performance and exams
Twenty-eighth	٢		Digestive system		
Twenty-nine	٢		exam , second semester		
Thirty	٢		The final practical exam		

.١١- Course evaluation
• Formative or formative assessment (daily exams, class discussion homeworattendance and regularity) • Grades for participating in difficult competitive questions are given to female students • Diagnostic evaluation (semester and final exams to issue judgments of - success and failure) • .Practical qualitative and quantitative tests in laboratories • Assigning students to prepare scientific research to test their ability to think ,deduc and solve problems • Field visits to the Central Research Laboratory

١٢-Learning and teaching resources	
,Required textbooks (methodology (if any	Methodical books
Main references (sources)	Physiology book Practical, book on physiology
Recommended supporting books ,and references (scientific journals (...reports	Mug no Scientific studies in scientific- sourcesvarious - specializations
references , Internet sites	Google classroom, google meet

١. Program Vision
Program vision is written here as stated in the university's catalogue and website.
٢. Program Mission
Program mission is written here as stated in the university's catalogue and website.
٣. Program Objectives
General statements describing what the program or institution intends to achieve.
٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤-٢٠٢٥ The fourth stage		Theoretical Parasites	theoretical	practical

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١

Skills

Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes ٣	Learning Outcomes Statement ٣
Learning Outcomes 3	Learning Outcomes Statement 3
Learning Outcomes ٣	Learning Outcomes Statement ٣

Ethics

Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes ٤	Learning Outcomes Statement ٤
Learning Outcomes 5	Learning Outcomes Statement 5
Learning Outcomes S	Learning Outcomes Statement ٥

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. Faculty

Faculty Members

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

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor n
the institution and department level.

١٢. Acceptance Criterion

(Setting regulations related to enrollment i
admission or others)

١٤. 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
٢٠٢٤ The fourth stage															
		Parasites	Basic												

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

Course Description Form

1. Course Name:Parasites

2. Course Code:thr forth stage

3. Semester / Year: annual 2024-2025

4. Description Preparation Date:18/ 9/ 2024

٥. Available Attendance Forms:class lectures+ electronic lectures

٦. Number of Credit Hours (Total) / Number of Units (Total) ٩٠ hour

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

Rania ghasan abd
rGhasan@tu.edu.iq
Maged hameed salman
Maged.hameed590@tu.edu.iq

8. Course Objectives

Course Objectives	•enabling students to identify medically Imp parasites Learn about methods of diagnosis parasites a preventing infection and injury Enabling students to understand the material a simple and understandable manner

9. Teaching and Learning Strategies

Strategy	Providing psychological motivation to achieve scientific goals Providing scientific lectures modern up to date and from farious sources

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Eva met

February	٤	Understanding the ideas of the topic and being able to apply it with questions	Toxoplasma and Ciliates		
March	٨	Understanding the ideas of the topic and being able to apply it with questions Understanding the ideas of the topic and being able to apply it with questions	Division of flatworms		
March	٨	Understanding the ideas of the topic and being able to apply it with questions	Division of nematodes		
May	٤	Understanding the ideas of the topic and being able to apply it with questions	Division of annelids		

May	٤	Understanding the ideas of the topic and being able to apply it with questions	Phylum Tapeworms		
May	٤	Understanding the ideas of the topic and being able to apply it with questions	Second semester exam		

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision

The vision of the Department of Life Sciences revolves around preparing scientifically and educationally qualified female teachers in order to create responsible and responsible generations and build the personality of the graduate in an integrated manner to provide them with the knowledge and skills to face and solve difficulties in the field of scientific research that contributes to the progress of society and contributes to the process of preparing and developing human resources and preparing teaching staff to support middle and secondary schools to serve the scientific and educational process and achieve the goals of higher education and the goals of the College of Education in light of the central philosophy of the state and serving civil society and holding conferences, seminars and workshops, whether in person or electronically remotely, and conducting a group of discussion groups, workshops, courses and seminars.

٢. Program Mission

The Department of Life Sciences is one of the departments of the College of Education for Girls. It is one of the departments that was established in ١٩٨٧. The initial study period is four years. This department awards a bachelor's degree to enable her to work in the teaching profession in secondary education for the subject of biology and science.

٣. Program Objectives

The objectives of the Department of Life Sciences are divided into three types: cognitive and scientific objectives at the theoretical and applied levels, valuable objectives at the scientific level, and skill objectives at all levels. Building the capabilities and capacities of graduates and members of the Department of Life Sciences. In addition to the objectives mentioned above, there are other objectives: ١- Preparing and developing female students and expanding their sensory, intellectual, and scientific awareness of all subjects, whether scientific or literary, in a way that qualifies them for teaching and scientific research in the institutions of the Ministry of Education and other ministries that can benefit from the scientific experiences of students graduating from the department. ٢- Enabling female students to rely in their practical lives on applying scientific methods in dealing with problems and situations by relying on practical studies in analysis and study, especially in the fields and research studies that serve and benefit society. ٣- Preparing and developing the scientific sense of some distinguished female students in order to keep pace with their scientific studies,

including submitting them to postgraduate studies by urging and encouraging them to be a basic foundation in academic institutions with this expertise and the need of departments as instructors who serve in their various fields and according to their scientific specializations. ٤- Building and preparing scientifically, professionally and culturally for students and graduates of the Department of Life Sciences and enabling them to master and know the facts and theoretical concepts related to biology. ٥- Qualifying students and graduates of the Department of Life Sciences for the purpose of understanding the basic principles that qualify them to teach in educational institutions and contribute to scientific research in all cognitive specializations. ٦- Developing beneficial behaviors and values among female students in a manner that is consistent with Arab and Islamic values and the principles of other heavenly religions and to reach the highest levels of value, intellectual and scientific maturity.

٤. Program Accreditation

No/No

٥. Other external influences

Ministry of Higher Education and Scientific Research/ Tikrit University

٦ Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	٥٦	١١٢	١٠٠	
College Requirements	٥٦	١١٢	١٠٠	
Department Requirements	٥٦	١١٢		
Summer Training	nothing			
Other	٥٦	١١٢	١٠٠	

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

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٥		Comparative Anatomy of Vertebrata	theoretical	practical
Third stage			٢	٢

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١

Skills

Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣

Ethics

Learning Outcomes ٤	Learning Outcomes Statement ٤
Learning Outcomes S	Learning Outcomes Statement ٥

Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Assistant Prof Dr. Shurooq Hameed Majeed	Biology	Comparative Anatomy			Yes	

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٥ Third Stage		Comparative Anatomy of Vertebrata	Basic												

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

Course Description Form

1. Course Name:
Comparative Anatomy of Vertebrata
2. Course Code:
Comparative Anatomy of Vertebrata / Third Stage
3. Semester / Year:
٢٠٢٤_٢٠٢٥
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class lectures + electronic lectures Classroom and Google Meeting
٦. Number of Credit Hours (Total) / Number of Units (Total)
٩٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Name: Shurooq Hameed Majeed Alnassiri Email: shurooq_bio@tu.edu..iq
8. Course Objectives

Course Objectives	Enabling female students to become familiar with the subject of comparative anatomy asitis one of the basic branches of life sciences. Enhancing femal students awareness of the horizons of life sciences and providing them with scientific and practical skills in their lives..
9. Teaching and Learning Strategies	
Strategy	Providing Psychological motivation to achieve scientific goals. To give the students everything that is odern in the aspect that will benefit them in the subject of comparative anatomy and benefit from it in daily life.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
October 1	٢	Understand the lecture topic	- Introduction - Theories of the emergence of	Standard method, text method	Class performance and exams

			chordata.		
October 2	٢	Understand the lecture topic	Law of Biogenesis.	Standard method, text method	Class performance and exams
October 3	٢	Understand the lecture topic	Classification of the phylum Chordata and characteristics of its main groups.	Standard method, text method	Class performance and exams
October 4	٢	Understand the lecture topic	- Protochordata: their study, an example of which is the spear.	Standard method, text method	Class performance and exams
November 1	٢	Understand the lecture topic	A comparative study of body systems in chordata groups The integumentary system: the structure of the skin and its components in some species of chordata.	Standard method, text method	Class performance and exams
November 2	٢	Understand the lecture topic	Skin derivatives: scales, claws, beaks, feathers, hooves, nails, and horns.	Standard method, text method	Class performance and exams
November 3	٢	Understand the lecture topic	Skeletal system: Skeletal system: Sections of the skeletal system	Standard method, text method	Class performance and exams

November 4	٢	Understand the lecture topic	Axial structure, skull in different vertebrata.	Standard method, text method	Class performance and exams
December 1	٢	Understand the lecture topic	Skeletal system: axial skeleton, spine, sternum, ribs.	Standard method, text method	Class performance and exams
December 2	٢	Understand the lecture topic	Limb structure: fore limbs, hind limbs	Standard method, text method	Class performance and exams
December 3	٢	Understand the lecture topic	Nervous system: Sections of the nervous Central nervous system, brain.	Standard method, text method	Class performance and exams
December 4	٢	Understand the lecture topic	- Comparing the brain in vertebraa, comparing the spinal cord in different vertebrata Peripheral nervous system: spinal nerves, peripheral nerves.	Standard method, text method	Class performance and exams
January 1	٢	Understand the lecture topic	A comparative study of some sense organs: nose, eyes, ears, and taste buds.	Standard method, text method	Class performance and exams
January 2	٢	Understand the lecture topic	Cutaneous receptors, lateral line apparatus	Standard method, text method	Class performance and exams
January 3	٢	Understand the lecture topic	Sense organs: organs of smell, organs of sight, organs of hearing, organs	Standard method, text method	Class performance and exams

			of touch, organs of taste.		
February 1	٢	Understand the lecture topic	- The arterial system in various vertebrata - The venous system in various vertebrata.	Standard method, text method	Class performance and exams
February 2	٢	Understand the lecture topic	The lymphatic system in various vertebrata.	Standard method, text method	Class performance and exams
March 1	٢	Understand the lecture topic	Muscular system: Muscle origin - types of muscles.	Standard method, text method	Class performance and exams
March 2	٢	Understand the lecture topic	Comparison of skeletal muscles in different vertebrata.	Standard method, text method	Class performance and exams
March 3	٢	Understand the lecture topic	The digestive system in various vertebrata: the digestive canal: the mouth, the oral cavity, and their accessory structures, the pharynx, the stomach, and the intestines.	Standard method, text method	Class performance and exams
March 4	٢	Understand the lecture topic	- Digestive glands.	Standard method, text method	Class performance and exams
April 1	٢	Understand the lecture topic	Respiratory system: Comparative anatomy of	Standard method, text method	Class performance and exams

			the respiratory system in different vertebrata		
April 2	٢	Understand the lecture topic	Breathing mechanics	Standard method, text method	Class performance and exams
April 3	٢	Understand the lecture topic	Origin of the excretory system, types of kidneys and their structures	Standard method, text method	Class performance and exams
April 4	٢	Understand the lecture topic	Comparative anatomy of the excretory system in different vertebrata.	Standard method, text method	Class performance and exams
May 1	٢	Understand the lecture topic	Reproductive system: The origin of the reproductive system and its relationship to the excretory system.	Standard method, text method	Class performance and exams
May 2	٢	Understand the lecture topic	- Comparative anatomy of the male reproductive system in some chordata. Comparative anatomy of the female reproductive system in some chordata.	Standard method, text method	Class performance and exams
May 3 and 4	٢	Understand the lecture topic	Comparison of hermaphroditism in different vertebrata.	Standard method, text method	Class performance and exams

May 5	٢	Understand the lecture topic	Final exams	Standard method, text method	Class performance and exams

١١. Course Evaluation

Distriuting the score out of ١٠٠ according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports….etc

١٢. Learning and Teaching Resources

Required textbooks(curricular books. If any)	Comparative anatomy of filaments/ Dr. Shukri Ali Habib Fundamentals of comparative anatomy of stipules/Dr. Shukri Habib Khalil and Abdul Zahra Kazem Abd.
Main references (sources)	Principles of animal anatomy/ Dr. Abdul Qadir Jassim Al Shaikhli and Dr. Salim Najm Omran Comparative anatomy of vertebrates/ Mr. Salah al-Din al-Nouri
Recommended books and references (scientific journals, reports…)	Zoology/ Dr. Mahmoud Ahmed Al-Banhawi Animal Physiology/ Dr. Khaled Hamid Muhammad Saeed
Electronic References, Wabsites	Embryologia and Histologial arabicwww.jarir.com And any site related to comparative anatomy of chordate

١. Program Vision
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including submitting them to postgraduate studies by urging and encouraging them to be a basic foundation in academic institutions with this expertise and the need of departments as instructors who serve in their various fields and according to their scientific specializations. ٤- Building and preparing scientifically, professionally and culturally for students and graduates of the Department of Life Sciences and enabling them to master and know the facts and theoretical concepts related to biology. ٥- Qualifying students and graduates of the Department of Life Sciences for the purpose of understanding the basic principles that qualify them to teach in educational institutions and contribute to scientific research in all cognitive specializations. ٦- Developing beneficial behaviors and values among female students in a manner that is consistent with Arab and Islamic values and the principles of other heavenly religions and to reach the highest levels of value, intellectual and scientific maturity.

٤. Program Accreditation

No/No

٥. Other external influences

Ministry of Higher Education and Scientific Research/ Tikrit University

٦ Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	٥٦	١١٢	١٠٠	
College Requirements	٥٦	١١٢	١٠٠	
Department Requirements	٥٦	١١٢		
Summer Training	nothing			
Other	٥٦	١١٢	١٠٠	

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

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٥		Tissue	theoretical	practical
Two stage			٢	٢

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١

Skills

Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣

Ethics

Learning Outcomes ٤	Learning Outcomes Statement ٤
Learning Outcomes S	Learning Outcomes Statement ٥

٩. Teaching and Learning Strategies

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

Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Assistant Prof Dr. Hala Hameed Mageed	Biology	Physiology			yes	

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٥ Two Stage		Tissue	Basic												

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

Course Description Form

1. Course Name:
Tissue
2. Course Code:
Tissue / Two Stage
3. Semester / Year:
٢٠٢٤_٢٠٢٥
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class lectures + electronic lectures
٦. Number of Credit Hours (Total) / Number of Units (Total)
٩٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Name: Hala Hameed Email: halahameed@tu.edu..iq ....

8. Course Objectives	
Course Objectives	Enabling female students to become familiar with the subject of histology asitis one of the basic branches of life sciences. Helping students understand the physilogy and function of different tissues and cells found in the body Enhancing femal students awareness of the horizons of life sciences and providing them with scientific and practical skills in their lives.

9. Teaching and Learning Strategies	
Strategy	Providing Psychological motivation to achieve scientific goals.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٢theoretical +٢Practical	Understand the lecture topic	The introduction :first section :primary histology	My presence	Class performance and exams
٢	٢theoretical +٢Practical	Understand the lecture topic	Epithelial tissue (covering and lining) its features and classification	My presence	Class performance and exams
٣	٢theoretical +٢Practical	Understand the lecture topic	Glandular epithelial tissue definition and classification	My presence	Class performance and exams
٤-٥	٢theoretical +٢Practical	Understand the lecture topic	Connective tissues classification its elements its advantages	My presence	Class performance and exams
٦-٧	٢theoretical +٢Practical	Understand the lecture topic	Native connective tissue specialized connective (cartilage,bone,blood,lymph,Hematopoietic tissue)	My presence	Class performance and exams
٨	٢theoretical +٢Practical	Understand the lecture topic	Muscle tissue: smooth muscle ,skeletal muscle ,cardiac muscle	My presence	Class performance and exams
٩-١٠	٢theoretical +٢Practical	Understand the lecture topic	Nerve tissue:nerve cell,Types of nerve cells	My presence	Class performance and exams
١١-١٢	٢theoretical +٢Practical	Understand the lecture topic	Second section:organ tissue,circulatory system,capillary blood vessels,Arteries,veins,the heart	My presence	Class performance and exams
١٣	٢theoretical +٢Practical	Understand the lecture topic	The integumentary device:skin,the hair,the nail	My presence	Class performance and exams
١٤-١٥-١٦	٢theoretical +٢Practical	Understand the lecture topic	Digestive system:mouth (lip,tongue,Age),Digestion tube(esophagus,stomach,small and larg intestine),Digestive glands(liver,pancreas)	My presence	Class performance and exams

١٧-١٨	٢theoretical +٢Practical	Understand the lecture topic	Respiratory system:Tracheostomy,casban, Lung.	My presence	Class performance and exams
١٩-٢٠	٢theoretical +٢Practical	Understand the lecture topic	Urinary system :Kidney ,Ureter	My presence	Class performance and exams
٢١-٢٢	٢theoretical +٢Practical	Understand the lecture topic	Lymphatic system :Lymph nodes ,Thymus,Spleen	My presence	Class performance and exams

١١. Course Evaluation

Distriuting the score out of ١٠٠ according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports….etc

١٢. Learning and Teaching Resources

Required textbooks(curricular books. If any)	Textile Science, Part 1 and Part 2 / Dr. Kawkab Abdul Qadir Al-Mukhtar
Main references (sources)	Basic histology (Junqueira,L.C. and Cameira.J,.(٢٠١٦)
Recommended books and references (scientific journals, reports…)	Assiut Veterinary Medicine Journal
Electronic References, Wabsites	Embryologia and Histologial arabicwww.jarir.com

١. Program Vision

The vision of the Department of Life Sciences revolves around preparing scientifically and educationally qualified female teachers in order to create responsible and responsible generations and build the personality of the graduate in an integrated manner to provide them with the knowledge and skills to face and solve difficulties in the field of scientific research that contributes to the progress of society and contributes to the process of preparing and developing human resources and preparing teaching staff to support middle and secondary schools to serve the scientific and educational process and achieve the goals of higher education and the goals of the College of Education in light of the central philosophy of the state and serving civil society and holding conferences, seminars and workshops, whether in person or electronically remotely, and conducting a group of discussion groups, workshops, courses and seminars.

٢. Program Mission

The Department of Life Sciences is one of the departments of the College of Education for Girls. It is one of the departments that was established in ١٩٨٧. The initial study period is four years. This department grants a bachelor's degree to enable it to work in the teaching profession in secondary education in the subjects of biology and science.

٣. Program Objectives

The objectives of life sciences are divided into three types: cognitive and scientific objectives at the theoretical and applied levels, valuable objectives at the scientific level, and skill objectives at all levels, and building the capabilities and capacities of graduates and members of the Life Sciences Department. In addition to the objectives mentioned above, there are other objectives:

١- Preparing and developing female students and expanding their sensory, intellectual and scientific awareness of all subjects, whether scientific or literary, in a way that qualifies them for teaching and scientific research in the institutions of the Ministry of Education and other ministries that can benefit from the scientific expertise of students graduating from the department.

٢- Enabling female students to rely in their scientific lives on applying scientific methods in dealing with problems and situations by relying on scientific studies in analysis and study, especially in the fields and research studies that serve and benefit society.

٣- Preparing and developing the scientific sense of some distinguished female students in order to keep pace with their scientific studies, including presenting them for postgraduate studies by urging and encouraging them to be a basic foundation in academic institutions with this expertise and the need of departments as instructors who serve in their various fields and according to their scientific specializations.

٤- Building and preparing scientifically, professionally and culturally the students and graduates of the Department of Life Sciences and enabling them to master and know the facts and theoretical concepts specific to biology.

٥- Qualifying the students and graduates of the Department of Life Sciences for the purpose of their understanding of the basic principles that qualify them to teach in educational institutions and contribute to scientific research in all cognitive specializations.

٦- Developing beneficial behaviors and values among female students in a manner that is consistent with and compatible with Arab and Islamic values and the principles of other heavenly religions and to bring them to the highest levels of value, intellectual and scientific maturity.

٤. Program Accreditation

Does the program have program accreditation? And from which agency?

٥. Other external influences

Is there a sponsor for the program?

٦ Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	٥٦	١١٢	١٠٠	Basic course
College Requirements	٥٦	١٢٢	١٠٠	

Department Requirements	٥٦	١٢٢		
Summer Training				
Other	٥٦	١٢٢	١٠٠	

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

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤		mycology	theoretical	practical
third stsge				

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١

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 5	Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in implementing the programme in general.

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. Faculty

Faculty Members

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

Professional Development

Mentoring new faculty members

١- Using modern scientific sources.

٢- Using fast communication networks to transfer information such as the Internet.

٣- Visits and practical exercises in service laboratories.

٤- Gaining scientific and modern experiences and skills in the field of modern technical communication

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty

١- Continuous improvement and development of faculty members through training programs and workshops inside and outside the department, university and country.

٢- Increase extracurricular activities such as holding scientific conferences and seminars, personal and sports creativity locally, regionally and internationally.

٣- Encourage faculty members to obtain the highest scientific and administrative ranks.

٤- Provide modern scientific sources and books for the department library to keep pace with the advanced progress in various sciences.

٥- Provide specialized software in the branches of life sciences and the necessary computers with internet lines for all instructors

١٢. Acceptance Criterion

١- Admission according to the general and central average system.

٢- Admission to departments according to the student's desire and average.

٣- The student must be a graduate of preparatory studies and the scientific branch exclusively.

٤- The accepted student's personal and mental health and freedom from physical

١٣. The most important sources of information about the program
١- The curriculum approved by the Ministry of Higher Education and Scientific Research and its guidelines. ٢- Decisions and recommendations of the scientific committees at the university. ٣- Courses in teaching methods. ٤- Training courses held by the college on e-learning platforms ٥- Internet research on similar experiences. ٦- Personal experiences. ٧- Training courses held by the quality and university performance departments on the program in various institutes and colleges
١٤. Program Development Plan
١-Developing the educational content by deleting, adding and replacing ٢-Using modern teaching methods according to the nature of the subject and the level of learners from time to time. ٣-Using modern assessment methods such as alternative and electronic assessment. ٤-Holding development courses for curricula. ٥-Holding seminars and workshops to keep pace with the development of curricula.

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
٢٠٢٤		Mycology	Basic												
Third stage															

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

Course Description Form

1. Course Name:
Comparative Anatomy
2. Course Code:
Comparative Anatomy/ Third stage
3. Semester / Year:
٢٠٢٤-٢٠٢٥
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class attendance in the classroom + attendance in the laboratory + electronic classes on the (Google Classroom) platform will be a support class for the in-person class, according to the controls and instructions of the Ministry of Higher Education and Scientific Research.
٦. Number of Credit Hours (Total) / Number of Units (Total)
٦٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Enas moajale naife **Email**: enas.moail467@tu.edu.iq
8. Course Objectives

Course Objectives	١- Enabling students to know the principles of comparative anatomy of chordates. ٢- Enabling students to know modern technical skills in studying life sciences. ٣- Familiarizing students with the different branches of chordates and how to distinguish between them by studying their morphological characteristics. ٤- Familiarizing students with the evolutionary foundations of chordates. ٥- Familiarizing students with scientific and cognitive methods to distinguish different types of chordates and return them to the taxonomic ranks to which they belong. ٦- Enabling students to know the similarities and differences between the organs and systems of different types of chordates from an anatomical and functional point of view and comparing the different body systems in different groups of chordates and how to distinguish between each group separately.

9. Teaching and Learning Strategies	
It can be defined as a set of strategic rules. It can be defined as a set of general rules and broad outlines that concern the means of achieving the desired goals of teaching and refer to the methods and plans followed by faculty members to reach learning goals.	١- Standard method (lecturing). ٢- Discussion and questioning method. ٣- Problem solving method. ٤- Brainstorming method.
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
October ١	٢		Classification ofChordates (Hemi-Chordate. Caudal Chordate. Cephalopod		
October ٢	٢		Vertebrates. Circumoral Cartilaginous Fish Bony		
October ٣	٢		Fish Amphibians Reptiles		
October ٤	٢		Birds Carnivores Practical Lesson		
November ٢	٢		Integumentary System Skin in the Spear		
November ٣	٢		Skin in the Circumoral Cartilaginous Fish Bony Fish		
November ٤	٢		Amphibians Birds Carnivores		
December ١	٢		Skin Derivatives Practical Lesson		
December ٢	٢		Muscular System Muscles in the Spear		
December ٣	٢		Muscles in the Circumoral Cartilaginous Fish Bony Fish		
December ٤	٢		Amphibians Birds Carnivores		
January ١	٢		Practical Lesson Digestive System		
January ٢	٢		Digestive Canal and its Accessory Glands Spear Circular		
February ١	٢		Bony Fish Carnivores		
February ٢	٢		Carnivores Birds Carnivores		
February ٣	٢		Practical Lesson Respiratory System		
February ٤	٢		Structure of the Respiratory System And its parts The spear		
March ١	٢		Selected models of chordates and vertebrates Practical lesson		
March ٢	٢		The excretory and reproductive system		
March ٣	٢		The excretory system in the spear Selected models of different vertebrates		
March ٤	٢		Practical lesson		

April ١	٢		The circulatory system The heart and arterial systems in the spear Different vertebrates with a practical lesson The nervous system The brain in different vertebrates Cranial nerves in fish and amphibians Practical lesson The skeletal system The skull The cartilaginous skull in the dogfish The visceral skull in the dogfish Practical lesson The skull in cartilaginous fish Amphibians Reptiles Birds Mammals Practical lesson The skeletal system The appendix skeleton Forelimbs/hindlimbs Practical lesson Final exams		
April ٢	٢				
April ٣	٢				
April ٤	٢				
May ١	٢				
May ٢	٢				
May ٣	٢				
May ٤	٢				
June	٢				

١١. Course Evaluation	
The grade is distributed out of ١٠٠ according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written exams, reports, etc.	
١٢. Learning and teaching resources	
Required textbooks (methodology if any)	• Comparative Anatomy of Chordates / Dr. Shukry Ali Habib • Basics of Comparative Anatomy of Chordates / Dr. Shukry • Habib Khalil and Abdul Zahra Kazem Abdul.
Main References (Sources)	• Principles of Animal Anatomy / Dr. Abdul Qader Jassim Al-Shaikhli and Dr. Salim Najm Imran • Zoology / Dr. Mahmoud Ahmed Al-Banhawi • Comparative Anatomy of Vertebrates / Mr. Salah Al-Din Al-Nouri • Animal Physiology / Dr. Khaled Hamid Mohammed Saeed
Recommended supporting books and references (scientific journals, reports...)	• Scientific journals in scientific disciplines
Electronic references, websites	• E-learning sites

Name of the Director of the Quality Assurance and University Performance Division: M.M. Shahad Khaled Hamid

the date:

the signature:

Authentication of the Dean

١.Program vision
١- Creativity in the field of using laboratory equipment. ٢- Improving the level of laboratories. ٣- Helping female students acquire scientific skills and abilities and making them able to present their expertise to society.

٢.Program message
١- Improving the level of the department according to the needs of female students. ٢- Preparing a conscious generation of female students who possess sufficient scientific ability. ٣- Preparing female students and training them on how to avoid risks to ensure their safety inside laboratories.

٣.Goals of program
١- Preparing a generation of qualified and competent professors to join Education line. ٢-guidanceStudents interact with the problems of the surrounding environment and develop solutions to serve the community. ٣-OpenProspectsScientific and attracting female students towards the scientific and practical aspects in a waybetter.

٤.Program accreditation
nothing

٥. The other External influences
Field visits - conducting training and educational courses - school application - practical laboratory training

٦.Program structure				
Notes/Comments	**Percentage**	**Study unit**	**Number of courses**	**Program structure**
				Enterprise requirements
				College requirements
				Department requirements
				summer training
				Other

***Notes may include whether the course is core or elective**

		٧.Program description		
Credit hours		**Name of the course**	**Course code**	**Year/level**
theoretical	**practical**	**Cell biology**		٢٠٢٣-٢٠٢٤
Two hours	**Two hours**			

٨.Expected learning outcomes of the program

	Knowledge
Statement of learning outcomes ١ ١-Providing students with knowledge through homework ٢-Providing students with sufficient information about cell biology .	Learning outcomes ١ ١-Enabling female students to obtain knowledge and a comprehensive and intellectual understanding of cell biology ٢-Enabling students to obtain sufficient experience to distinguish between cell types
	Skills
Statement of learning outcomes ٢ Enabling students to solve problems related to the method that suits students in the practical lesson to complete the tasks required in the laboratory, such as preparing and diagnosing slides	Learning outcomes ٢ Enabling students to conduct practical experiments in the laboratory and learn about the most important tools used in conducting experiments
Statement of learning outcomes ٣ Enabling students to solve problems related to the method that suits students in the practical lesson to complete the tasks required in the laboratory, such as preparing and diagnosing slides	Learning outcomes ٣ Enabling students to conduct practical experiments in the laboratory and learn about the most important tools used in conducting experiments
	Values
Statement of learning outcomes ٤/final exams	Learning outcomes ٤/Daily and monthly exams and reports
Statement of learning outcomes ٥/attendance grades	Learning Outcomes ٥ / Competition marks for daily contributions in the lesson

٩.Teaching and learning strategies
١-The standard method (scheduled) and (e-learning). ٢-Inductive (deductive) method. ٣-Method of solving problems ٤-Classroom interaction and exchange of opinions between students and teachers to raise learning difficulties and discuss their solutions. ٥-Clarifying and explaining study materials by the academic staff through the use of the whiteboard, smart board, educational laboratory, video clips, pictures, and Data Show. ٦-Providing students with knowledge through homework assignments for academic vocabulary. ٧-Asking students to visit the library to obtain academic knowledge related to academic vocabulary. ٨-Improving female students' skills by visiting websites to obtain additional knowledge of academic and scientific subjects.
١٠.Evaluation methods
١- Formative assessment (daily exams, attendance and regularity) . ٢-Personal evaluation (semester and final exams to issue judgments of success and failure) . ٣-Practical tests in laboratories. ٤-Assigning female students to prepare scientific research to test their abilities to think, deduce, and solve problems. ٥-Field visits to laboratories of various departments at the university ٦-Distributing grades according to the tasks assigned to female students, such as daily attendance, the practical aspect, scientific reports, and daily, monthly, and final exams.
١١.The teaching staff

Faculty members					
Scientific rank	Specialization		Requirements/skills (if any)	Preparing the teaching staff	
	general	private		Own's holding	lecturer
assistant teacher	Life sciences	Life sciences	nothing	permanent	

Professional development
Orienting new faculty members
١-Using modern scientific sources. ٢-Using high-speed communication networks to transfer information, such as the Internet. ٣-Visits and practical practices in service laboratories. ٤-Acquiring modern scientific experiences and skills in the field of modern technical communication.
Professional development for faculty members
١-Continuous improvement and development of faculty members through training programs and workshops inside and outside the department, university and country. ٢-Increasing extracurricular activities such as holding conferences, scientific seminars, and personal and sports creativity locally, regionally and internationally. ٣-Encouraging faculty members to obtain the highest academic and administrative ranks. ٤-Providing modern scientific sources and books for the department's library to keep pace with the advanced progress in various sciences.

٥-Providing specialized software in the branches of life sciences and computers necessary for this, along with Internet lines for all teachers.

١٢.Acceptance criterion

١-Acceptance according to the general and central average system.

٢-Admission to departments according to the student's desire and grade point average.

٣-The student must be a graduate of preparatory school and the scientific stream exclusively

٤-The accepted student's personal and mental safety and freedom from physical disabilities.

٥-The absorptive capacity of the college departments.

١٣.The most important sources of information about the program

١-The curriculum approved by the Ministry of Higher Education and Scientific Research and its guidelines.

٢-Decisions and recommendations of the scientific committees at the university.

٣-Courses in teaching methods.

٤-Training courses held by the college on e-learning platforms.

٥-Research on the Internet for similar experiences.

٦-Personal experiences.

٧-Training courses held by university quality and performance departments on the program in various institutes and colleges.

١٤.Program development plan

١-Developing the academic content by deleting, adding, and replacing.

٢-Using modern teaching methods according to the nature of the subject and the level of the learners from time to time.

٣-Using modern orthodontic methods such as alternative and electronic evaluation

٤.Holding curriculum development courses.

٥-Holding seminars and workshops to keep pace with the development of curricula.

Program skills chart															
Learning outcomes required from the programme															
Year/level	Course Code	Course Name	Essential or optional?	Knowledge				Skills				Value			
٢٠٢٤/٠٣/١٨		Cell biology	Basic	١١	A٢	A٣	A٤	B١	B٢	B٣	B٤	C١	C٢	C٣	C٤

***Please check the boxes corresponding to the individual learning outcomes from the program subject to evaluation**

١. Course name: Practical cell biology	
٢. Course code	
٣. Semester/year:	
٢٠٢٤-٢٠٢٥	
٤. Date this description was prepared	
٢٠٢٤/٩/١٨	
٥. Available forms of attendance:	
Class attendance inside the classroom + attendance inside the laboratory + electronic classes on the Google platform classroom), It will be a supporting class for the attendance class and according to the controls and instructions of the Ministry of Higher Education and Scientific Research.	
٦. Number of study hours (total) / number of units (total)	
٦٠ hours/٢ units	
٧. Name of the course administrator (if more than one name is mentioned)	
Name: Aya Jameel Rashid Email:aya.jameel١٢٣@tu.edu	
٨. Course objectives	
Objectives of the study subject	١- Developing students' ability to follow and understand speech Developing their ability to distinguish between main ideas And high school. ٢- Urging students to obtain knowledge

	Information and the ability to draw conclusions. ٣- Developing their abilities to make quick summaries Comprehensive aspects of the topic. ٤-Introducing students to cell biology and the importance of the cell. ٥-Cell diagnosis and classification. ٦- Introducing the students to the types of cells and distinguishing between them.
٩. Teaching and learning strategies	
It can be defined as a set of strategic rules. It can be defined as a set of general rules and broad lines that concern the means of achieving The desired goals of teaching refer to the methods and plans followed by faculty members to reach learning goals.	١-The standard method (giving lectures). ٢-The method of discussion and interrogation. ٣-Method of solving problems. ٤-Brainstorming method.

Course description form

Course structure.10					
the week	hours	Required learning outcomes	Name of the unit/topic	Teaching method	Evaluation method
-1	2		**General introduction** Modern theory of the cell Coupling between prokaryotic and eukaryotic cells Viruses	Standard method Text method	Standard method Text method

-2	2		**Chemical components of the cell** water Carbohydrates	Standard method Text method	Standard method Text method
-3	2		Amino acids, proteins and enzymes Fats	Standard method Text method	Standard method Text method
-4	2		Nucleotides and nucleic acids	Standard method Text method	Standard method Text method
-5	2		**Methods of studying the cell** Types of optical microscopes Electron microscopes	Standard method Text method	Standard method Text method
-6	2		**Study of living cells** **Study of dead cells**	Standard method Text method	Standard method Text method
-7	2		a–Cutting method b–Preparing the swab, preparing the mash c–Meticulous burning d–Centrifuges e–Radiant self–development f–Histochemistry	Standard method Text method	Standard method Text method

-8	2		**Cell membranes** A brief overview of the development of the study of biological membranes	Standard method Text method	Standard method Text method
-9	2		Mosaic fluid model Passage of materials through membranes Cytophagy	Standard method Text method	Standard method Text method
-10	2		Endoplasmic reticulum, its types and functions	Standard method Text method	Standard method Text method
-11	2		Golgi apparatus State bodies	Standard method Text method	Standard method Text method
-12	2		Microscopic bodies and their types Ribosomes	Standard method Text method	Standard method Text method
-13	2		Mitochondria Chloroplast–Light reactions and carbon dioxide fixation	Standard method Text method	Standard method Text method
-14	2		Central bodies, cilia and flagella	Standard method Text method	Standard method Text method
-15	2		Plastids, their classification, and the mechanism of photosynthesis	Standard method Text method	Standard method Text method
-16	2		Nucleus	Standard method	Standard method

				Text method	Text method
-17	2		The exact structure of the nucleus	Standard method Text method	Standard method Text method
-18	2		Chromosomes and their types	Standard method Text method	Standard method Text method
-19	2		Giant, brushy chromosomes	Standard method Text method	Standard method Text method
-20	2		Direct or non–filamentous division	Standard method Text method	Standard method Text method
-21	2		Mitosis	Standard method Text method	Standard method Text method
-22	2		Meiosis and reproductive cycle	Standard method Text method	Standard method Text method
-23	2		The importance of meiosis	Standard method Text method	Standard method Text method
-24	2		Study of the phenomenon of crossing	Standard method Text method	Standard method Text method
-25	2		Genetic mutation	Standard method Text method	Standard method Text method
-26	2		Reproduction of genetic information	Standard method Text method	Standard method Text method

-27	2		Protein construction	Standard method Text method	Standard method Text method
-28	2		Basic requirements for genetic engineering	Standard method Text method	Standard method Text method
-29	2		Study of cellular components under an electron microscope	Standard method Text method	Standard method Text method
-30	2		Study of cellular components under an electron microscope	Standard method Text method	Standard method Text method

١١. Course evaluation
١- Formative or formative assessment (daily exams, class discussion, homework, attendance and regularity). ٢--Grades for participating in difficult competitive questions are given to female students. ٣- Diagnostic evaluation (semester and final exams to issue judgments of success and failure). ٤- Qualitative and quantitative practical tests in laboratories. ٥- Assigning female students to prepare scientific research to test their ability to think, deduce, and solve problems. ٦-Field visits to the Central Research Laboratory.

٧- Direct observation of female students' performance in the fields of dialogue, intellectual and scientific communication, and teamwork within the classroom and the college and university environment. ٨- Distributing the grade out of ١٠٠ according to the tasks assigned to the student, such as daily attendance, the practical aspect, scientific reports, and daily, monthly, and final exams.	
١٢. Learning and teaching resources	
Required textbooks (methodology, if any)	Practical Cell biology / prepared by an elite group of professors from the Department of Life Sciences
Main references (sources)	Cell biology/Written by : Prof. Dr. Gabriel Barhoum Aziz
Recommended supporting books and references (scientific journals, reports...)	Scientific journals in scientific specializations
Electronic references, Internet sites	E-learning websites

١. Program Vision
Program vision is written here as stated in the university's catalogue and website.
٢. Program Mission
Program mission is written here as stated in the university's catalogue and website.
٣. Program Objectives
General statements describing what the program or institution intends to achieve
٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١
Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general

١١. Faculty

Faculty Members

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

course

course

١٤. Program Development Plan

١- Diversity in the approved sources for course topics
٢- Search for all innovations in this science, including research and studies

٣- Benefiting from the results of recent research in this field

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
٢٠٢٤ Fourth stage		Virology													

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

Course Description Form

1. Course Name: Virology
2. Course Code: virology:fourth stage
3. Semester / Year:Fourth
٢٠٢٤-٢٠٢٥
4. Description Preparation Date: 18/9/2024
٥. Available Attendance Forms: ١٨/٩/٢٠٢٤
٦. Number of Credit Hours (Total) / Number of Units (Total) ٦٠\٦
٧. Course administrator's name (mention all, if more than one name)
Name: Suad Hammood Email: suad.hammood@tu.edu.iq

8. Course Objectives	
Course Objectives	Providing students with detailed information about virology including how the viruses classified , replication , Diagnosis and it's structures, etc…

9. Teaching and Learning Strategies	
Strategy	Standard method (automatic). -Text method. -Inductive (deductive) method. - How to solve problems.

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
١	٤ hours		introduction virus detection, definition , viruses properties	The standard method, the text method,	in class performance and exams
٢	٤ hours		viruses structures, capsid kinds enveloped virus and undeveloped virus	standard method How to solve problems	in class performance and exams
٣	٤ hours		viruses structures, capsid kinds enveloped virus and undeveloped virus	standard method How to solve problems	in class performance and exams
٤	٤ hours		virus replication depend on nucleic acid , Replication stages (Adhesion, Ponetration, Copying, assembly , release)	standard method How to solve problems	in class performance and exams
٥	٤ hours		virus replication depend on nucleic acid , Replication stages (Adhesion, Ponetration, Copying, assembly , release)	standard method How to solve problems	in class performance and exams
٦	٤ hours		Viruses Diagnosis Polymerase Chain Rection PCR	standard method How to solve problems	in class performance and exams
٧	٤ hours		viruses classified Bacterial, Plant, Animal viruses	standard method How to solve problems	in class performance and exams
٨	٤ hours		viruses Diagnosis Electron, scanning , transmission microscope, Serological methods and Elisa Technology	standard method How to solve problems	in class performance and exams
٩+١٠	٤ hours		Viruses Diagnosis Polymerase Chain Rection PCR	standard method How to solve problems	in class performance and exams
				standard method How to solve problems	in class performance and exams
				standard method How to	in class performance

				solve problems	and exams
				standard method How to solve problems	in class performance and exams
				Deductive method Method of solving problems	in class performance and exams
				standard method How to solve problems	in class performance and exams

Course Evaluations
Formative or formative assessment (daily exams, class discussion, homework assignments and their follow-up, classroom calendar).
-Diagnostic evaluation (٥٠ semester exams and ٥٠ final exams to issue judgments of success and failure)

Learning and Teaching Resources

Pleczar, M.J., E.C.S Chan and N.R. Krieg (١٩٩٣) , Microbiology: Concepts and applications, McGraw Hill. INC. Pleczar, M.J., E.C.S Chan and N.R. Krieg (١٩٩٣) Microbiology: Concepts and application, McGraw Hill. INC

Belshe, R.B. (١٩٨٤). Human Virology. PSG. Publishing Com. INC.

Course Description Form

١. Course name :	
Scientific research methodology	
٢. Course code:	
nothing	
٣. Year/ Semester:	
Year٢٠٢٤-٢٠٢٥	
٤. Date this description was prepared	
٢٠٢٤/١٨/٩	
٥. Available attendance forms :	
My presence	
٦. Number of study hours (total) / Number of units (total):	
Total number of hours (٤٦) / number of units (٤)	
٧. Name of the course administrator (if more than one name is mentioned)	
Dr. Fahad Saber AwAin	
٨. Course objectives	
١. Understanding the theoretical foundations of scientific research: **٢. Acquire research design skills:** **٣. Developing data collection skills:** **٤. Enhancing scientific and critical analysis:**	**٥. Learn the rules of writing scientific research:** **٦. Instilling the principles of scientific research ethics:** **٧. Stimulate critical and creative thinking:** **٨. Enhancing the ability to work in a team:** **٩. Preparing the researcher for the labor market or postgraduate studies:** **١٠. Proper use of artificial intelligence tools**
٩. Teaching and learning strategies	
١. Lectures **Interactive** ٢. **Problem** (PBL-Based Learning)	٤. **Learning** Collaborative ٦. **Use of educational technology** ٧. **Literature Review** Sessions

٨. **Task** Based Learning-	٣. **Workshops**

١٠. Course structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
questions short tests	My presence	Definition of science The origin and development of science	Understanding what science is And its importance in Interpretation of phenomena Natural .And social	٢	١
questions short tests	My presence	Modern : science Objectives of science	Goal analysis Modern Science And its role in Progress .Technological	٢	٢
questions short tests	My presence	The difference between science And knowledge Scientific - thinking And its basics	Distinguish between The two concepts and understand the relationship .Between them	٢	٣
questions short tests	My presence	Scientific research And its relationship - with science Evolution of the	Understanding Evolution Historical to publish Research And its various .means	٢	٤

		concept of publishing Scientific research			
questions short tests	My presence	Scientific research- The article Short article- study - Reports Patents Postgraduate Theses	Get to know Types of writing Scientific and when ?How is it done .Use it	٢	٥
questions short tests	My presence	Research plan and ,hypotheses the problem Identify the problem Preparing a research plan	Learn how to identify Research problem And put Assumptions .The occasion	٢	٦
questions short tests	My presence	Scientific research methods and tools Survey methodology and its tools	Get to know Scientific curricula Different like Descriptive And the Messiah And .experimental	٢	٧
questions short tests	My presence	Descriptive approach and ,its tools approach Experimental and its tools	Learn how to Description of phenomena And study it Using .This approach	٢	٨
questions short tests	My presence	Theoretical mathematical approach	Get to know Use Models	٢	٩

		Statistical method is a .study method ,case comparative approach	Sports in Scientific .research		
questions short tests	My presence	Main requirements for completion Research Experimental Methodology	Learn to apply Methods Statistics To analyze .data	٢	١٠
questions short tests	My presence	Simple , experiments experiments Factors , compound syllabus samples Experimental	Gaining ability on Design a research plan .methodology	٢	١١
questions short tests	My presence	Errors in scientific experiments Types of errors and their sources	Get to know Types of errors and their sources .To avoid it	٢	١٢
questions short tests	My presence	, sources sources ,Written electronic resources and automated retrieval	Learn how to find and use reliable .information	٢	١٣
questions short tests	My presence	Internet International Information Network	Using the Internet as a source of information and managing	٢	١٤

			electronic .research		
questions short tests	My presence	Scientific research writing title , writing style Rules for writing terms and names Branching	Gain organized scientific .writing skills	٢	١٥
questions short tests	My presence	Writing down the main paragraphs of the research ,Introduction Signaling Methods To the reference	Organize research content into .clear sections	٢	١٦
questions short tests	My presence	Writing a paragraph on materials and methods of work And types of samples	Write the work steps clearly and .systematically	٢	١٧
questions short tests	My presence	Recording the results ,paragraph preparation controls Tables and discussion notes The bottom line	Present results using tables and charts in an organized .manner	٢	١٨
questions short tests	My presence	Preparing a list ,of references	Identify different documentation	٢	١٩

		And ways to record it	styles and prepare a .reference list		
questions short tests	My presence	Reference Card System	Organize references using cards or electronic .systems	٢	٢٠
questions short tests	My presence	Linear illustrative forms Curves, Types of Graphs	Use graphs to .illustrate data	٢	٢١
questions short tests	My presence	Scattered , shapes column shapes Repetitive terraces	scatter plots to show the relationship between two numerical variables and understand how to interpret the distribution and pattern between .points	٢	٢٢
questions short tests	My presence	Photographs And its characteristics	Learn how to use photographs as a visual medium to document data .or phenomena	٢	٢٣
questions short tests	My presence	Final output of the research	Professionally prepare research for publication or .presentation	٢	٢٤
Course Evaluation .١١					

١٢. Learning and teaching resources	
Methodological books Scientific research methodology study For science curricula with focus on: _ Method / Written by Muthanna Abdul Razzaq Baghdad: College of Education for Girls, ٢٠٠١	Required textbooks (methodology if any)
١. (١٩٨٦) .Al-Siraqusi , Lazmi Ahmed Mustafa. .Title: Introduction to science curricula .Publisher: Dar Al Thaqafa for Printing and Publishing .Location: Cairo ٢. (٢٣٣٣) .Age, Muthanna Abdul Razzaq Al-Omar. Title: Originality in Scientific Research: A Contemporary Problem in Iraq. ,Source: Journal of the Scientific Academy, Part Four Volume Forty-Seven. .Pages: ١٣٣-١٤٢ Ritterger,M and W.Ritter berges (1997) Measuring quality in the Production of datd bens Journal of Information Science 23(1)pp 25 -37	Main References (Sources)
	Recommended supporting books and references (scientific journals, reports, etc.)
Artificial Intelligence Tools	, Electronic references websites

١. Program Vision

The department seeks to provide an educational program that adopts modern scientific research methods and curricula in the field of life sciences, and uses advanced teaching methods that use modern technologies in teaching and research in order to graduate highly qualified specialized teaching staff, whether in the field of teaching life sciences, scientific research, or otherwise. This is one of the professions whose nature requires its occupants to have a distinct information background in the field of life sciences, such as tourism, antiquities, libraries, archives, and others. Hence, the department has a strategic vision in subjecting problems in the field of life sciences to research and study with the aim of reaching an understanding of them within a scientific framework that helps in forming a scientific cognitive vision that leads to achieving renaissance in the field of life sciences in society and treating and solving problems.

٢. Program Mission

Providing an academic research educational service through which it is possible to prepare distinguished male and female graduates who specialize in the field of life sciences in general, who are able to carry out their role within society in a positive and effective way, especially in the field of research within the field of life sciences, teaching and consulting, and providing knowledge in the field of life sciences that helps to understand And solving many of the problems facing the development of society, biology has a fundamental and not a secondary role in the progress and building of society in order to achieve a bright future.

٣. Program Objectives

١- Strengthening the mission and status of the College of Education for Girls and Tikrit University in performing its mission and scientific goals.

٢- Preparing male and female graduates specialized in the field of life sciences to work in the educational and functional fields in various community institutions in order to contribute to the renaissance of modern Iraq.

٣- Developing analytical skills and the ability to systematically disassemble and reassemble biological material, familiarity with terminology, concepts and information, and developing skills for dealing with biological concepts to prepare biological researchers to serve their society and the world.

٤- Providing biological studies and research in all fields in order to contribute to the development and development of society in the field of education and learning.

٥- Directing the study of life sciences to serve the community and research centers.

٦- Employing scientific and technological development in education, studies and biological research -

٧- Conducting focused studies in biological sciences for undergraduate and postgraduate students through in-depth scientific research and analyzing information according to a scientific perspective.

٨- Holding seminars and conferences that address the most important problems in the biological aspect and contributing to developing appropriate solutions to them.

٩- Participation of faculty members in local, regional and international scientific conferences.

١٠- Scientific, cognitive and cultural exchange with other corresponding departments in Iraqi universities.

٤. Program Accreditation

Nothing

٥. Other external influences

Ministry of Higher Education and Scientific Research / Tikrit University

٦ Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	٥٦	١١٢	١٠٠	Basic course
College Requirements	٥٦	١١٢	١٠٠	

Department Requirements	٥٦	١١٢	١٠٠	
Summer Training	Non			
Other	٥٦	١١٢	١٠٠	

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

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤		Genetics	theoretical	practical
The third stage			٢	

٨. Expected learning outcomes of the program

Knowledge

The required program outcomes and teaching, learning and evaluation methods: Objectives:

١- Study and understand how genetic characteristics are transmitted to living organisms.

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

٢- Study how a gene or group of genes is involved in health and disease.

٣- Study and understand genetic factors and genetic disorders, which is an important factor in promoting health and fighting diseases.

٤- Studying molecular genetics helps to understand diseases more.

Skills

Skills objectives of the program

١- That the student be able to become familiar with the methods of teaching, measuring and evaluating the scientific subject.

٢- That the student should be able to choose the appropriate teaching method for each scientific subject so that it presents it in an interesting way.

٣- That the student be able to solve problems related to students' understanding of scientific material by using theories of educational psychology and modern teaching methods, which facilitates the study of genetics.

٩. Teaching and Learning Strategies

١ - The standard method / giving lectures / the text method / the descriptive, analytical and inductive method.

٢- Problem solving method / formative or formative assessment (daily exams, class discussion, homework assignments, and their follow-up, classroom assessment)

٣- Diagnostic evaluation (semester and final exams to issue judgments of success and failure)

١٠. Evaluation methods

١- Individual and group oral and written theoretical and practical tests

٢ - Direct observation of the student's performance in the areas of dialogue, intellectual and scientific communication, and team work within the classroom and the college and university environment.

٣ - Assigning female students to prepare distinctive scientific research to test their ability to think, deduce, and solve problems.

١١. Faculty

Faculty Members

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

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤		Genetics	Basic												
Third stage															

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

Course Description Form

1. Course Name:
Genetics
2. Course Code:
Genetics / third stage
3. Semester / Year:
٢٠٢٤-٢٠٢٥
4. Description Preparation Date:
٢٠٢٤/٩/١٨
٥. Available Attendance Forms:
Class lectures + electronic lectures
٦. Number of Credit Hours (Total) / Number of Units (Total)
٦٠ hours
٧. Course administrator's name (mention all, if more than one name)

Halah Hashim Halah.hashime@tu.edu.iq

8. Course Objectives	
Course Objectives	Genetics aims to: ١- Enhancing understanding of the basic concepts of heredity and genes. ٢- Developing scientific research and analysis skills. ٣- Applying genetic knowledge in fields such as medicine and agriculture. ٤- Promoting awareness of the ethical and social challenges associated with genetics. ٥- Encouraging critical thinking and

	innovation in scientific solutions

9. Teaching and Learning Strategies

Strategy	Providing psychological motivation to achieve scientific goals Cooperative learning, problem-based learning.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٢	Standard method, text method	Mendelian inheritance/ Introduction, the law of isolation, the law of free distribution and their cytological interpretation.	Understand the lecture topic	Class performance and exams
٢	٢	Standard method, text method	Expansion of inferred inheritance: incomplete dominance, co-dominance, lethal genes, overlapping gene action, multiple mechanisms, inheritance and sex, Accessibility and gene expression.	Understand the lecture topic	Class performance and exams
٣	٢	Standard method, text method	Quantitative inheritance: the importance of multiple genes, genetic equivalents, twins	Understand the lecture topic	Class performance and exams
٤	٢	Standard method, text method	Genetic linkage and crossing: incomplete linkage, crossing mechanism, factors affecting crossing, how to draw a genetic map. For eukaryotic organisms, comparison between crossover and exchange between sister chromatids.	Understand the lecture topic	Class performance and exams
٥	٢	Standard method, text method	Methods for the emergence of new genetic structures in bacteria. Sex chromosomes and sex assignment in different organisms.	Understand the lecture topic	Class performance and exams
٦	٢	Standard method, text method	Chromosomal mutations, chromosomal abnormalities in humans.	Understand the lecture topic	Class performance and exams
٧	٢	Standard method, text method	Cytoplasmic inheritance and maternal influence, shell wrapping in the shell of Limnaea , Kappa in Paramecium, mutations in DNA	Understand the lecture topic	Class performance and exams
٨	٢	Standard method, text method	Synthesis and molecular analysis of the hereditary material, DNA, experiments to prove that DNA is the hereditary material and that RNA is the hereditary material in some filters.	Understand the lecture topic	Class performance and exams
٩	٢	Standard method, text method	Replicate DNA: proof that replication occurs in a semi-conservative manner, replication enzymes, the role of DNA in replication, reverse transcription in DNA filtrate, cutting and modification processes in its three types.	Understand the lecture topic	Class performance and exams
١٠	٢	Standard method, text	Translation, protein synthesis,	Understand the	Class

		method	genetic code and its characteristics, auxiliary factors, construction of the peptide chain, The theory of one gene, one polypeptide chain, develops hereditary control of metabolic processes.	lecture topic	performance and exams
١١	٢	Standard method, text method	Regulation of gene expression in prokaryotes. Regulation of gene expression in eukaryotes.	Understand the lecture topic	Class performance and exams
١٢	٢	Standard method, text method	Genetic mutation: its types according to molecular changes, spontaneous mutation, the creation of mutations by radiation and some chemicals, damage repair systems in DNA. Transposable elements	Understand the lecture topic	Class performance and exams
١٣	٢	Standard method, text method	Genomics: Structure of chromosomes and organization of DNA sequences in them, extraction and analysis of DNA for clones, application of some genetic technology such as genetic engineering in diagnosing some hereditary diseases, sorting DNA fingerprints, and completing the human genome project.	Understand the lecture topic	Class performance and exams
١٤	٢	Standard method, text method	Constitutional inheritance: programmed cell death. How the specialized state unfolds from the genome The object. Population genetics: genetic reservoirs, Hardy's law, Weinberg's law Gene redundancy and factors affecting it.	Understand the lecture topic	Class performance and exams
١٥	٢	Standard method, text method	Inheritance and evolution: chromosomal changes and their relationship to the emergence of species with double chromosome numbers.	Understand the lecture topic	Class performance and exams

١٢. Learning and Teaching Resources	
Learning Resources	Cell and Genetics - Part Two Written by: Dr. Saad Jaber Taj Al-Din & Dr. Abdulnabi Hadi Al-Issa. Second edition ٢٠٠٠
Main references (sources)	Main references (sources) Genetics, written by Dr. Makram Diya Shakara, fourth edition ٢٠٠٩ Cell Science and Genetics Author Saad Hussein Al-Qahtani Year of Publication ٢٠١٣ Foundations of Genetics, written by Irwin H. Herskovits ١٩٨٣ Basics in genetics, written by Dr. Adnan Hassan Muhammad Al-Adhari, Mosul University Press

١. Program Vision

The department seeks to provide an educational program that adopts modern scientific research methods and approaches in biology field, and uses advanced teaching methods that utilize modern technologies in teaching and research to graduate highly qualified specialized teaching cadres, whether in the field of teaching life sciences, scientific research, or other professions whose nature requires their occupants to have a distinguished information background in the field of life sciences, such as tourism, antiquities, libraries, archives, and others. Hence, the department has a strategic vision in subjecting problems in the field of life sciences to research and study with the aim of reaching an understanding of them within a scientific framework that helps in forming a scientific cognitive vision that leads to achieving a renaissance in the field of life sciences in society and addressing and solving problems.

٢. Program Mission

It provides an academic research educational service through which distinguished graduates, male and female, can be prepared in biology field in general, who are able to play their role within society in a positive and effective manner, especially in the field of research, including the field of life sciences, teaching and consulting, and providing knowledge in the field of life sciences that helps in understanding and solving many of the problems facing the development of society. Biology has a fundamental role, not a secondary one, in the progress and building of society in order to achieve a bright future.

٣. Program Objectives

١- Strengthening the mission and position of the College of Education for Girls and Tikrit University in performing its mission and scientific objectives.

-٢ Preparing graduates specialized in the field of life sciences to work in educational and functional fields in various community institutions in

order to contribute to the renaissance of modern Iraq.

-٣ Developing analytical skills and the ability to systematically decompose and reconstruct biological material and familiarity with terminology, concepts and information, and developing skills in dealing with biological concepts to prepare biological researchers to serve their community and the world.

-٤ Providing biological studies and research in all fields in order to contribute to the development of society and its progress in the field of education and learning.

-٥ Directing the study of life sciences to serve society and research centers.

-٦ Employing scientific and technological development in education, studies and research in biology.

-٧ Conducting focused studies in biological sciences for undergraduate and graduate students through in-depth scientific research and analyzing information according to a scientific perspective.

٨ Holding seminars and conferences that address the most important problems in the biological aspect and contributing to finding appropriate solutions for them.

٩ Participation of faculty members in local, regional and international scientific conferences.

١٠ Scientific, cognitive and cultural exchange with other similar departments in Iraqi universities.

٤. Program Accreditation

Description: Required program outcomes, teaching, learning and assessment methods: Cognitive objectives: ١- The student will be able to scientifically and objectively understand the philosophy of studying parasitology and understand the important medical species theoretically and practically and diagnose them. ٢- The student will be able to embody a clear picture of the material and parasitic species in various fields of knowledge. ٣- The student will be familiar with the specialty of immunology. ٤- The student will learn modern technical skills in theoretical and practical study.
٥. Other external influences
Is there a sponsor for the program?
٦ Program Structure

Program Structure	No. of Courses	Unit Notes	Percentage
Institutional Requirements	٥٦	١١٢	١٠٠
College Requirements	٥٦	١١٢	١٠٠
Department Requirements	٥٦	١١٢	
Summer Training	**none**		
Other	٥٦	١٠٠	١٠٠

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

٧. Program Description

Learning Outcomes 2		Learning Outcomes Statement 2		
Learning Outcomes 3	Course Code	Learning Outcomes Statement 3	Credit Hours	
Year/Level ٢٠٢٤		Biology	theoretical	practical
fourth stage Learning Outcomes 4		Learning Outcomes Statement 4	٢	٢
Learning Outcomes 5		Learning Outcomes Statement 5		

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١ Knowledge of the required program outcomes and teaching, learning and evaluation methods: Cognitive objectives: ١- The student will be able to scientifically and objectively understand the philosophy of studying parasitology and understand the important medical species theoretically and practically and diagnose them. ٢- The student will be able to embody a clear picture of the material and parasitic

species in various fields of knowledge. ٣- The student will be familiar with the specialty of immunology. ٤- The student will learn modern technical skills in theoretical and practical study.

Program specific skill objectives: ١- The student should be able to master the methods of teaching, measuring and evaluating the scientific material. ٢- The student should be able to choose the appropriate teaching method for each scientific material so that it is presented in an interesting way. ٣- The student should be able to solve problems related to students' understanding of the scientific material by using theories of educational psychology and modern teaching methods, which facilitates the study and teaching of immunology.

٩. Teaching and Learning Strategies

Evaluation methods: ١- Individual and group oral and written tests, theoretical and practical. ٢- Direct observation of the student's performance in the areas of dialogue, intellectual and scientific communication, and teamwork within the classroom and the college and university environment. ٣- Assigning students to prepare distinguished scientific research to test their ability to think, draw conclusions, and solve problems.

.

١٠. Evaluation methods

. Evaluation methods

١- Individual and group oral and written tests, theoretical and practical. ٢- Direct observation of the student’s performance in the areas of dialogue, intellectual and scientific communication, and teamwork within the classroom and the college and university environment. ٢- Assigning students to prepare distinguished scientific research to test their ability to think, draw conclusions, and solve problems..

١١. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Pro. Dr.Intisar Ghanim Abdulwahhab	Biolog	Parasitology			Staff	
Dr.Kanssa Ahmeed	Biology	parasitology			saff	

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤		immunity	Basic												
fourth stage															

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

Course Description Form

1. Course Name:
immunity
2. Course Code:
Biology / fourth stage
3. Semester / Year:
٢٠٢٤-٢٠٢٥
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class Lecture + electronic lecture
٦. Number of Credit Hours (Total) / Number of Units (Total)
٧٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Name: Intisar Ghanim Abdulwahhab Email: dr.en79@tu.edu.iq
8. Course Objectives

Course Objectives	1– Λινκινγ τηε σχιεντιφιχ ματεριαλ το τηε εξτερναλ ενϖιρονμεντ 2– Κνοωινγ τηε ιμπορτανχε οφ ιμμυνολογψ φορ ηυμανσ 3– Κνοωινγ τηε τψπεσ οφ νατυραλ ανδ αχθυιρεδ ιμμυνιτψ 4– Κνοωινγ τηε τψπεσ οφ αλλεργιεσ τηατ αφφεχτ ηυμανσ 5– Κνοωινγ τηε πατηογενσ τηατ αφφεχτ ηυμανσ ορ τηειρ εχονομιχ ανιμαλσ ανδ τηε τψπε οφ ιμμυνιτψ τηεψ αχθυιρε φρομ τηεσε πατηογενσ

9. Teaching and Learning Strategies	
Strategy	Using lecture, questioning and discussion method

10. Course Structure

Week	Hours	Required Learning	Unit or subject name	Learning method	Evaluation

		Outcomes			method
١	٢	History of Immunology and its fields		lecture, interrogation	assroom performance and exams
٢	٢	Natural immunity		lecture, interrogation	Classroom performance and exams
٣+٤	٢	Specific immunity, its types		lecture, interrogation	Classroom performance and exams
٥	٢	First month exam, first semester		lecture, interrogation	Classroom performance and exams
٦	٢	Organs that produce antibodies		lecture, interrogation	Classroom performance and exams
٧+٨	٢	Antigens		lecture, interrogation	Classroom performance and exams
٩	٢	Second month exam, first semester		lecture, interrogation	Classroom performance and exams
١٠+١١	٢	Antibodies, their structure and chemical properties		lecture, interrogation	Classroom performance and exams
١٢+١٣	٢	Reactions of antibodies with antigens and factors affecting them		lecture, interrogation	Classroom performance and exams
١٤	٢	First month exam, second semester		lecture, interrogation	Classroom performance and exams
١٥	٢	Blood agglutination and immune rosin		lecture, interrogation	Classroom performance and exams
١٦	٢	Neutralization reactions		lecture, interrogation	Classroom performance and exams

١٧+١٨	٢	Complement, its function and biological activities		lecture, interrogation	Classroom performance and exams
١٩	٢	Immunological non-response		lecture, interrogation	Classroom performance and exams
	٢	Final exams		lecture, interrogation	Classroom performance and exams

11. Course Evaluation

The grade is distributed out of ١٠٠ according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written exams, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Recommended books and references	J.of immunology
Electronic References, Websites	www.jstor.org www.reserchgate.net

١. Program Vision

Remember the vision of the program as mentioned in the university bulletin and its website. The college's participation in any plan adopted by the university to formulate and plan its policy. The college's contribution to national education policies in terms of preparing plans and the future need for teaching staff. Developing educational curricula in line with scientific developments such as modern educational theories. Diversity in scientific and educational specializations in line with the needs of society. Providing appropriate conditions for scientific researchers. Preparing female teaching staff who belong to their social environment. Building female educational staff who are committed to national and social values.

٢. Program Mission

The mission of the program is mentioned as stated in the university bulletin and website. The mission of the college is to enhance loyalty to the homeland, promote national unity and sovereignty, prepare distinguished teaching staff with knowledge and various specializations, develop scientific research and problem-solving skills, raise the level of female students in scientific and human specializations, consolidate academic ethics and the spirit of tolerance, raise the quality of performance and outputs, and enhance scientific research in all specializations. The Department of Mycology seeks to educate and familiarize female students with the types and forms of fungi, the diseases they cause to plants, methods of isolating and cultivating them on culture media, methods of reproduction, and their life cycle.

٣. Program Objectives

General phrases describing what the program or institution intends to achieve.

١- Expanding the sponsorship of scientific research and developing it to address all problems that hinder the educational process and provide ways to advance it

٢- Preparing teaching staff in all scientific and human specializations with the ability and knowledge of modern developments

٣- Developing the college curricula in accordance with the developments of the era

٤- Creating new specializations and providing all the requirements for their success

٥- Developing the teaching staff through training and retraining at home and abroad

٦- Developing the library and means of communication such as the Internet and using the media

٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤		mycology	theoretical	practical
third stsge				

٨. Expected learning outcomes of the program

Knowledge	
Learning Outcomes ١	Learning Outcomes Statement ١
Skills	
Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes S	Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. 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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤		Mycology	Basic												
Third stage															

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

Course Description Form

1. Course Name:
Mycology
2. Course Code:
Mycology / Third stage
3. Semester / Year:
٢٠٢٤-٢٠٢٥ Year
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class Lecture + electronic lecture
٦. Number of Credit Hours (Total) / Number of Units (Total)
٩٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Balqees.osama balqees.mohammed @tu.edu.iq
8. Course Objectives

Course Objectives	• ..... • ..... • .....

9. Teaching and Learning Strategies	
Strategy	

10. Course Structure

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

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision

Remember the vision of the program as mentioned in the university bulletin and its website. The college's participation in any plan adopted by the university to formulate and plan its policy. The college's contribution to national education policies in terms of preparing plans and the future need for teaching staff. Developing educational curricula in line with scientific developments such as modern educational theories. Diversity in scientific and educational specializations in line with the needs of society. Providing appropriate conditions for scientific researchers. Preparing female teaching staff who belong to their social environment. Building female educational staff who are committed to national and social values.

٢. Program Mission

The mission of the program is mentioned as stated in the university bulletin and website. The mission of the college is to enhance loyalty to the homeland, promote national unity and sovereignty, prepare distinguished teaching staff with knowledge and various specializations, develop scientific research and problem-solving skills, raise the level of female students in scientific and human specializations, consolidate academic ethics and the spirit of tolerance, raise the quality of performance and outputs, and enhance scientific research in all specializations. The Department of Mycology seeks to educate and familiarize female students with the types and forms of fungi, the diseases they cause to plants, methods of isolating and cultivating them on culture media, methods of reproduction, and their life cycle.

٣. Program Objectives

General phrases describing what the program or institution intends to achieve.

١- Expanding the sponsorship of scientific research and developing it to address all problems that hinder the educational process and provide ways to advance it

٢- Preparing teaching staff in all scientific and human specializations with the ability and knowledge of modern developments

٣- Developing the college curricula in accordance with the developments of the era

٤- Creating new specializations and providing all the requirements for their success

٥- Developing the teaching staff through training and retraining at home and abroad

٦- Developing the library and means of communication such as the Internet and using the media

٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤		Mycology	theoretical	practical
third stsge				

٨. Expected learning outcomes of the program

Knowledge	
Learning Outcomes ١	Learning Outcomes Statement ١
Skills	
Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes S	Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. 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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤		Mycology	Basic												
Third stage															

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

Course Description Form

1. Course Name:
Mycology
2. Course Code:
Mycology / Third stage
3. Semester / Year:
٢٠٢٤-٢٠٢٥ Year
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class Lecture + electronic lecture
٦. Number of Credit Hours (Total) / Number of Units (Total)
٩٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Name :Balqees osama Email :balqees .Mohamme @tu.edu.iq

8. Course Objectives	
Course Objectives	• ..... • •

9. Teaching and Learning Strategies	
Strategy	

10. Course Structure

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

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision

A specialist in providing an educational program based on the department and curricula of scientific research in the field of life sciences, specializing in modern innovation methods and modern teaching techniques that lead to the graduation of modern, highly qualified, specialized cadres, whether in the field of life sciences, or a scientific or non-scientific researcher. This is one of the professions that require and now we have its occupants with an information background in the field of various life sciences, such as tourism, antiquities, libraries, archives, and others. From here, the department has a strategic vision in subjecting problems in the field of life sciences to research and study with the aim of reaching an understanding of them within a useful framework in the vision of scientific cognitive expertise to reach the renaissance in the field of life sciences in society and solve problems.

٢. Program Mission

Providing an academic research educational service through which distinguished graduates, male and female, can be prepared in the field of life sciences in general, who are able to play their role within society in a positive and effective manner, especially in the field of research, including life sciences, teaching and consulting, and providing knowledge in the field of life sciences that helps in understanding and solving many of the problems facing the development of society, as biology has a fundamental role, not a secondary one, in the progress and building of society in order to achieve a bright future.

٣. Program Objectives

١. Strengthening the mission and position of the College of Education for Girls and Tikrit University in fulfilling its mission and scientific objectives.
-٢. Preparing graduates specialized in the field of life sciences to work in educational and functional fields in various community institutions in order to contribute to the renaissance of modern Iraq.
-٣. Developing analytical skills and the ability to systematically decompose and reconstruct biological material and familiarity with terminology, concepts and information, and developing skills in dealing with biological concepts to prepare biological researchers to serve their community and the world.
-٤. Providing biological studies and research in all fields in order to contribute to the development of society and its progress in the field of education and learning.
-٥. Directing the study of life sciences to serve society and research centers.
-٦. Employing scientific and technological development in education, studies and research in biology.

٧. Conducting focused studies in biological sciences for undergraduate and graduate students through in-depth scientific research and analyzing information according to a scientific perspective. ٨ Holding seminars and conferences that address the most important problems in the biological aspect and contributing to finding appropriate solutions for them. ٩ Participation of faculty members in local, regional and international scientific conferences. ١٠ Scientific, cognitive and cultural exchange with other similar departments in Iraqi universities
٤. Program Accreditation
Non
٥. Other external influences
Field visits - conducting training and educational courses - school application - practical laboratory training

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤		Plant anatomy	theoretical	practical
First stsge			Two hours	Two hours

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١

Skills

Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣

Ethics

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

٩. Teaching and Learning Strategies

Method of delivery (lecture)

Method of discussion and interrogation

Method of solving problems

Giving homework related to the topic

Clarifying and explaining study materials by academic staff through the use ofthe whiteboard, smart board, educational laboratory, videos, pictures, and Data Show.

١٠. Evaluation methods

Daily exams, commitment to attendance

Semester and final exams to issue judgments of success and failure

Practical tests in laboratories

Assigning female students to prepare scientific research to test their abilities to think, deduce, and solve problems.

١١. Faculty

Faculty Members

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

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.

١- The curriculum approved by the Ministry of Higher Education and Scientific Research and its guidelines.

٢- Decisions and recommendations of the scientific committees at the university.

٣- Courses in teaching methods.

٤- Training courses held by the college on e-learning platforms

٥- Research on the Internet for similar experiences.

٦-Personal experiences.

٧- Training courses held by university quality and performance departments on the program in various institutes and colleges

١٢. Acceptance Criterion

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

١- The curriculum approved by the Ministry of Higher Education and Scientific Research and its guidelines.

٢- Decisions and recommendations of the scientific committees at the university.

٣- Courses in teaching methods.

٤- Training courses held by the college on e-learning platforms

٥- Research on the Internet for similar experiences.

٦-Personal experiences.

٧- Training courses held by university quality and performance departments on the program in various institutes and colleges

١٣. The most important sources of information about the program

١- The curriculum approved by the Ministry of Higher Education and Scientific Research and its guidelines.

٢- Decisions and recommendations of the scientific committees at the university.

٣- Courses in teaching methods.

٤- Training courses held by the college on e-learning platforms

٥- Research on the Internet for similar experiences.

٦-Personal experiences.

٧- Training courses held by university quality and performance departments on the program in various institutes and colleges

١٤.	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
٢٠٢٤		Biology	Basic												
First stage															

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

Course Description Form

1. Course Name:
Plant anatomy
2. Course Code:
Plant anatomy / first stage
3. Semester / Year:
٢٠٢٤ -٢٠٢٥
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class Lecture + electronic lecture
٦. Number of Credit Hours (Total) / Number of Units (Total)
٧٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Name :Marwa Dawood Suleman EmailMarwa.Dawood٥٩٠@tu.edu.iq
8. Course Objectives

Course Objectives	١- Developing students' ability to follow and understand speech Developing their ability to distinguish between main ideas And high school. ٢- Urging students to obtain knowledge Information and the ability to draw conclusions. ٣- Developing their abilities to make quick summaries Comprehensive aspects of the topic. ٤- Introducing students to bacterial groups, their importance and harm. ٥-Bacterial diagnosis and classification. ٦- Introducing students to the types of bacteria and distinguishing between them.

9. Teaching and Learning Strategies	
Strategy	It can be defined as a set of strategic rules. It can be defined as a set of general rules and broad lines that concern the means of achieving The desired goals of teaching refer to the methods and plans followed by faculty members to reach learning goals.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١-	٢		Introduction to Anatomy plant	Standard method Text method	Standard method Text method
٢-	٢		Living contents of plant cell	Standard method Text method	Standard method Text method
٣-	٢		Non living contents of plant cell	Standard method Text method	Standard method Text method
٤-	٢		Crystals of all types	Standard method Text method	Standard method Text method
٥-	٢		Cell wall and pimary pits fields	Standard method Text method	Standard method Text method
٦-	٢		Pits and types	Standard method Text method	Standard method Text method
٧-	٢		Meristematic tissues	Standard method Text method	Standard method Text method
٨-	٢		Permanent tissues ,epidermis and epidermis types	Standard method Text method	Standard method Text method
٩-	٢		Types of stomata	Standard method	Standard method

				Text method	Text method
١٠-	٢		Epidermal hairs and multicellular hairs	Standard method Text method	Standard method Text method
١١-	٢		Parenchyma tissue	Standard method Text method	Standard method Text method
١٢-	٢		Collenchyma tissue	Standard method Text method	Standard method Text method
١٣-	٢		Sclerencyma tissue	Standard method Text method	Standard method Text method
١٤-	٢		Xylem and elements	Standard method Text method	Standard method Text method
١٥-	٢		Phloem and elements	Standard method Text method	Standard method Text method
١٦-	٢		Vascular bundles	Standard method Text method	Standard method Text method
١٧-	٢		Secretory cells and tissues	Standard method Text method	Standard method Text method
١٨-١٩	٢		Roots anatomy	Standard method Text method	Standard method Text method
٢٠-٢١	٢		Steam anatomy	Standard	Standard

				method Text method	method Text method
٢٢-٢٣	٢		Normal secondary growth	Standard method Text method	Standard method Text method
٢٤-٢٥	٢		Microscopic preparations	Standard method Text method	Standard method Text method

11. Course Evaluation

Distributing the score out of ١٠٠ according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision

The vision of the Life Sciences Department is centered on preparing scientifically and educationally qualified female teachers in order to create good generations that will bear responsibility and build the personality of the graduate in an integrated manner to provide her with the knowledge and skills to confront and solve difficulties in the field of scientific research, which contributes to the progress of society and contributes to the process of preparing and developing human resources and preparing teaching staff to supply middle schools. And secondary school to serve the scientific and educational process and achieve the goals of higher education and the goals of the College of Education in light of the central philosophy of the state, serve civil society, hold conferences, seminars and workshops, whether in person or electronically remotely, and carry out a group of discussion circles, workshops, courses and seminars.

٢. Program Mission

The Department of Life Sciences is one of the departments of the College of Education for Girls, and it is one of the departments that was established

In ١٩٨٧, the initial study period was four years. This department granted a bachelor's degree

To enable her to work in the teaching profession in secondary education for biology and science

٣. Program Objectives

The goals of the Life Sciences Department are divided into three types: cognitive and scientific goals at the theoretical and applied levels, valuable goals at the scientific level, and skills goals at all levels. Building the capabilities and abilities of graduates and members of the Life Sciences Department. In addition to the goals mentioned, there are other goals: ١- Preparing and developing female students and expanding their awareness. Sensory, intellectual and scientific for all subjects, whether scientific or literary, so that it qualifies them for teaching and scientific research in the institutions of the Ministry of Education and other ministries that can benefit from the scientific experiences of students graduating from the department.-٢ Enabling female students to rely in their practical lives on applying scientific methods in addressing problems and situations by relying on practical studies in analysis and study, especially in research fields and studies that serve and benefit society. ٣- Preparing and developing the scientific sense of some distinguished female students in order to keep up with their scientific

studies, including their submission to studies. Higher education by urging and encouraging them to be a basic base in the academic institutions with these experiences and the departments' need as teachers who serve in their various fields and according to their scientific specializations ٤- Building and scientific, professional and cultural preparation for the students and graduates of the Life Sciences Department and enabling them to master and know the facts and theoretical concepts of biology. ٥- Qualifying male and female graduates of the Department of Life Sciences for the purpose of understanding the basic principles that qualify them to teach in educational institutions and contributing to scientific research in all cognitive specializations. ٦- Developing beneficial behaviors and values among female students in a way that is consistent and compatible with Arab and Islamic values and the principles of other heavenly religions and to lead them to the highest level. Degrees of moral, intellectual and scientific maturity
٤. Program Accreditation
nothing
٥. Other external influences
Ministry of Higher Education and Scientific Research/ Tikrit University

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٣/٢٠٢٤ Third stage			theoretical	practical
			٢ hours	٢hours

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١

Skills

Learning Outcomes 2 Learning Outcomes ٢	Learning Outcomes Statement 2 Learning Outcomes Statement ٢
Learning Outcomes 3 Learning Outcomes ٣	Learning Outcomes Statement 3 Learning Outcomes Statement ٣

Ethics

Learning Outcomes 4 Learning Outcomes ٤	Learning Outcomes Statement 4 Learning Outcomes Statement ٤
Learning Outcomes 5 Learning Outcomes S	Learning Outcomes Statement 5 Learning Outcomes Statement ٥

٩. Teaching and Learning Strategies

١-The standard method / giving lectures / the text method / the descriptive, analytical and inductive method. ٢- Method of solving problems/constructive or formative evaluation (daily exams, class discussion, homework assignments, and their follow-up, classroom evaluation). ٣- Diagnostic evaluation (semester and final exams to issue judgments of success and failure).

١٠. Evaluation methods

١- Individual and group oral and written theoretical and practical tests. ٢- Direct observation of the student's performance in the areas of dialogue, intellectual and scientific communication, and teamwork within the classroom and the college and university environment. ٢- Assigning female students to prepare distinctive scientific research to test their ability to think, conclude, and solve problems.

١١. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Teacher Thabit muthhir Assistant Teacher Zahra Khalil Ismael	Animal Agricultural Sience	Insect Plant Protection(Insect)			Yes yes	

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤/٢٠٢٥		Sience of Insect	Basic												

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

Course Description Form

1. Course Name:
Insect Sience
2. Course Code:
Insect Sience /Third stage
3. Semester / Year:
٢٠٢٤-٢٠٢٥
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class attendance inside the classroom + attendance inside the laboratory + electronic classes on the (Google Classroom) platform, which will be a supporting class for the in-person class, according to the controls and instructions of the Ministry of Higher Education and Scientific Research
٦. Number of Credit Hours (Total) / Number of Units (Total)
٦٠ hours
٧. Course administrator's name (mention all, if more than one name)
Dr.Thabet Mudheher Khalaf Email:Dr.thabit@tu.edu.iq Assistant Teacher Zahra Khalil Asmail Email: zkhalil@tu.edu.iq
8. Course Objectives

Course Objectives	.....
	Introducing the student to all parts and types of insects • ٢. The student knows the difference between harmful and beneficial insects • ٣. Introducing the student to the components of the insect's internal systems • ٤. Introducing the student to entomology and its relationship to other sciences

9. Teaching and Learning Strategies

Strategy	Providing psychological motivation to achieve scientific goals Providing modern scientific lectures that keep pace with developments and from various sources

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٢	Understanding the ideas of the topic and being able to apply it with examples	General introduction, definition of entomology, the importance of insects, and the relationship of insects with humans and animals	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢	٢	Understanding the ideas of the topic and being able to apply it with examples	Sciences related to entomology	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٣	٢	Understanding the ideas of the topic and being able to apply it with examples	The presence of insects, the reasons for their success and spread, and important sources	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٤	٢	Understanding the ideas of the topic and being able to apply it with examples	Location of insects in the animal kingdom, comparing insects with other types	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٥	٢		General characteristics of the external appearance of the body wall, its areas and benefits	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests

٦	٢	Understanding the ideas of the topic and being able to apply it with examples	Areas of the body: the head, its types, mouth parts, their definition, and study of mouth parts mutations	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٧	٢	Understanding the ideas of the topic and being able to apply it with examples	Eyes, their types, compound and simple, and the structure, number, and arrangement of eyes	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٨	٢	Understanding the ideas of the topic and being able to apply it with examples	Tentacles: their definition, composition, types and benefits	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٩	٢	Understanding the ideas of the topic and being able to apply it with examples	The chest has its rings, the composition of the wingless and winged chest	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٠	٢	Understanding the ideas of the topic and being able to apply it with examples	Legs, their types, components and benefits. Wings, their types. Flight mechanics and wing clamping devices.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١١	٢	Understanding the ideas of the topic and being able to apply it with examples	The abdomen, the number of rings, their arrangement, and their areas. The external reproductive organs of males and females	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٢	٢	Understanding the ideas of the topic and being able to apply it with examples	Internal anatomy of the digestive system and its appendages	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests

١٣	٢	Understanding the ideas of the topic and being able to apply it with examples	The nervous system and its types	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٤	٢	Understanding the ideas of the topic and being able to apply it with examples	The respiratory system and its types	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٥	٢	Understanding the ideas of the topic and being able to apply it with examples	The blood circulatory system, its components and blood functions	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٦	٢	Understanding the ideas of the topic and being able to apply it with examples	Sense organs, mechanical receptors, hearing organs, chemical receptors, organs of sight, organs for sensing temperature and humidity.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٧	٢	Understanding the ideas of the topic and being able to apply it with examples	Growth and transformation stages: immature stages The egg, the juvenile, the nymph, the larva and its types, the pupa, and the definition of metamorphosis and its types Methods of reproduction in insects	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests

١٨	٢	Understanding the ideas of the topic and being able to apply it with examples	The method of understanding between insects, between individuals of the same species, between individuals of different species, pheromones, sounds, and movements	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٩	٢	Understanding the ideas of the topic and being able to apply it with examples	Insect classification, taxonomy, its definition, types, and historical stages	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢٠	٢	Understanding the ideas of the topic and being able to apply it with examples	Binary scientific nomenclature and its laws	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢١	٢	Understanding the ideas of the topic and being able to apply it with examples	The concept of species, subspecies, and primary and secondary taxonomic ranks. Basis of classification and basic characteristics. Different ranks.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢٢	٢	Understanding the ideas of the topic and being able to apply it with examples	The most important insect orders from an economic standpoint	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢٣	٢	Understanding the ideas of the topic and being able to apply it with examples	Honey bees, their benefits, diseases, definition of the colony, its characteristics, division of labor among the colony members	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests

٢٤	٢	Understanding the ideas of the topic and being able to apply it with examples	The concept of insect pest control and its types	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢٥	٢	Understanding the ideas of the topic and being able to apply it with examples	Hormones, definition of the hormone, youth hormone, how it works, moulting hormone, how it works	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢٦	٢	Understanding the ideas of the topic and being able to apply it with examples	The role of hormones in insect control recently	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢٧					

11. Course Evaluation	
Distributing the score out of ١٠٠ according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written , reports.....etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision
Program vision is written here as stated in the university's catalogue and website.
٢. Program Mission
Program mission is written here as stated in the university's catalogue and website.
٣. Program Objectives
١- Providing the Ministry of Education with staff specialized in teaching life sciences in secondary schools ٢- Enabling female students to become familiar with embryology ٣- Enhancing female students' awareness of the horizons of life sciences and providing them with scientific and practical skills ٤- Providing graduates with the skills of teaching life sciences to secondary school students using appropriate teaching methods and providing them with modern means of clarification and scientific communication skills.
٤. Program Accreditation
Nothing
٥. Other external influences
Research activities, observation and application in secondary school
٦ Program Structure

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

Department Requirements	٢	٦		Basic
Summer Training				
Other				

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

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Yearly		Embryology	٢	٢

٨. Expected learning outcomes of the program

A- Cognitive objectives

A١- Enabling students to know the principles of embryology

A٢- Enabling students to know how the process of embryonic growth and development occurs

A٣- Teaching students how to connect with other branches of life sciences

A٤- Teaching students modern technical skills in studying life sciences

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

B- The program's skill objectives

B١ - Enabling students to become familiar with methods of teaching, measuring and evaluating the scientific subject

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

B٢ - Enabling students to choose the appropriate teaching method for each scientific subject

B٣ - Enabling students to solve problems related to students' understanding of scientific material by using theories of educational psychology and modern teaching methods.

١- The student represents a good role model for those around her

٢- Forming a general category of good values

٣- Providing psychological motivation to achieve scientific goals

C- Emotional and value goals.

C١- Raising the student to love life sciences

C٢- Identify the beauties of life sciences

C٣- The ability to deal with educational and classroom life situations.

D - General and qualifying transferable skills (other skills related to employability and personal

development).
D١- Scientific dialogue and discussion skills
D٢- Skills in modern technologies in communications, documentation, and communication with scientific institutions and centers
D٣- Teamwork skills related to scientific research
D٤- Skills for solving educational problems using educational and psychological programs and methods

٩. Teaching and Learning Strategies

١- Inductive (deductive) method

٢- How to solve problems

٣- Preparing training courses and seminars to give female students the ability to communicate with society

٤- Classroom interaction and exchange of opinions between the student and the teacher to raise learning difficulties and discuss their solutions

١٠. Evaluation methods

١- Oral and written tests, individual and group, theoretical and practical

٢- Direct observation of the student's performance in the areas of dialogue, intellectual and scientific communication, and team work within the classroom and the college and university environment.

٣- Assigning female students to prepare scientific research to test their ability to think, deduce, and solve problems

١١. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Assistant Professor	Biology	Embryology			٣٨	

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

١- Scientific communication through seminars, conferences, and joint work with competent cadres in similar specializations

٢- Access international studies in similar departments to develop the ability to research and solve scientific problems

٣- Engage in acquiring modern scientific expertise and skills in the field of modern

١٢. Acceptance Criterion

١- Admission to the college follows the central distribution system followed by the Ministry of Higher Education and Scientific Research, according to the admission form in Iraqi universities and institutes, and by balancing the student's desire and the total he obtained.

٢- Admission to the Department of Life Sciences is subject to the decision of a specialized committee in the department that balances the student's desire and her grade in biology in the final exam for the sixth grade in the secondary stage.

١٣. The most important sources of information about the program

١- A link to the program on the Internet and its applications in similar universities

٢- Training courses held by the quality and university performance departments on the program in various institutes and colleges in Iraq

١٤. Program Development Plan

١- Diversity in the approved sources for course topics

٢- Search for all innovations in this science, including research and studies

٣- Benefiting from the results of recent research in this field

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Second		Embryology	Basic												

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

Course Description Form

1. Course Name:Embryology
2. Course Code:
3. Semester / Year:
Year ٢٠٢٤-٢٠٢٥
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms: Classrooms
٦. Number of Credit Hours (Total) / Number of Units (Total) ٦٠\٦
٧. Course administrator's name (mention all, if more than one name)
Name: Israa Hashem Ali Email:iAli@tu.edu.iq
8. Course Objectives

Course Objectives	Providing students with detailed information about embryology, including a historical overview of the emergence of this science or its historical development, the factors influencing it and its most important elements, learning about the concept of embryology and its relationship to other sciences, studying modern theories and the most important modern discoveries, and everything related to the growth and development of the fetus.

9. Teaching and Learning Strategies

Strategy	Standard method (automatic). -Text method. -Inductive (deductive) method. - How to solve problems.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
October ١	٢		The introduction	The standard method, the text method,	in class performance and exams
October ٢	٢		History of	The standard method, the text	in class performance

			embryology	method,	and exams
October ٣	٢		Theories of embryogenesis	The standard method, the text method,	in class performance and exams
October ٤	٢		Fields of embryology	The standard method, the text method,	in class performance and exams
November ١	٢		Sperm formation	standard method How to solve problems	in class performance and exams
November ٢	٢		Egg formation	standard method How to solve problems	in class performance and exams
November ٣	٢		Sexual cycles	standard method How to solve problems	in class performance and exams
November ٤	٢		Fertilization	standard method How to solve problems	in class performance and exams
December ١	٢		Parthenogenetic reproduction	standard method How to solve problems	in class performance and exams
December ٢	٢		Cleavage	standard method How to solve problems	in class performance and exams
December ٣	٢		Blastula formation	standard method How to solve problems	in class performance and exams
December ٤	٢		Gastrulation formation	standard method How to solve problems	in class performance and exams
January ١	٢		Destiny maps	Deductive method Method of solving problems	in class performance and exams
January ٢	٢		Form-forming movements	standard method How to solve problems	in class performance and exams
January ٣	٢		Growth and differentiation	standard method How to solve problems	in class performance and exams
January ٤	٢		Embryonic induction	standard method How to solve problems	in class performance and exams
February ١	٢		Embryonic formation of the Amphioxus Lanceolatus	standard method How to solve problems	in class performance and exams
February ٢	٢		Amphibian embryos	standard method How to solve problems	in class performance and exams
March ١	٢		Embryonic	standard method How to solve	in class performance

			formation of the frog	problems	and exams
March ٢	٢		Bird embryos	standard method How to solve problems	in class performance and exams
March ٣	٢		Embryonic formation of chickens	standard method How to solve problems	in class performance and exams
March ٤	٢		Stem Cells	standard method How to solve problems	in class performance and exams
April ١	٢		Apoptosis	standard method How to solve problems	in class performance and exams
April ٢	٢		Twins	standard method How to solve problems	in class performance and exams
April ٣	٢		Congenital malformations	standard method How to solve problems	in class performance and exams
April ٤	٢		Artificial insemination	standard method How to solve problems	in class performance and exams
May ١	٢		Placenta	standard method How to solve problems	in class performance and exams
May ٢				How to solve problems	
May ٣,٤					

cource Evaluations
Formative or formative assessment (daily exams, class discussion, homework assignments and their follow-up, classroom calendar).
-Diagnostic evaluation (٥٠ semester exams and ٥٠ final exams to issue judgments of success and failure)

Learning and Teaching Resources
Embryology - Planets Abdul Qadir Al-Mukhtar
Medical Embryology - Richard Snell Translated by Talee Bashour
Scientific journals issued by colleges of medicine, veterinary medicine, and science
Scientific, medical and health websites

١. Program Vision

The vision of the Department of Life Sciences revolves around preparing scientifically and educationally qualified female teachers in order to create responsible and responsible generations and build the personality of the graduate in an integrated manner to provide them with the knowledge and skills to face and solve difficulties in the field of scientific research that contributes to the progress of society and contributes to the process of preparing and developing human resources and preparing teaching staff to support middle and secondary schools to serve the scientific and educational process and achieve the goals of higher education and the goals of the College of Education in light of the central philosophy of the state and serving civil society and holding conferences, seminars and workshops, whether in person or electronically remotely, and conducting a group of discussion groups, workshops, courses and seminars.

٢. Program Mission

The Department of Life Sciences is one of the departments of the College of Education for Girls. It is one of the departments that was established in ١٩٨٧. The initial study period is four years. This department awards a bachelor's degree to enable it to work in the teaching profession in secondary education for the subject of biology and science.

٣. Program Objectives

The objectives of the Department of Life Sciences are divided into three types: cognitive and scientific objectives at the theoretical and applied levels, valuable objectives at the scientific level, and skill objectives at all levels. Building the capabilities and capacities of graduates and members of the Department of Life Sciences. In addition to the objectives mentioned above, there are other objectives: ١- Preparing and developing female students and expanding their sensory, intellectual, and scientific awareness of all subjects, whether scientific or literary, in a way that qualifies them for teaching and scientific research in the institutions of the Ministry of Education and other ministries that can benefit from the scientific experiences of students graduating from the department. ٢- Enabling female students to rely in their practical lives on applying scientific methods in dealing with problems and situations by relying on practical studies in analysis and study, especially in the fields and research studies that serve and benefit society. ٣- Preparing and developing the scientific sense of some distinguished female students in order to keep pace with their scientific studies,

including submitting them to postgraduate studies by urging and encouraging them to be a basic foundation in academic institutions with this expertise and the need of departments as instructors who serve in their various fields and according to their scientific specializations. ٤- Building and preparing scientifically, professionally and culturally for students and graduates of the Department of Life Sciences and enabling them to master and know the facts and theoretical concepts related to biology. ٥- Qualifying students and graduates of the Department of Life Sciences for the purpose of understanding the basic principles that qualify them to teach in educational institutions and contribute to scientific research in all cognitive specializations. ٦- Developing beneficial behaviors and values among female students in a manner that is consistent with Arab and Islamic values and the principles of other heavenly religions and to reach the highest levels of value, intellectual and scientific maturity.

٤. Program Accreditation

Does the program have program accreditation? And from which agency?

٥. Other external influences

Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١
Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general

١١. Faculty

Faculty Members

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

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. Program Development Plan

١- Diversity in the approved sources for course topics
٢- Search for all innovations in this science, including research and studies

٣- Benefiting from the results of recent research in this field

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: Practical histology
2. Course Code:
3. Semester / Year:
Year ٢٠٢٤-٢٠٢٥
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
٦. Number of Credit Hours (Total) / Number of Units (Total) ٦٠\٦
٧. Course administrator's name (mention all, if more than one name)
Name: halahameed الايميل halahameed@tu.edu.iq Israa Abdel Moneim Mohamed الايميل israa.mohammed@tu.edu.iq
8. Course Objectives

Course Objectives	Providing students with detailed information about practical histology, including how the histologyof some selected animal models grow using prepared sections on glass slides to be examined under a light microscope, or preserved models.
9. Teaching and Learning Strategies	
Strategy	Standard method (automatic). -Text method. -Inductive (deductive) method. - How to solve problems.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٢		Introduction: Section One: Primary tissues	The standard method, the text method,	in class performance and exams
٢	٢		Epithelial tissues (covering and lining): their characteristics and	standard method How to solve problems	in class performance and exams

			classification		
٣	٢		Glandular epithelial tissue: definition and classification	standard method How to solve problems	in class performance and exams
٤-٥	٢		Connective tissues: their features, elements, and classification	standard method How to solve problems	in class performance and exams
٦-٧	٢		Native connective tissues and specialized connective tissues (cartilage, bone, blood, lymph, hematopoietic tissue)	standard method How to solve problems	in class performance and exams
٨	٢		Muscle tissue: smooth muscle, skeletal muscle, cardiac muscle	standard method How to solve problems	in class performance and exams
٩-١٠	٢		Nervous tissue: nerve cell, types of nerve cells, nervous mechanisms, glial cells, nerve cord, cerebellum	standard method How to solve problems	in class performance and exams
١١-١٢	٢		Section Two: Organ tissue/circulatory system: capillaries, arteries, veins, heart	standard method How to solve problems	in class performance and exams
١٣	٢		Integumentary system: skin, hair, nail	standard method How to solve problems	in class performance and exams
١٤-١٥-١٦	٢		Digestive system: mouth (lip, tongue, tooth), digestive tube (esophagus, stomach, small and large intestine), digestive glands (liver, pancreas)	standard method How to solve problems	in class performance and exams
	٢		Digestive system: mouth (lip, tongue, tooth), digestive tube (esophagus, stomach, small and large intestine), digestive glands (liver, pancreas)	standard method How to solve problems	in class performance and exams
١٧-١٨	٢		Respiratory system: trachea, bronchus, lung	standard method How to solve problems	in class performance and exams

١٩-٢٠	٢		Urinary system: kidney, ureter	Deductive method Method of solving problems	in class performance and exams
٢١-٢٢-٢٣	٢		Lymphatic system: lymph nodes, thymus, spleen	standard method How to solve problems	in class performance and exams

cource Evaluations
Formative or formative assessment (daily exams, class discussion, homework assignments and their follow-up, classroom calendar).
-Diagnostic evaluation (٥٠ semester exams and ٥٠ final exams to issue judgments of success and failure)

Learning and Teaching Resources
Basic histology (Junqueira,L.C. and Cameira.J,.(٢٠١٦)
Assiut Veterinary Medicine Journal
Embryologia and Histologial arabicwww.jarir.com

١. Program Vision

A specialist in providing an educational program based on the department and curricula of scientific research in the field of life sciences, specializing in modern innovation methods and modern teaching techniques that lead to the graduation of modern, highly qualified, specialized cadres, whether in the field of life sciences, or a scientific or non-scientific researcher. This is one of the professions that require and now we have its occupants with an information background in the field of various life sciences, such as tourism, antiquities, libraries, archives, and others. From here, the department has a strategic vision in subjecting problems in the field of life sciences to research and study with the aim of reaching an understanding of them within a useful framework in the vision of scientific cognitive expertise to reach the renaissance in the field of life sciences in society and solve problems.

٢. Program Mission

Providing an academic research educational service through which distinguished graduates, male and female, can be prepared in the field of life sciences in general, who are able to play their role within society in a positive and effective manner, especially in the field of research, including life sciences, teaching and consulting, and providing knowledge in the field of life sciences that helps in understanding and solving many of the problems facing the development of society, as biology has a fundamental role, not a secondary one, in the progress and building of society in order to achieve a bright future.

٣. Program Objectives

١. Strengthening the mission and position of the College of Education for Girls and Tikrit University in fulfilling its mission and scientific objectives.
-٢. Preparing graduates specialized in the field of life sciences to work in educational and functional fields in various community institutions in order to contribute to the renaissance of modern Iraq.
-٣. Developing analytical skills and the ability to systematically decompose and reconstruct biological material and familiarity with terminology, concepts and information, and developing skills in dealing with biological concepts to prepare biological researchers to serve their community and the world.
-٤. Providing biological studies and research in all fields in order to contribute to the development of society and its progress in the field of education and learning.
-٥. Directing the study of life sciences to serve society and research centers.
-٦. Employing scientific and technological development in education, studies and research in biology.

-٧. Conducting focused studies in biological sciences for undergraduate and graduate students through in-depth scientific research and analyzing information according to a scientific perspective.
٨ Holding seminars and conferences that address the most important problems in the biological aspect and contributing to finding appropriate solutions for them.
٩ Participation of faculty members in local, regional and international scientific conferences.
١٠ Scientific, cognitive and cultural exchange with other similar departments in Iraqi universities.

٤. Program Accreditation

non

٥. Other external influences

Field visits - conducting training and educational courses - school application - practical laboratory training

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
		Microbiology	theoretical	practical

			Two hours	Two hours

٨. Expected learning outcomes of the program

Knowledge

Distinguishing between types of bacteria

Distinguishing between Gram-negative and Gram-positive bacteria

Request research on types of bacteria

Staining of bacteria in the laboratory with Gram stain

Skills

Enabling students to conduct practical experiments in the laboratory and learn about the most important tools used in conducting experiments.

Enabling students to solve problems related to the method that suits students in the practical lesson to complete the tasks required in the laboratory, such as preparing and diagnosing slides.

Requesting the conduct of reports and research, how to prepare them, searching for information, and translating modern sources

Learning Outcomes 2	Teaching them research methodology and precise controls for conducting research
Learning Outcomes 3	Learning Outcomes Statement 3

Ethics

Daily and monthly exams and reports

Attendance scores
Monthly exams, daily exams, and daily preparation
final exams

٩. Teaching and Learning Strategies

Method of delivery (lecture)

Method of discussion and interrogation

Method of solving problems

Giving homework related to the topic

Clarifying and explaining study materials by academic staff through the use ofthe whiteboard, smart board, educational laboratory, videos, pictures, and Data Show.

١٠. Evaluation methods

Daily exams, commitment to attendance

Semester and final exams to issue judgments of success and failure

Practical tests in laboratories

Assigning female students to prepare scientific research to test their abilities to think, deduce, and solve problems

١١. Faculty

Faculty Members

Academic Rank assistant teacher	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special	nothing		Staff	**Lecturer**
	Life sciences	Microbiology			permanent	

Professional Development

Mentoring new faculty members

-Using modern scientific sources.

-Using high-speed communication networks to transfer information, such as the Internet.

-Visits and practical practices in service laboratories.

-Acquiring modern scientific experiences and skills in the field of modern technical communication.

Professional development of faculty members

١٢. Acceptance Criterion

-Acceptance according to the general and central average system.

- Admission to departments according to the student's desire and grade point average.

- Provided that the student is a graduate of preparatory school and the scientific stream exclusively.

- The accepted student's personal and mental safety and freedom from physical disabilities.

- The absorptive capacity of the college departments.

١٣. The most important sources of information about the program

١- The curriculum approved by the Ministry of Higher Education and Scientific

Research and its guidelines.

٢- Decisions and recommendations of the scientific committees at the university.

٣- Courses in teaching methods.

٤- Training courses held by the college on e-learning platforms

٥- Research on the Internet for similar experiences.

٦-Personal experiences.

٧- Training courses held by university quality and performance departments on the program in various institutes and colleges

١٤. Program Development Plan

١- The curriculum approved by the Ministry of Higher Education and Scientific Research and its guidelines.

٢- Decisions and recommendations of the scientific committees at the university.

٣- Courses in teaching methods.

٤- Training courses held by the college on e-learning platforms

٥- Research on the Internet for similar experiences.

٦-Personal experiences.

٧- Training courses held by university quality and performance departments on the program in various institutes and colleges

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
٢٠٢٣-٢٠٢٤		Microbiology													

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

Course Description Form

1. Course Name: Microbiology	
2. Course Code:	
3. Semester / Year: _	
٢٠٢٤-٢٠٢٥	
4. Description Preparation Date: /	
١٨/٩/٢٠٢٤	
٥. Available Attendance Forms: Class attendance inside the classroom + attendance inside the laboratory + electronic classes on the Google platform classroom) will be a supporting class for the attendance class and according to the controls and instructions of the Ministry of Higher Education and Research	
٦. Number of Credit Hours (Total) / Number of Units (Total) ٦٠ hours/٢ units	
٧. Course administrator's name (mention all, if more than one name) Sarah Abdel Hamid Hassan Ali Sarah.Abdulhameed٢٣٥@tu.edu.iq	
....	
8. Course Objectives	
Course Objectives	١- Developing students' ability to follow and understand speech Developing their ability to distinguish between main ideas And high school. ٢- Urging students to obtain knowledge Information and the ability to draw conclusions. ٣- Developing their abilities to make quick summaries Comprehensive aspects of the topic. ٤- Introducing students to bacterial groups, their importance and harm. ٥-Bacterial diagnosis and classification. ٦- Introducing students to the types of bacteria and distinguishing between them.
9. Teaching and Learning Strategies	

Strategy	It can be defined as a set of strategic rules. It can be defined as a set of general rules and broad lines that concern the means of achieving The desired goals of teaching refer to the methods and plans followed by faculty members to reach learning goals.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٢		An introductory introduction to microbiology	Standard method	Class performance and exams
٢	٢		Learn about laboratory equipment, how to use them, and what their purpose is Knowledge of laboratory safety precautions	Practical lesson in the laboratory	practical application
٣	٢		Sterilization	Standard method	Class performance and exams
٤	٢		Chemical sterilization	Standard method	Class performance and exams
٥	٢		Physical sterilization	Standard method	Class performance and exams
٦	٢		Bacterial growth in culture medium	Practical lesson in the laboratory	practical application
٧	٢		Diagnosis of bacteria on solid media	Practical lesson in the laboratory	practical application
٨	٢		Diagnosis of bacteria on liquid media	Practical lesson in the laboratory	practical application
٩	٢		Bacterial movement	Practical lesson in the laboratory	practical application
١٠			Application in school		
١١			Application in school		

١٢			Application in school		
١٣			Application in school		
١٤			Application in school		
١٥			Application in school		
١٦			Application in school		
١٧			Application in school		
١٨	٢		Bacteria shapes	Standard method	Class performance and exams
١٩	٢		Bacterial staining	lesson in the laboratory	practical application
٢٠	٢		Antibiotic sensitivity testing	lesson in the laboratory	practical application
٢١	٢		Quantification of sensitivity	lesson in the laboratory	practical application
٢٢	٢		Microbiological examination of water	Standard Method	Class performance and exams
٢٣	٢		Sources of water pollution	Standard method	Class performance and exams
٢٤	٢		Isolation and enumeration of water bacteria	lesson in the laboratory	practical application
٢٥	٢		Bacterial census	Standard method	Class performance and exams
٢٦	٢		Some important bacterial genera in soil	Standard method	Class performance and exams
٢٧	٢		Factors affecting the presence of bacteria in soil	Standard method	Class performance and exams

٢٨	٢		Viruses	Standard method	Class performance and exams
٢٩	٢		Methods for diagnosing viruses	Standard method	Class performance and exams

11. Course Evaluation

The grade distribution out of 15 is as follows: First semester exam of 6 and daily exam score

Second semester exam of 7 and grade on reports

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Microbiology Dr. Amin Salman Badawi Microbiology principles and Explorations
Electronic References, Websites	Prescott

١. Program Vision

The Plant Physiology course aims to provide students with a comprehensive understanding of the vital processes occurring in plants, such as photosynthesis, respiration, and nutrient absorption. Students will gain a deep insight into the mechanisms that support plant growth and adaptation to the environment. The course enhances scientific thinking and develops research and experimental skills in plant sciences.

٢. Program Mission

The Plant Physiology course seeks to equip students with a thorough understanding of physiological processes in plants and their impact on the environment. It aims to enhance critical thinking and scientific research skills, enabling students to apply physiological concepts in agriculture and environmental fields, and to support sustainability and adaptation to climate change.

٣. Program Objectives

The objectives of the Plant Physiology course include: enhancing students' understanding of fundamental biological processes in plants, developing research and experimental skills, supporting the ability to analyze biological data, and raising awareness of the importance of plants in the environment. It also aims to stimulate critical thinking about contemporary environmental and agricultural challenges.

٤o mini

٤. Program Accreditation

Does the program have program accreditation? And from which agency?

٥. Other external influences

Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical

٨. Expected learning outcomes of the program

Knowledge	
Learning Outcomes ١	Learning Outcomes Statement ١
Skills	
Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes S	Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. 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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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:
Plant physiology
2. Course Code:
Plant physiology / fourth stage
3. Semester / Year:
٢٠٢٤-٢٠٢٥
4. Description Preparation Date:
٢٠٢٤/٩/١٨
٥. Available Attendance Forms:
Class lectures + electronic lectures
٦. Number of Credit Hours (Total) / Number of Units (Total)
٩٠ hours
٧. Course administrator's name (mention all, if more than one name)

Shaymaa Ali Hassan Shaymaa.Ali@tu.edu.iq

8. Course Objectives	
Course Objectives	Enabling students to understand the mechanism by which a plant organ can perform its functions • Introducing students to the most prominent scientists in physiology and plants and their innovations, inventions and theories in the field of plant physiology. • The student understands the mechanism of transport of water, nutrients and hormones within the plant • •

9. Teaching and Learning Strategies	
Strategy	Providing psychological motivation to achieve scientific goals- Providing modern, eloquent scientific lectures that influence the scientific aspect, which encourages students to believe in the role of plant physiology in providing food security.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
October ١	٢		The concept of plant physiology	Standard method, text method	Class performance and exams
October ٢	٢		Plant water relations	Standard method, text method	Class performance and exams
October ٣	٢		Solutions	Standard method, text method	Class performance and exams
October ٤	٢		Osmotic potential	Standard method, text method	Class performance and exams
November ١	٢		Water absorption	Standard method, text method	Class performance and exams
November٢	٢		Transpiration concept	Standard method, text method	Class performance and exams
November ٣	٢		Mineral nutrition	Standard method, text method	Class performance and exams
November٤	٢		Effective absorption	Standard method, text method	Class performance and exams
December١	٢		Photosynthesis	Standard method, text method	Class performance and exams
December ٢	٢		Dark interactions	Standard method, text method	Class performance and exams
December٣	٢		Photosynthesis factors	Standard method, text method	Class performance and exams
December٤	٢		Phloem transport	Standard method, text method	Class performance and exams
January ١	٢		Breathing	Standard method, text method	Class performance and exams
January ٢	٢		Plant growth and formation	Standard method, text method	Class performance and exams
January ٣	٢		Growth regulators	Standard method, text method	Class performance and exams
January٤	٢		Gibberellins	Standard method, text method	Class

					performance and exams
February ١	٢		Cytokinins	Standard method, text method	Class performance and exams
February ٢	٢		Abscisic acids	Standard method, text method	Class performance and exams
March ١	٢		Ethylene	Standard method, text method	Class performance and exams
March ٢	٢		Photoperiod	Standard method, text method	Class performance and exams
March ٣	٢		Plant movements	Standard method, text method	Class performance and exams
March ٤	٢		Phytochrome	Standard method, text method	Class performance and exams
April١	٢		Plant movements	Standard method, text method	Class performance and exams
April٢	٢		Affiliative and positional movements	Standard method, text method	Class performance and exams
April ٣	٢		Seed germination and latency	Standard method, text method	Class performance and exams
April ٤	٢		Causes of latency	Standard method, text method	Class performance and exams
Mays١	٢		Medicinal plants	Standard method, text method	Class performance and exams
mais٢			General Review		
May ٣ and ٤			final exams		

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

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 5	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:	
Animal physiology	
2. Course Code:	
3. Semester / Year:	
2024 -2025 year	
4. Description Preparation Date:	
18/9/2024	
5. Available Attendance Forms:	
Class lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
42	
7. Course administrator's name (mention all, if more than one name)	
Name: or. Dr. Iktifaa Abdel Hamid Mohammed Saeed Email: Iktifaa_kumait@tu.edu.iq	
8. Course Objectives	
Course Objectives	1_ Helping students understand the physiology of the organs found in body. 2_ Preparing scientific and qualitative staff specialized in the field of science Life for the purpose of improving the educational situation in the country. 3_ Teaching students writing and speaking skills at all levels Analytical by referring to the latest findings of modern science in The field of animal physiology. 4_ The program serves the university by providing students with higher education Quality by reviewing the latest research results Scientific developments at the theoretical and practical levels. 5_ The Ministry of Education and the Ministry of Higher Education and Scientific Research With specialized staff with competence in the field of life sciences
9. Teaching and Learning Strategies	

Strategy	1_ Using the method of lecture, interrogation and discussion 2_ Assigning students to do research and reports. 3_ Assigning students to do assignments related to the scientific subject.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2		Physiology and its general principles Physiology of the nervous system	Lecture and interrogation	Class performance
2-3	4		Muscular system physiology	Lecture and discussion	Class performance
4	2		Respiratory system physiology	Lecture and discussion	Class performance
5-6	4		Physiology of the circulatory system	Lecture and interrogation	Class performance
7-8	4		Lymphatic system	Lecture and discussion	Class performance

9-10	4		Physiology of the nervous system	Lecture and interrogation	Class performance
11-12	4		Digestive system	Lecture and discussion	Class performance
13-14	4		The physiological effect of heat Energy metabolism	Lecture and interrogation	Class performance
15-16	4		Kidney and fluid regulation Physical	Lecture and discussion	Class performance
17-18	4		Endocrine glands	Lecture and interrogation	Class performance
19-20-21	6		Physiology of the reproductive system	Lecture and discussion	Class performance

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Program vision is written here as stated in the university's catalogue and website.

Program Vision The department seeks to provide an educational program that adopts modern scientific research methods and curricula in the field of life sciences, and uses advanced teaching methods that use modern techniques in teaching and research in order to graduate highly qualified specialized teaching staff, whether in the field of teaching life sciences, scientific research, or otherwise.

Among the professions whose nature requires their occupants to have a distinct information background in the field of life sciences, as a business Tourism, antiquities, libraries, archives, and others. Hence, the department has a strategic vision in subjecting problems in the field of life sciences to research and study with the aim of reaching an understanding of them within a scientific framework that helps in forming a scientific cognitive vision that leads to achieving a renaissance in the field of life sciences in society and addressing and solving them. Problems

Program mission is written here as stated in the university's catalogue and website. Program Mission Providing an academic research educational service through which male and female graduates can be prepared in the field of life sciences in general who are able to carry out their role within society in a positive and effective way, especially in the field of research within the field of life sciences, teaching and consulting, and providing knowledge in the field of life sciences that helps to understand and solve many problems. Among the problems facing society, biology has a fundamental and not a secondary role in the progress and building of society in order to achieve a bright future.

٣. Program Objectives

General statements describing what the program or institution intends to achieve.

١-Strengthening the mission and status of the College of Education for Girls and Tikrit University in carrying out its mission and scientific goals

٢- Preparing male and female graduates specialized in the field of life sciences to work in the educational and functional fields in various community institutions

in order to contribute to the renaissance of modern Iraq.

٣- Developing analytical skills and the ability to systematically disassemble and reassemble biological material, familiarity with terminology, concepts, and sciences, and developing skills for dealing with biological concepts

Providing biological studies and research in all fields in order to contribute to the development and development of society.

٥- Directing the study of life sciences in order to serve the community and research centers

٦- Employing scientific and technological development in education, studies and biological research.

٧- Conducting focused studies in biological sciences for undergraduate and postgraduate students through in-depth scientific research and analyzing information according to a scientific perspective.

٨- Holding seminars and conferences that address the most important problems in the biological aspect and develop solutions for them.

٩- Participation of faculty members in local, regional and international scientific conferences.

١٠- Scientific, cognitive and cultural exchange with other corresponding departments in Iraqi universities.

٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?
٦ Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	٥٦	١١٢	١٠٠	
College Requirements	٥٦	١١٢	١٠٠	

Department Requirements	٥٦	١١٢		
Summer Training				
Other	٥٦	١١٢	١٠٠	

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

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤		Plant physiology	theoretical	practical
Fourh stage				

٨. Expected learning outcomes of the program

Knowledge

Statement of learning outcomes, required program outcomes, and methods of teaching, learning, and evaluation: Cognitive objectives ١- That the student be able to have a scientific and objective understanding of the philosophy of studying plant physiology and the work of plant organs ٢- That the student be able to embody a clear picture of each plant organ and how it performs its function ٣- That the student learn In general, the specialization is plant physiology and the mechanism of action of each organ. ٤- That the student learns modern technical skills in theoretical and practical study. ١

Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

Skills

Statement of learning outcomes ٢ Skills objectives for the program ١- That the student be able to become familiar with methods of teaching, measuring and evaluating the scientific subject ٢- That the student be able to choose the appropriate teaching method for each scientific subject so that it presents it in an interesting way ٣- That the student be able to solve problems related to understanding the scientific subject in Students use theories of educational psychology and modern teaching methods, which facilitates the study and teaching of plant physiology

٩. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in implementing the program in general.

١- The standard method / lecturing / the text method / the descriptive, analytical and inductive method ٢- The problem-solving method / formative or formative assessment (daily exams, class discussion, homework assignments and their follow-up, class assessment) ٣- Diagnostic assessment (semester and final exams to issue judgments of success and failure)

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

١٠. Evaluation methods

١- Individual and group oral and written theoretical and practical tests ٢- Direct observation of the student's performance in the areas of dialogue, intellectual and practical communication, and teamwork within the classroom and the college and university environment ٢- Assigning female students to prepare distinctive scientific research to test their ability to think, deduce and solve problems.

Implemented at all stages of the program in general.

١١. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Dr.Ayyub Juma	Botany	Plant physiology				

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤		Plant physiology	Basic												
Fourth stage															

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

Course Description Form

1. Course Name:	
Plant physiolog	
2. Course Code:	
Plant physiology /fouth stage	
3. Semester / Year:	
Annual ٢٠٢٤-2025	
4. Description Preparation Date:	
١٨/٩/٢٠٢٤	
٥. Available Attendance Forms:	
Class lectures+electronic lectures	
٦. Number of Credit Hours (Total) / Number of Units (Total)	
٩٠ hourse	
٧. Course administrator's name (mention all, if more than one name)	
Name: Ayyub J.Abdlrahmaan Email:dr_ayyub_bio@tu.edu.iq	
8. Course Objectives	
Course Objectives	• . Enabling students to understand the mechanism by which a plant organ can perform its functions.... • Introducing female students to the most prominent physiological and botanical scientists and their innovations, inventions, and theories in the field of plant physiology.... • . The student understands the mechanism of transport of water, nutrients and hormones within the

	plant.... •

9. Teaching and Learning Strategies

Strategy	•- Providing psychological motivation to achieve scientific goals. •- Providing modern, eloquent scientific lectures affecting the scientific aspect, which encourages students to believe in the role of plant physiology in providing food security.

10. Course Structure

Week	Hours	Required Learn Outcomes	Unit or subject name	Learning method	Evaluation method
Oct.١	٢		The concept of plant physiology	Lectures + demonstration	Class performance and exams
Oct.٢	٢		Solutions	Lectures + demonstration	Class performance and exams
Oct.٣	٢		Osmotic pressure	Lectures + demonstration	Class performance and exams
Oct.٤	٢		Water absorption	Lectures + demonstration	Class performance and exams
Nov.١	٢		Transpiration concept	Lectures + demonstration	Class performance and exams
Nov.٢	٢		Minerai nutrition	Lectures + demonstration	Class performance and exams
Nov.٣	٢		Active Absoprption	Lectures + demonstration	Class performance and exams
Nov.٤	٢		Photosynthesid	Lectures + demonstration	Class performance and exams
Dec.١	٢		Dark Reactions	Lectures + demonstration	Class performance and exams
Dec.٢	٢		Photosynthesis factors	Lectures + demonstration	Class performance and exams
Dec.٣	٢		Phloem Transpiration	Lectures + demonstration	Class performance

					and exams
Dec.٤	٢		Plant growth and formation	Lectures + demonstration	Class performance and exams
Jun.١	٢		Plant regulations	Lectures + demonstration	Class performance and exams
Jun.٢	٢		Auxins	Lectures + demonstration	Class performance and exams
Jun.٣	٢		Gibbrilins	Lectures + demonstration	Class performance and exams
Jun.٤	٢		Cyotkinins	Lectures + demonstration	Class performance and exams
Feb.١	٢		Ethylin	Lectures + demonstration	Class performance and exams
Feb.٢	٢		Light perioApplication in schools d	Lectures + demonstration	Class performance and exams
Marc.١	٢		Application in schools		
Marc.٢	٢		Application in schools		
Marc.٣	٢		Application in schools		
Marc٤	٢		Application in schools		
Apr.١	٢		Dormancy reasonse	Lectures + demonstration	Class performance and exams
Apr.٢	٢		Medicinal plants	Lectures + demonstration	Class performance and exams
Apr.٣	٢		General Review	Lectures + demonstration	Class performance and exams
Apr.٤	٢		Selection and positional movement	Lectures + demonstration	Class performance and exams
May.١	٢		Seed germination and dormancy	Lectures + demonstration	Class performance and exams
May.٢	٢		Dormancy reasonse		
Mat ٣,٤			General Review		

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision

The department seeks to provide an educational program that adopts modern scientific research methods and approaches in biology field, and uses advanced teaching methods that utilize modern technologies in teaching and research to graduate highly qualified specialized teaching cadres, whether in the field of teaching life sciences, scientific research, or other professions whose nature requires their occupants to have a distinguished information background in the field of life sciences, such as tourism, antiquities, libraries, archives, and others. Hence, the department has a strategic vision in subjecting problems in the field of life sciences to research and study with the aim of reaching an understanding of them within a scientific framework that helps in forming a scientific cognitive vision that leads to achieving a renaissance in the field of life sciences in society and addressing and solving problems.

٢. Program Mission

It provides an academic research educational service through which distinguished graduates, male and female, can be prepared in biology field in general, who are able to play their role within society in a positive and effective manner, especially in the field of research, including the field of life sciences, teaching and consulting, and providing knowledge in the field of life sciences that helps in understanding and solving many of the problems facing the development of society. Biology has a fundamental role, not a secondary one, in the progress and building of society in order to achieve a bright future.

٣. Program Objectives

١- Strengthening the mission and position of the College of Education for Girls and Tikrit University in performing its mission and scientific objectives.

-٢ Preparing graduates specialized in the field of life sciences to work in educational and functional fields in various community institutions in

order to contribute to the renaissance of modern Iraq.

-٣ Developing analytical skills and the ability to systematically decompose and reconstruct biological material and familiarity with terminology, concepts and information, and developing skills in dealing with biological concepts to prepare biological researchers to serve their community and the world.

-٤ Providing biological studies and research in all fields in order to contribute to the development of society and its progress in the field of education and learning.

-٥ Directing the study of life sciences to serve society and research centers.

-٦ Employing scientific and technological development in education, studies and research in biology.

-٧ Conducting focused studies in biological sciences for undergraduate and graduate students through in-depth scientific research and analyzing information according to a scientific perspective.

٨ Holding seminars and conferences that address the most important problems in the biological aspect and contributing to finding appropriate solutions for them.

٩ Participation of faculty members in local, regional and international scientific conferences.

١٠ Scientific, cognitive and cultural exchange with other similar departments in Iraqi universities.

٤. Program Accreditation

Description: Required program outcomes, teaching, learning and assessment methods: Cognitive objectives: ١- The student will be able to scientifically and objectively understand the philosophy of studying parasitology and understand the important medical species theoretically and practically and diagnose them. ٢- The student will be able to embody a clear picture of the material and parasitic species in various fields of knowledge. ٣- The student will be familiar with the specialty of immunology. ٤- The student will learn modern technical skills in theoretical and practical study.
٥. Other external influences
Is there a sponsor for the program?
٦ Program Structure

Program Structure	No. of Courses	Unit Notes	Percentage
Institutional Requirements	٥٦	١١٢	١٠٠
College Requirements	٥٦	١١٢	١٠٠
Department Requirements	٥٦	١١٢	
Summer Training	**none**		
Other	٥٦	١٠٠	١٠٠

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

٧. Program Description

Learning Outcomes 2		Learning Outcomes Statement 2		
Learning Outcomes 3	Course Code	Learning Outcomes Statement 3	Credit Hours	
Year/Level ٢٠٢٤		Biology	theoretical	practical
fourth stage Learning Outcomes 4		Learning Outcomes Statement 4	٢	٢
Learning Outcomes 5		Learning Outcomes Statement 5		

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١ Knowledge of the required program outcomes and teaching, learning and evaluation methods: Cognitive objectives: ١- The student will be able to scientifically and objectively understand the philosophy of studying parasitology and understand the important medical species theoretically and practically and diagnose them. ٢- The student will be able to embody a clear picture of the material and parasitic

species in various fields of knowledge. ٣- The student will be familiar with the specialty of immunology. ٤- The student will learn modern technical skills in theoretical and practical study.

Program specific skill objectives: ١- The student should be able to master the methods of teaching, measuring and evaluating the scientific material. ٢- The student should be able to choose the appropriate teaching method for each scientific material so that it is presented in an interesting way. ٣- The student should be able to solve problems related to students' understanding of the scientific material by using theories of educational psychology and modern teaching methods, which facilitates the study and teaching of immunology.

٩. Teaching and Learning Strategies

Evaluation methods: ١- Individual and group oral and written tests, theoretical and practical. ٢- Direct observation of the student's performance in the areas of dialogue, intellectual and scientific communication, and teamwork within the classroom and the college and university environment. ٣- Assigning students to prepare distinguished scientific research to test their ability to think, draw conclusions, and solve problems.

.

١٠. Evaluation methods

. Evaluation methods

١- Individual and group oral and written tests, theoretical and practical. ٢- Direct observation of the student’s performance in the areas of dialogue, intellectual and scientific communication, and teamwork within the classroom and the college and university environment. ٢- Assigning students to prepare distinguished scientific research to test their ability to think, draw conclusions, and solve problems..

١١. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Pro. Dr.Ashraf Jamal Mahmoud	Biolog	Parasitology			Staff	
Dr.Sheilan Abid Alqader	Biology	parasitology			saff	

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤		invertebrate	Basic												
seconed stage															

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

Course Description Form

1. Course Name:
inverebrate
2. Course Code:
Biology / seconed stage
3. Semester / Year:
٢٠٢٥
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class Lecture + electronic lecture
٦. Number of Credit Hours (Total) / Number of Units (Total)
٧٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Name: Ashraf Jamal Mahm oud Email: dr.ash ..... raf_bi ..... o@tu. ..... edu.iq
8. Course Objectives

Course Objectives	١- Linking the scientific material to the external environment ٢- Exploring the invertebrates present in the environment ٣- Knowing the importance of these organisms in terms of benefits and harms to humans and their economic animals ٤- Knowing the pathogens transmitted by invertebrates as biological or mechanical vectors ٥- Knowing the methods of diagnosing and classifying invertebrates
9. Teaching and Learning Strategies	
Strategy	Using lecture, questioning and discussion method

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١-٢	٢	Introduction, Principles of Classification, Importance of Invertebrates, Biofouling, Parasitism		lecture, interrogation	assroom performance and exams
٣-٤-٥	٢	Phylum Protista		lecture, interrogation	Classroom performance and exams
٦	٢	Phylum Sponges		lecture, interrogation	Classroom performance and exams
٧-٨	٢	Phylum Cnidaria		lecture, interrogation	Classroom performance and exams
٩-١٠-١١-١٢-١٣-١٤	٢	Phylum Platyhelminthes		lecture, interrogation	Classroom performance and exams
١٥-١٦	٢	Phylum Aschehelminthes		lecture, interrogation	Classroom performance and exams
١٧-١٨	٢	Phylum Annelids		lecture, interrogation	Classroom performance and exams
١٩-٢٠	٢	Phylum Arthropoda		lecture, interrogation	Classroom performance and exams
٢١	٢	Phylum Bryophyta		lecture, interrogation	Classroom performance and exams
٢٢	٢	Phylum mollusic		lecture, interrogation	Classroom performance and exams
	٢	Final exams			Classroom performance and exams

11. Course Evaluation

The grade is distributed out of ١٠٠ according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly and written exams, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Recommended books and references	Of vertebrate paleontology
Electronic References, Websites	www.jstor.org www.reserchgate.net

١. Program Vision

The vision of the genetics course aims to enhance students' understanding of the fundamental principles of genetics and genes, with a focus on practical applications in fields such as medicine and agriculture. We strive to develop critical thinking and scientific research skills, enabling students to analyze genetic information and understand its impact on living organisms and society.

٢. Program Mission

The mission of the genetics course is to empower students to deeply explore the field of genetics and enhance their scientific and analytical thinking skills. We aim to provide a learning environment that fosters curiosity and discovery, helping students understand genetic foundations, their impacts on daily life, and their practical applications in various fields.

٣. Program Objectives

The genetics course aims to:

١. Enhance understanding of the fundamental concepts of genetics and genes.
٢. Develop research and scientific analysis skills.
٣. Apply genetic knowledge in fields such as medicine and agriculture.
٤. Raise awareness of the ethical and social challenges associated with genetics.
٥. Encourage critical thinking and innovation in scientific solutions.

٤. Program Accreditation

Does the program have program accreditation? And from which agency?

٥. Other external influences

Is there a sponsor for the program?

٦ 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.

٧. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Third stage ٢٠٢٤			٢	٢

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١ Learning Outcomes Statement ١

Skills	
Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣
Ethics	
Learning Outcomes ٤	Learning Outcomes Statement ٤
Learning Outcomes S	Learning Outcomes Statement ٥

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. 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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
		Genetics													

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

Course Description Form

1. Course Name:
Genetics
2. Course Code:
Genetics / Third Stage
3. Semester / Year:
year ٢٠٢٤-2025
4. Description Preparation Date:
٢٠٢٤/٩/١٨
٥. Available Attendance Forms:
Class lectures + electronic lectures
٦. Number of Credit Hours (Total) / Number of Units (Total)
٩٠ hours
٧. Course administrator's name (mention all, if more than one name)

Shaymaa Ali Hassan Shaymaa.Ali@tu.edu.iq

8. Course Objectives	
Course Objectives	The genetics course aims to: • ١. Enhance the understanding of fundamental concepts of genetics and genes. • ٢. Develop research and scientific analysis skills. • ٣. Apply genetic knowledge in fields such as medicine and agriculture. • ٤. Raise awareness of the ethical and social challenges related to genetics. • ٥. Encourage critical thinking and innovation

	in scientific solutions.

9. Teaching and Learning Strategies

Strategy	• Providing psychological motivation to achieve scientific goals. • Delivering impactful and eloquent modern scientific lectures that emphasize the scientific aspect, inspiring students to believe in the role of genetics.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
October ١	٢		Introduction to Genetics	Standard method, text method	Class performance and exams
October ٢	٢		Some important symbols in the study	Standard method, text method	Class performance and exams
October ٣	٢		Mendel's Laws	Standard method, text method	Class performance and exams
October ٤	٢		Lethal Genes	Standard method, text method	Class performance and exams
November ١	٢		Various Exercise	Standard method, text method	Class performance and exams
November٢	٢		Activities	Standard method, text method	Class performance and exams
November ٣	٢		Genes and Their Role in Mendelian	Standard method, text method	Class performance and exams
November٤	٢		Inheritance Types of Dominance	Standard method, text method	Class performance and exams
December١	٢		Sex Determination	Standard method, text method	Class performance and exams
December ٢	٢		Multiple Alleles	Standard method, text method	Class performance and exams

December٣	٢		Blood Group System	Standard method, text method	Class performance and exams
December٤	٢		Genetic Interaction and Pedigree Analysis	Standard method, text method	Class performance and exams
January ١	٢		Multiple Alleles	Standard method, text method	Class performance and exams
January ٢	٢		Blood Group System	Standard method, text method	Class performance and exams
January ٣	٢		Genetic Interaction and Pedigree Analysis	Standard method, text method	Class performance and exams
January٤	٢		Mendel's Hypotheses Codominance	Standard method, text method	Class performance and exams
February ١	٢		Sex-Linked Inheritance Human Genetics	Standard method, text method	Class performance and exams
February ٢	٢		Drosophila Fly Genetic Equilibrium	Standard method, text method	Class performance and exams
March ١	٢		Probabilities Chi-Square Test	Standard method, text method	Class performance and exams
March ٢	٢		Types of Crossbreeding	Standard method, text method	Class performance and exams
March ٣	٢		Test Cross	Standard method, text method	Class performance and exams
March ٤	٢		Back Cross	Standard method, text method	Class performance and exams
April١	٢		Self-Crossbreeding	Standard method, text method	Class performance and exams
April٢	٢		Branching Crossbreeding	Standard method, text method	Class performance and exams
April ٣	٢		Crossing Over	Standard method, text method	Class performance and exams
April ٤	٢		Blood Diseases	Standard method, text method	Class performance and exams
Mays١	٢		Genetic Diseases	Standard method, text method	Class performance and exams
mais٢			General Review		
May ٣ and ٤			Final Exams		

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision
Preparing female students who have a cognitive and practical interest in the environment, the ecosystem, and its protection
٢. Program Mission
Defining the environmental system and its relationship to other sciences and the factors affecting the environment and those affected by it
٣. Program Objectives
١. Giving female students the cognitive skill of types of pollutants and their sources. ٢. Making female students able to understand the importance of treating environmental pollution. ٣. Enabling female students to learn about technologies and methods of treating pollution. ٤. Making the student able to understand the ecosystem and its components.
٤. Program Accreditation
Theoretical and practical exams, oral questions, and preparing scientific reports
٥. Other external influences
Ministry of Higher Education and Scientific Research, Tikrit University, College of Education for Girls, and Department of Life Sciences

٦ Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	٢	٢ hours theoretical and ٢ hours practical		
College Requirements	٢	٢ hours theoretical and ٢ hours practical		
Department Requirements	٢	٢ hours theoretical and ٢ hours practical		
Summer Training				
Other				

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

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
year		Ecology and Pollution	theoretical	practical
			٢ hours	٢ hours

٩. Teaching and Learning Strategies

Theoretical lectures, computer and internet, electronic communication programs

١٠. Evaluation methods

Theoretical and practical exams, oral questions and preparation of scientific reports

١١. Faculty

Faculty Members

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

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤		Biology	Basic												
Third stage															

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

Course Description Form

1. Course Name:
Biology
2. Course Code:
Biology / third stage
3. Semester / Year:
year
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class Lecture + electronic lecture
٦. Number of Credit Hours (Total) / Number of Units (Total)
٧٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Name: Dr.Abid Ahmad Erdeni E mail: bioerdene@tu.edu.iq
8. Course Objectives

Course Objectives ١- Definition of environmental science ٢- Branches of environmental science ٣- The importance of studying the environment ٤- The ecosystem ٥- Environmental pollution, its sources, types and harms	....
9. Teaching and Learning Strategies	
Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٢		Definition of ecology, relationship of ecology to other sciences, branches	Lectures	Exams

			of ecology		
٢	٢		Ecosystem composition, types of ecosystems, ecological balance	Lectures	Exams
٣	٢		Cycles, water cycle, cycle of some gases,	Lectures	Exams
٦	٢		Midterm exam		
٧	٣		Factors determining productivity, energy flow and methods of measuring productivity, environmental pyramids	Lectures	Exams
٨	٢		Population group, regional, dominance levels	Lectures	Exams
٩	٢		Midterm exam		
١٠	٢		Tolerance laws, abiotic factors as limiting factors	Lectures	Exams
١١	٢		ecological succession	Lectures	Exams
١٢	٢		Ecosystem emergence, ecosystem evolution	Lectures	Exams

١٣	٢		Midterm exam		
١٤	٢		Ecoregions, aquatic environment, terrestrial environment	Lectures	Exams
١٥	٢		environmental pollution,	Lectures	Exams
١٦	٤		Air pollution	Lectures	Exams
١٧	٢		Water pollution	Lectures	Exams
١٨	٢		soil pollution	Lectures	Exams
١٩	٢		Midterm exam		

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision

The vision of the Department of Life Sciences contributes to the number of scientifically and educationally qualified teachers in order to create good generations that bear responsibility and build the personality of the graduate in an integrated building to provide her with knowledge and skills to face and solve difficulties in the field of scientific research that contributes to the progress of society and contributes to the process of preparing and developing manpower and preparing teaching staff that provide middle and secondary schools to serve the scientific and educational process and achieve the goals of higher education and the goals of the College of Education in the light of the central philosophy of the state, civil society service and holding conferences Seminars and workshops, whether in person or electronically, remotely, and a set of seminars, workshops, courses and seminars.

٢. Program Mission

The Department of Life Sciences is one of the departments of the College of Education for Girls, and it is one of the departments that were established

In ١٩٨٧, the initial study period is four years, this department grants a bachelor's degree

To enable her to work in the teaching profession in secondary education for biology and scienc

٣- Program Objectives

The objectives of the Department of Life Sciences are divided into three types: cognitive and scientific goals at the theoretical and applied levels, valuable goals at the scientific level, and skill goals at all levels. Building the capabilities and capabilities of graduates and employees of the Department of Life Sciences In addition to the goals mentioned, there are other goals

١- Preparing and developing students and expanding their sensory, intellectual and scientific perceptions of all subjects, whether scientific or literary, so as to qualify them for teaching and scientific research in the institutions of the Ministry of Education and other ministries that can benefit from the scientific experiences of students graduating from the department.

٢- Enabling students to rely in their practical lives on the application of scientific methods in addressing problems and situations by relying on practical studies in analysis and study, especially in fields and research studies that serve and benefit the community

٣- Preparing and developing the scientific sense of some distinguished students in order to keep pace with their scientific studies, including submitting them to postgraduate studies by urging

and encouraging them to be a basic base in the academic institutions with these experiences and the need of the departments as teachers serving in their multiple fields and according to their scientific specializations.

٤- Building and preparing scientifically, professionally and culturally for students and graduates of the Department of Life Sciences and enabling them to master and know the theoretical facts and concepts of biology

٥- Qualifying students and graduates of the Department of Life Sciences for the purpose of understanding the basic principles that qualify them to teach in educational institutions and contribute to scientific research in all cognitive disciplines

٦- Developing the beneficial behaviors and values of students in line with Arab and Islamic values and the principles of other monotheistic religions and to reach them to the highest levels of value, intellectual and scientific maturity

٤. Program Accreditation
No
٥. Other external influences
Field visits / conducting training and educational courses / school application / laboratory practical training

٦. Program Structure

Program Structure	Number of Courses	Unit of study	Percentage	Reviews
Requirements of the institution				
College Requirements				
Department Requirements				
Summer Training				
Other				

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

٧. Program Description

Year/Level	Course or Course Code	Course Name	Credit Hours

٢٠٢٤-٢٠٢٥ Phase III		Algae and Archegonhate	theoretical	practical
			Two hours	Two hours

٨. Expected Learning Outcomes of the Program	
Knowledge	
Learning Outcomes ١ ١- Enabling students with scientific knowledge and understanding and the purpose of studying algae and Archegonhate. ٢- Enabling students to know the genera of algae spread in different environments. ٣- Understand the role that algae play in the sustainability of balance and stability. ٤- Enabling students to diagnose types of algae and Archegonhate ٥- Enable students to understand how algae grow, spread, and reproduce methods	
Skills	
Learning Outcomes ٢ ١- Enabling students to collect, stabilize and examine samples ٢- Ability to discover, innovate and solve problems. ٣ - The ability to diagnose algae and identify their prevailing types. ٤- Dialogue with more than one student ٥- The use of algae science in the development of new algae varieties of high quality and specifications	LearningOutcomes Statement ٢ Enable students to solve problems related to the method that suits students in the practical lesson to accomplish the tasks required in the laboratory from the preparation and diagnosis of slides
Learning Outcomes ٣ Request for Reporting, Research, Research for Information and Translation of Modern Sources	Learning Outcomes Statement ٣ Teach them research methodology and precise controls for conducting research
Values	

Learning Outcomes ٤ Daily and monthly exams and reports	Learning Outcomes Statement ٤ Attendance Grades
Learning Outcomes ٥ Monthly and daily exams and daily preparation	Learning Outcomes Statement ٥ Final Exams

٩. Teaching and learning strategies

Method of delivery (lecture)

Method of discussion and questioning

Problem solving method

Give homework related to the subject

Clarification and explanation of study materials by the academic staff through the use of whiteboard and smart board

Educational Lab, Videos, Photos and Data Show

١٠. Evaluation methods

Implemented at all stages of the program in general

١- Daily and monthly exams and commitment to attend

٢_ Practical tests in laboratories

٣ _ Assigning students to prepare scientific research to test their abilities to think, conclude and solve problems

١١. Faculty

Faculty Members

Academic Rank	Specialization		Requirements/Skills (if applicable)	Preparation of the teaching staff	
	year	special		angel	lecturer
Assistant Lecturer	Biology	Environment	No	Yes	

Professional Development
Mentoring new faculty members

-Use of modern scientific sources

- Using fast communication networks to transmit information such as the Internet.

-Visits and practical practices in service laboratories .

- Acquire scientific and modern experiences and skills in the field of technical communication Talk.

Professional development of faculty members
Continuous improvement anddevelopment of faculty members through programs Training and workshops inside and outside- Department, University and Country. Increase extra-curricular activities such as conferences, scientific seminars and innovations Personal and sports locally . Regionally and internationally. Encouraging faculty members to obtain the highest scientific ranks and administrative - Providing modern scientific sources andbooks for the department's library to keep pace with progress Advanced in various sciences . Providing specialized software in the branches of life sciences and computers necessary for that with internet lines for all Teachers.

١٢. Acceptance Criterion
- Admission according to the general and central average system. - Admission to departments according to the student's desire and average. - The student must be a graduate of the preparatory school and the scientific branch exclusively. - The accepted student's personal and mental integrity and freedom from physical disabilities. The absorptive capacity of the college departments.

١٣. The most important sources of information about the program
١- Curriculum approved by the Ministry of Higher Education and Scientific Research and its guidelines ٢- Decisions and recommendations of the scientific committees at the university. ٣ - Courses in teaching methods. ٤ - Training courses held by the college on platforms E-Learning ٥- Research on the Internet for similar experiments . ٦- Personal experiences .

٧- Training courses held by the departments of quality and university performance on Program in various institutes and colleges

١٤. Program Development Plan

-Development of academic content by deletion, addition and replacement

-The use of modern teaching methods according to the nature of the subject and the level of Learners every now and then .

- The use of modern evaluation methods such as alternative and electronic evaluation .

- Establishing curriculum development courses .

- Holding seminars and workshops to keep pace with the development of curricula.

Program Skills Outline

Learning outcomes required from the program

Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Values			
٢٠٢٤-٢٠٢٥/Three Stage			Essential	A١	A٢	A٣	A٤	B١	B٢	B٣	B٤	C١	C ٢	C ٣	C ٤

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

Course Description Form

١. Course Name	
Algae and Archegonhate / practical	
٢. Course Code	
Algae and Archegonhate / Stage III	
٣. Semester/Year	
Yearly ٢٠٢٤-٢٠٢٥	
٤. Date of preparation of this description	
١٨/٩/٢٠٢٤	
٥. Available Attendance Forms	
Classroom + Lab + Classroom electronic on the Google platform classroom) It will be a supportive class for the attendance class and according to the controls and instructions of the Ministry Higher Education and Scientific Research	
٦. Number of credit hours (total) / number of units (total)	
٦٠/two units	
٧. Course administrator's name (if more than one name is mentioned)	
Name: Eng. Saba Abdal Karim Mustafa Email:Saba.a.mustafa@tu.edu.iq	
٨. Course Objectives	
Course Objectives	● Knowledge and understanding of algaeology, and everything related to it. ● Forming experience among students on tests and analysis in the field of algae science and its types and how to distinguish between algae people, in addition to developing students' concepts in diagnostic characteristics and classification of algae. ● Introducing students to the importance of algae and their relationship to the environmental and Biological field and the most important branches that have a relationship with this science.
٩. Teaching and learning strategies	
Can be defined as a set of general rules	Standard method (lecturing) The route of discussion and interrogation**.**

and the outline that is concerned with the means of achieving The desired objectives of teaching refer to the methods And the plans followed by faculty members to reach the goals o fLearning also aims to provide psychological motivation to achieve scientific goals and provide modern scientific lectures that keep pace with development and from different sources	Problem solving method . Brainstorming method .

١٠. Course Structure

The week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
October ١	٢	Understand the ideas of the topic and be able to apply it with examples	General laboratory guidelines with introduction to algae	Lecture on the board + demo	General questions and discussion
October ٢	٢	Understand the ideas of the topic and master its applications	Recent trends adopted in the classification of ecological algae, presence and diffusion	Whiteboard Lecture + Demonstration	General questions and discussion
October ٣	٢	Understand the ideas of the topic and be able to apply it with examples	- Division of blue-green algae, environment and spread, classification, features	Lecture on the board + demo	General questions and discussion
October ٤	٢	Understand the ideas of the topic and be able to apply it with examples	Examples of some genera of blue-green algae	Lecture on the board + slides show	General questions and discussion
November ١	٢	Understand the ideas of the topic	General introduction to green algae, their	Whiteboard Lecture +	General questions and discussion

		and master its applications	ecological qualities and presence	Demonstration	
November ٢	٢	Understand the ideas of the topic and be able to apply it with examples	Supplementing green algae by giving examples of some ranks and genera	Lecture on the board + slides show	General questions and discussion
November ٣	٢	Understand the ideas of the topic and be able to apply it with examples	The phylum of curry algae, its environment, its classification - some examples	Lecture on the board + slides show	General questions and discussion
November ٤	٢	Understand the ideas of the topic and master its applications	Euglin algae phylum / its features, structure, classification and examples of some genera	Lecture on the board + slides show	General questions and discussion
December ١	٢	Understand the ideas of the topic and master its applications	The Golden Algae Division, its features - its classification - environment and presence	Whiteboard Lecture + Demonstration	General questions and discussion
December ٢	٢	Understand the ideas of the topic and master its applications	Division of golden algae study of some of its varietiesDiatoms, chrysophyceae, xanthophyceae	Lecture on the blackboard + presentation of the genera slides	General questions and discussion
December ٣	٢	Understand the ideas of the topic and master its applications	Phylum Algae Crete	Lecture on the board + slides show	General questions and discussion
December ٤	٢	Understand the ideas of the topic and master its applications	Prostate algae phylum	Lecture on the board + slides show	General questions and discussion

January ١	٢	Understand the ideas of the topic and master its applications	- Division of Crete Algae	Lecture on the board + slides show	General questions and discussion
January ٢	٢	Understand the ideas of the topic and master its applications	- Division of brown algae, its features, Composition of the environment and presence, some examples	Lecture on the board + slides show	General questions and discussion
January ٣	٢	Understand the ideas of the topic and master its applications	- The division of red algae, its features, its structure, its classification Some examples	Lecture on the board + slides show	General questions and discussion
January ٤	٢	Understand the ideas of the topic and master its applications	- Environmental and economic importance of red algae	Whiteboard Lecture + Demonstration	General questions and discussion
February ١	٢	Understand the ideas of the topic and master its applications	Knowledge of recent trends in the purification of the study of algae	Whiteboard Lecture + Demonstration	General questions and discussion
February ٢	٢	Understand the ideas of the topic and master its applications	- Extraction of some toxic substances from some algae	Whiteboard Lecture + Demonstration	General questions and discussion
March ١	٢	Understand the ideas of the topic and master its applications	- Mosses and their importance, classification and comparison with algae	Whiteboard Lecture + Demonstration	General questions and discussion
March ٢	٢	Understand the ideas of the topic	- Liver moss and their classification with some examples	Lecture on the board + special	General questions and discussion

		and master its applications		slides show	
March ٣	٢	Understand the ideas of the topic and master its applications	Classification and classification of the mosses with the genus Anthroceros as an example	Lecture on the board + special slides show	General questions and discussion
March ٤	٢	Understand the ideas of the topic and master its applications	Existing mosses - their characteristics with some examples	Lecture on the board + special slides show	General questions and discussion
April ١	٢	Understand the ideas of the topic and master its applications	Physiology of water absorption in sphagnum plant and methods of reproduction	Whiteboard Lecture + Demonstration	General questions and discussion
April ٢	٢	Understand the ideas of the topic and master its applications	Ferns, traits, spread, difference and similarity with mosses	Whiteboard Lecture + Demonstration	General questions and discussion
April ٣	٢	Understand the ideas of the topic and master its applications	Some examples of ferns	Lecture on the board + slides show	General questions and discussion
April ٤	٢	Understand the ideas of the topic and master its applications	Similarity between ferns and gymnosperms	Whiteboard Lecture + Demonstration	General questions and discussion
May ١	٢	Understand the ideas of the topic and master its applications	Classification of ferns class psilophyceae	Lecture on the board + slides show	General questions and discussion
May ٢	٢	Understand the ideas of the topic	Class lycopodineae plants	Whiteboard Lecture +	General questions and discussion

		and master its applications		Demonstration	
May ٣	٢	Understand the ideas of the topic and master its applications	Horse tails class, Khanshariat class	Whiteboard Lecture + Demonstration	General questions and discussion
May ٤	٢	Understand the ideas of the topic and master its applications	Gymnosperms Plants Classified and Compared with Ferns with Some Examples	Whiteboard Lecture + Demonstration	General questions and discussion

١١. Course Evaluation	
Distribution of the score out of ١٥ according to the following: The first semester exam out of ٦ and the score of a daily exam Second semester exam out of ٧ and score on reports	
١٢. Learning and Teaching Resources	
Required textbooks (methodology, if any)	Bahram Khader Mawlid,Practical algae and arcicons ١٩٩٠
Key references (sources)	Al-Saadi, Algaeology ٢٠٠٦
Recommended books and references (scientific journals, reports...)	Scientific research from Google Scular
Electronic References, Websites	

١. Program Vision
Program vision is written here as stated in the university's catalogue and website.
٢. Program Mission
Program mission is written here as stated in the university's catalogue and website.
٣. Program Objectives
General statements describing what the program or institution intends to achieve.
٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٥		Biology	theoretical	practical
First stsge				

٨. Expected learning outcomes of the program

Knowledge	
Learning Outcomes ١	Learning Outcomes Statement ١
Skills	
Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣
Ethics	
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes S	Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. 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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٥		Biology	Basic												
First stage															

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

Course Description Form

1. Course Name:
Biology
2. Course Code:
Biology / first stage
3. Semester / Year:
٢٠٢٤-2025
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class Lecture + electronic lecture
٦. Number of Credit Hours (Total) / Number of Units (Total)
٧٠ hourse
٧. Course administrator's name (mention all, if more than one name)
Name: alaa Email:
8. Course Objectives

Course Objectives	• ..... • ..... • .....

9. Teaching and Learning Strategies	
Strategy	

10. Course Structure

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

11. Course Evaluation

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

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision

The department seeks to provide an educational program that adopts modern scientific research methods and approaches in the field of life sciences, and uses advanced teaching methods that use modern technologies in teaching and research to graduate highly qualified specialized teaching cadres, whether in the field of teaching life sciences, scientific research, or others.

One of the professions whose nature requires the occupants to have an informational background in the field of distinguished life sciences, such as tourism, antiquities, libraries, archives, and others. Hence, the department has a strategic vision in subjecting problems in the field of life sciences for research and study in order to reach their understanding within a scientific framework that helps to form a scientific and knowledge vision that leads to achieving a renaissance in the field of life sciences in society and addressing and solving problems.

٢. Program Mission

Providing an academic research educational service through which distinguished graduates can be prepared by distinguished specialists in the field of life sciences in general who are able to play their role within society in a positive and effective way, especially in the field of research, including the field of life sciences, teaching and consultations, and providing knowledge in the field of life sciences that have to understand and solve many problems facing the development of society. Biology has a fundamental and not a secondary role in the progress and building of society in order to achieve a bright future

٣. Program Objectives

١ Enhancing the mission and status of the College of Education for Girls and the University of Tikrit in performing its mission and scientific objectives.

-٢ Preparing graduates specialized in the field of life sciences to work in the fields - educational and functional in various institutions of society in order to contribute to the renaissance of modern Iraq.

٣ Developing analytical skills and the ability to disassemble and reassemble biological material - systematically and familiarily with terminology, concepts and information, and develop the skills of dealing with biological concepts to prepare biological researchers to serve their society and the world.

٤ Providing biological studies and research in all fields in order to contribute to the development and development of society in the field of teaching and learning.

٥- Directing the life science study to serve the community and research centers.

٦ Employing scientific and technological development in education, studies and biological research -

-٧ Conducting focused studies in the biological sciences for bachelor's students - the father of graduate studies through in-depth scientific research and analysis of information according to a scientific perspective.

٨ Holding seminars and conferences that deal with the most important problems in the bilogical aspect and contributing to the development of appropriate solutions to them.

٩ Participation of faculty members in local, regional and international scientific conferences.

١٠ Scientific, knowledge and cultural exchange with the rest of the corresponding departments in Iraqi universities.

٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤-٢٠٢٥		Invertebrates	theoretical	practical
Second stage				

٨. Expected learning outcomes of the program

Knowledge	
Learning Outcomes ١	Learning Outcomes Statement ١
Skills	
Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣
Ethics	
Learning Outcomes ٤	Learning Outcomes Statement ٤
Learning Outcomes ٥	Learning Outcomes Statement ٥

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. 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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤-٢٠٢٥		Invertebrates	Basic												
Second stages															

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

Course Description Form

1. Course Name:
Invertebrates
2. Course Code:
Invertebrates / second stage
3. Semester / Year:
٢٠٢٤-٢٠٢٥ annual
4. Description Preparation Date:
٢٠٢٤/٩/١٨
٥. Available Attendance Forms:
Class lectures, electronic lectures, and practical laboratories
٦. Number of Credit Hours (Total) / Number of Units (Total)
٦٠ Hours /٢ Unit
٧. Course administrator's name (mention all, if more than one name)
Name: Sheelan Qadir Sadiq Email: shmscbio@tu.edu.iq
8. Course Objectives

Course Objectives	**∗ Introducing the students to the construction of a microscope and its use in laboratories** *** Introducing the students to some laboratory tools and equipment** *** Introducing the students to some examples of the branches of the animal kingdom**
9. Teaching and Learning Strategies	
Strategy	**• Providing scientific knowledge for students and how to achieve it** **• Giving students the modern aspect of biology and learning about what is present in the animal kingdoms**
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٢		Microscope	Standard method Text method	Descriptive performance and examinations
٢	٢		Invertebrates	Standard method Text method	Descriptive performance and examinations
٣	٢		Major phyla& Minor phyla	Standard method Text method	Descriptive performance and examinations
٤	٢		Protozoa	Standard method Text method	Descriptive performance and examinations
٥	٢		Classification of Protozoa	Standard method Text method	Descriptive performance and examinations
٦	٢		Porifera	Standard method Text method	Descriptive performance and examinations
٧	٢		Cnidaria	Standard method Text method	Descriptive performance and examinations
٨	٢		Platyhelminthes	Standard method Text method	Descriptive performance and examinations

٩	٢		**Arthropoda**	**Standard method Text method**	**Descriptive performance and examinations**
١٠	٢		Echinodermata	**Standard method Text method**	**Descriptive performance and examinations**

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc.	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports)	
Electronic References, Websites	**E-learning sites related to biology**

١. Program Vision
Program vision is written here as stated in the university's catalogue and website.
٢. Program Mission
Program mission is written here as stated in the university's catalogue and website.
٣. Program Objectives
General statements describing what the program or institution intends to achieve.
٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤		Biology	theoretical	practical
First stsge				

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١ Learning Outcomes Statement ١

Skills

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

Learning Outcomes ٢

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

Learning Outcomes Statement ٢ L

earning Outcomes ٣ Learning Outcomes Statement ٣ Ethics

Learning Outcomes ٤

Learning Outcomes Statement ٤

Learning Outcomes S Learning Outcomes Statement ٥

Teaching and Learning Strategies

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

Evaluation methods

Implemented at all stages of the program in general.

١١. 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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤		Biology	Basic												
First stage															

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

Course Description Form

1. Course Name:
Plant Anatomy
2. Course Code:
Biology / first stage
3. Semester / Year:
٢٠٢٤-2025
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class Lecture + electronic lecture
٦. Number of Credit Hours (Total) / Number of Units (Total)
٧٠ hours
٧. Course administrator's name (mention all, if more than one name)
Name: Salma Khalid Yaseen Email: Salma_yaseen@tu.edu.iq
8. Course Objectives

Course Objectives	Knowing the features and characteristics of the different anatomical tissues that make up the plant body. ..... • Acquire scientific skills in distinguishing between the anatomical structure of the roots, stems and leaves of a plant • The student understands the mechanism of growth and organ development in plants • The student's mouth features collenchyma, parenchyma, and sclerenchyma tissue
9. Teaching and Learning Strategies	
Strategy	• To provide students with knowledge of scientific goals and how to achieve them • To give the students everything that is modern in the aspect of plant anatomy that will benefit them and to learn about what is present in the science of plant anatomy.

10. Course Structure

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

١	٢	Introduction to plant anatomy		Standard method, text method	Class performance and exams
٢	٢	Plant cell - cell wall - layers of the cell wall - click		Standard method, text method	Class performance and exams
٣	٢	Plant cell structure living contents		Standard method, text method	Class performance and exams
٤	٢	Plant cell structure non-living contents		Standard method, text method	Class performance and exams
٥	٢	Meristematic tissue		Standard method, text method	Class performance and exams
٦	٢	Permanent tissue		Standard method, text method	Class performance and exams
٧	٢	The growing apex in the root The growing apex of the stem		Standard method, text method	Class performance and exams
٨	٢	Skin texture		Standard method, text method	Class performance and exams
٩	٢	Types of clicking		Standard method, text method	Class performance and exams
١٠	٢	Types of stomata		Standard method, text method	Class performance and exams
١١	٢	Epidermal bristles		Standard method, text method	Class performance and exams
١٢	٢	Cork cambium		Standard method, text method	Class performance and exams
١٣	٢	Parenchymal, collenchymal, and sclerenchymal tissue		Standard method, text method	Class performance and exams
١٤	٢	Internal anatomy of a leaf		Standard method, text method	Class performance and exams

١٥	٢	Internal structure of the root and stem		Standard method, text method	Class performance and exams
		final exams			

١١-Course Evolution

Distributing the score out of 100 according to the tasks assigned to the student such as daily Required textbooks (methodology if available) Plant Anatomy

١٢-Learning and Teaching Resources

Required textbooks (curricular books, if any)	Dr. Ali Al-Moussawi and Dr. Badr Awad Al-Ani
Main references (sources)	Dr. Ahmed Aslan Al-Jundi and Dr. Abdul Fattah Hassan Salim, Ozertis Library, Cairo, 2006.
Recommended books and references (scientific journals, reports...)	(scientific journals, reports...) Plant Anatomy - Muhammad Suleiman - Dar Kunuz Ashbilia for Publishing and Distribution, Riyadh, 1424 AH
Electronic References, Websites	Electronic references, Internet sites Any electronic site related to plant anatomy

١. Program Vision
The department seeks to provide an educational program that adopts modern scientific research methods and approaches in the field of life sciences, and uses advanced teaching methods that use modern technologies in teaching and research to graduate highly qualified specialized teaching cadres, whether in the field of teaching life sciences, scientific research, or others. One of the professions whose nature requires the occupants to have an informational background in the field of distinguished life sciences, such as tourism, antiquities, libraries ,archives, and others. Hence, the department has a strategic vision in subjecting problems in the field of life sciences for research and study in order to reach their understanding within a scientific framework that helps to form a scientific and knowledge vision that leads to achieving a renaissance in the field of life sciences in society and addressing and solving problems.
٢. Program Mission
Providing an academic research educational service through which distinguished graduates can be prepared by distinguished specialists in the field of life sciences in general who are able to play their role within society in a positive and effective way, especially in the field of research, including the field of life sciences, teaching and consultations, and providing knowledge in the field of life sciences that have to understand and solve many problems facing the development of society. Biology has a fundamental and not a secondary role in the progress and building of society in order to achieve a bright future
٣. Program Objectives
١- Enhancing the mission and status of the College of Education for Girls and the University of Tikrit in performing its mission and scientific objectives. ٢- Preparing graduates specialized in the field of life sciences to work in the fields - educational and functional in various institutions of society in order to

contribute to the renaissance of modern Iraq.

٣- Developing analytical skills and the ability to disassemble and reassemble biological material - systematically and familiarily with terminology, concepts and information, and develop the skills of dealing with biological concepts to prepare biological researchers to serve their society and the world.

٤- Providing biological studies and research in all fields in order to contribute to the development and development of society in the field of teaching and learning.

٥- Directing the life science study to serve the community and research centers.

٦- Employing scientific and technological development in education, studies and biological research -

٧- Conducting focused studies in the biological sciences for bachelor's students - the father of graduate studies through in-depth scientific research and analysis of information according to a scientific perspective.

٨- Holding seminars and conferences that deal with the most important problems in the bilogical aspect and contributing to the development of appropriate solutions to them.

٩- Participation of faculty members in local, regional and international scientific conferences.

١٠- Scientific, knowledge and cultural exchange with the rest of the corresponding departments in Iraqi universities

٤. Program Accreditation

Nothing
٥. Other external influences
Ministry of Higher Education and Scientific Research/ Tikrit University

٦ Program Structure				
Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	٥٦	١١٢	١٠٠	
College Requirements	٥٦	١١٢	١٠٠	

Department Requirements	٥٦	١١٢		
Summer Training				
Other	٥٦	١١٢	١٠٠	

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

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤/٢٠٢٥ first stage		Cell life	theoretical	Practical
			٢ hours	

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١

Skills

Learning Outcomes 2 Learning Outcomes ٢	Learning Outcomes Statement 2 Learning Outcomes Statement ٢
Learning Outcomes 3 Learning Outcomes ٣	Learning Outcomes Statement 3 Learning Outcomes Statement ٣

Ethics

Learning Outcomes 4 Learning Outcomes ٤	Learning Outcomes Statement 4 Learning Outcomes Statement ٤
Learning Outcomes 5 Learning Outcomes S	Learning Outcomes Statement 5 Learning Outcomes Statement ٥

٩. Teaching and Learning Strategies

١-The standard method / giving lectures / the text method / the descriptive, analytical and inductive method. ٢- Method of solving problems/constructive or formative evaluation (daily exams, class discussion, homework assignments, and their follow-up, classroom evaluation). ٣- Diagnostic evaluation (semester and final exams to issue judgments of success and failure).

١٠. Evaluation methods

١- Individual and group oral and written theoretical and practical tests. ٢- Direct observation of the student's performance in the areas of dialogue, intellectual and scientific communication, and teamwork within the classroom and the college and university environment. ٢- Assigning female students to prepare distinctive scientific research to test their ability to think, conclude, and solve problems.

١١. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	**Lecturer**
Dr. manar emad gamel	food Science	Food science			Yes yes	

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٣/٢٠٢٤ first stage		Cell life	Basic												

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

Course Description Form

1. Course Name:
Cell life
2. Course Code:
Cell life/first stage
3. Semester / Year:
٢٠٢٤-٢٠٢٥
4. Description Preparation Date:
٢٠٢٤/٩/١٨
٥. Available Attendance Forms:
Class attendance inside the classroom + attendance inside the laboratory + electronic classes on the (Google Classroom) platform, which will be a supporting class for the in-person class, according to the controls and instructions of the Ministry of Higher Education and Scientific Research
٦. Number of Credit Hours (Total) / Number of Units (Total)
٦٠ hours
٧. Course administrator's name (mention all, if more than one name)
Dr.manar emad jamel Email:manaralqasimi@tu.edu.iq .....
8. Course Objectives

Course Objectives	.....
	Introducing the student to all parts and types of insects • 2. The student knows the difference between harmful and beneficial insects • 3. Introducing the student to the components of the insect's internal systems • 4. Introducing the student to entomology and its relationship to other sciences

9. Teaching and Learning Strategies

Strategy	Providing psychological motivation to achieve scientific goals Providing modern scientific lectures that keep pace with developments and from various sources

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٢	Understanding the ideas of the topic and being able to apply it with examples	Science: Definition of Science TheOrigin of Sciences And its development.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢	٢	Understanding the ideas of the topic and being able to apply it with examples	Modern science goals of science	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٣	٢	Understanding the ideas of the topic and being able to apply it with examples	The difference between science and knowledge Scientific thinking and its basics	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٤	٢	Understanding the ideas of the topic and being able to apply it with examples	Scientific research and its relationship to science. The development of the concept of publishing research.Scientific	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٥	٢		Scientific research, reference article, short article, study,Reports Patents Letters Postgraduate studies	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests

٦	٢	Understanding the ideas of the topic and being able to apply it with examples	Research plan and hypotheses, problem, defining the title of the problem Preparing a research plan	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٧	٢	Understanding the ideas of the topic and being able to apply it with examples	Scientific research methods and tools Survey methodology and its tools.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٨	٢	Understanding the ideas of the topic and being able to apply it with examples	Scientific research methods and tools Survey methodology and its tools.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٩	٢	Understanding the ideas of the topic and being able to apply it with examples	Main requirements for completion Experimental Methodology Research Simple experiments experiments Compound factors	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٠	٢	Understanding the ideas of the topic and being able to apply it with examples	Errors in experiments Scientific types of errors and their sources	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١١	٢	Understanding the ideas of the topic and being able to apply it with examples	Internet World Wide Web Information rules Information web pages.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests

١٢	٢	Understanding the ideas of the topic and being able to apply it with examples	Writing down the main paragraphs For research submitted, reference methods are available.To the references	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٣	٢	Understanding the ideas of the topic and being able to apply it with examples	Recording the paragraph of materials and methods of work. And types of samples	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٤	٢	Understanding the ideas of the topic and being able to apply it with examples	Writing the results paragraph controls Preparing tables and recording the discussion - And the bottom line.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٥	٢	Understanding the ideas of the topic and being able to apply it with examples	Preparing a list of references Writing books Translated research reports	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٦	٢	Understanding the ideas of the topic and being able to apply it with examples	Scientific research writing	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٧	٢	Understanding the ideas of the topic and being able to apply it with examples	Linear illustrative forms Curves types of leaves	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests

١٨	٢	Understanding the ideas of the topic and being able to apply it with examples	Reference card system.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
١٩	٢	Understanding the ideas of the topic and being able to apply it with examples	Linear illustrative forms Curves types of leaves Graphics	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢٠	٢	Understanding the ideas of the topic and being able to apply it with examples	Descriptive approach and its tools Method Experimental and its tools	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢١	٢	Understanding the ideas of the topic and being able to apply it with examples	Photographs And its characteristics.	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢٢	٢	Understanding the ideas of the topic and being able to apply it with examples	Final output of the research role Calculator	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests
٢٣	٢	Understanding the ideas of the topic and being able to apply it with examples	Final exams	In-person education Blackboard lecture + demonstrations	Daily attendance, oral questions and tests

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

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١. Program Vision
Program vision is written here as stated in the university's catalogue and website.
٢. Program Mission
Program mission is written here as stated in the university's catalogue and website.
٣. Program Objectives
General statements describing what the program or institution intends to achieve.
٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤-٢٠٢٥		**Microbiology**	theoretical	practical
			٢ h.	**١ h.**

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١ Learning Outcomes Statement ١

Skills

Learning Outcomes ٢ Learning Outcomes Statement ٢

Learning Outcomes 2 Learning Outcomes Statement 2

Ethics

Learning Outcomes 3 Learning Outcomes Statement 3

Learning Outcomes ٤ Learning Outcomes Statement ٤

Learning Outcomes 4 Learning Outcomes Statement 4

Learning Outcomes 5 Learning Outcomes Statement 5

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

a. Daily tests
b. Weekly tests
c. Scientific Reports
d. Homework

١١. Faculty

Faculty Members

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

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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: **Microbiology**
2. Course Code:
3. Semester / Year: ٢٠٢٤ – ٢٠٢٥
4. Description Preparation Date: ١٨ / ٩ / ٢٠٢٤
٥. Available Attendance Forms: **Presence**
٦. Number of Credit Hours (Total) / Number of Units (Total): ٤ **hours**
٧. Course administrator's name (mention all, if more than one name)
Name: **Dr. Ibraheem Abdulrahman Eltaif** Email: **i-a.lateef@tu.edu.iq**
8. Course Objectives

Course Objectives	١- **Providing the student with information about the general features of microorganisms.** 2- **Identifying microorganisms in terms of their phenotypic characteristics , internal and external structures, pathological aspects, and functional structural differences with eukaryotic microorganisms.** 3- **Identify the stages of growth in microorganisms and the factors affecting growth.** 4- **Discussing cellular metabolism and pathways for obtaining energy.** 5- **Identify viruses and virus composition.**

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First w.	٢ h.		Overview of microbiology and Beginning of Microscopy	Attendance in class	A written test
Second	٢ h.		Evolution Of Prokaryotic Organisms	Attendance in class	A written test
Third	٢ h.		rview of Eukaryotic and Prokaryotic cells	Attendance in class	A written test
Fourth	٢ h.		Taxonomy of microorganisms	Attendance in class	A written test
Fifth	٢ h.		General characteristics of Prokaryotic and Eukaryotic organisms	Attendance in class	A written test
Sixth	٢ h.		Structure of Bacterial Cell	Attendance in class	A written test
Seventh	٢ h.		Cell Wall of Gram Negative bacteria	Attendance in class	A written test
eighth	٢ h.		Controlling Bacteria by Damaging Cell Wall	Attendance in class	A written test
Ninth	٢ h.		Cell Envelope Layers Outside the Cell Wall	Attendance in class	A written test
Tenth	٢ h.		External Structures of Bacterial Cell	Attendance in class	A written test
eleventh	٢ h.		Bacterial Cytoplasm	Attendance in class	A written test
twelveth	٢ h.		Implementation		
Thirteenth	٢ h.		Implementation		
Fourteenth	٢ h.		Implementation		

Fifteenth	**٢ h.**		**Implementation**		
Sixteen	**٢ h.**		**Implementation**		
Seventeenth	**٢ h.**		**Implementation**		
Eighteen	**٢ h.**		**Bacterial Sporulation**	**Attendance in class**	**A written test**
Nineteenth	**٢ h.**		**Growth of Microorganisms**	**Attendance in class**	**A written test**
Twenty	**٢ h.**		**Factors Affecting Bacterial Growth**	**Attendance in class**	**A written test**
Twenty one	**٢ h.**		**Nutritional (**Biochemical**) Factors**	**Attendance in class**	**A written test**
Twenty two	**٢ h.**		**Essential Concepts of Metabolism**	**Attendance in class**	**A written test**
Twenty three	**٢ h.**		**ıaerobic Metabolism-** **Glycolysis and** **Fermentation**	**Attendance in class**	**A written test**
Twenty four	**٢ h.**		**VIRUSES**	**Attendance in class**	**A written test**

11. Course Evaluation
monthly written exams 32% , 2- Daily written exams 3% , 3- Practical exam15%.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

١- **Microbiology Principles and Explorations.**

٢- **Prescott s Microbiology.**

٣- **Jawetz, Melnick & Adelbergs Medical Microbiology**

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١- www.sciencedirect.com

٢- www.britannica.com

٣- www.microbiologysociety.org

١. Program Vision
Program vision is written here as stated in the university's catalogue and website.
٢. Program Mission
Program mission is written here as stated in the university's catalogue and website.
٣. Program Objectives
Improving the student's ability to access external sources and deliver the material in its correct form.
٤. Program Accreditation
Does the program have program accreditation? And from which agency?
٥. Other external influences
Is there a sponsor for the program?

٦ 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.

٧. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
٢٠٢٤		Biology	theoretical	practical
First stage			٢	٢

٨. Expected learning outcomes of the program

Knowledge

Learning Outcomes ١	Learning Outcomes Statement ١

Skills

Learning Outcomes ٢	Learning Outcomes Statement ٢
Learning Outcomes ٣	Learning Outcomes Statement ٣

Ethics

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

٩. Teaching and Learning Strategies

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

١٠. Evaluation methods

Implemented at all stages of the program in general.

١١. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	
	bilogy	parasitology			yas	

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.

١٢. Acceptance Criterion

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

١٣. The most important sources of information about the program

State briefly the sources of information about the program.

١٤. 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
٢٠٢٤		Biology	Basic												
First stage															

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

Course Description Form

1. Course Name:
Biology
2. Course Code:
Biology / first stage
3. Semester / Year:
٢٠٢٤-2025
4. Description Preparation Date:
١٨/٩/٢٠٢٤
٥. Available Attendance Forms:
Class Lecture + Electronic Lecture
٦. Number of Credit Hours (Total) / Number of Units (Total)
٧٠ hours.
٧. Course administrator's name (mention all, if more than one name)
Name: Dunia Abed Hussain Email: Dunia _abed@tu.edu.iq

8. Course Objectives

Course Objectives	• Informing students of the most important biologists in the past. • To introduce female students to reproductive methods in plants and animals. • Female students understand the difference between the plant and animal cell.

9. Teaching and Learning Strategies

Strategy	To provide students with knowledge of scientific goals and how to achieve them. To give students all that's modern on the side of biology that benefits them and to know what's in modern biology.

10. Course Structure

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

١	٢		The five worlds include fungus primitives/ plant	Standard method, Text Method	Class performance and exams
٢	٢		Definition of qualities of life	Standard method, Text Method	Class performance and exams
٣	٢		Taxonomy	Standard method, Text Method	Class performance and exams
٤	٢		The chemistry of respiration and energy conversion	Standard method, Text Method	Class performance and exams
٥			Physiology and chemistry of photosynthesis	Standard method, Text Method	Class performance and exams
٦	٢		Reproduction and growth in animals	Standard method, Text Method	Class performance and exams
٧	٢		Harmony in plants	Standard method, Text Method	Class performance and exams
٨	٢		The food chain	Standard method, Text Method	Class performance and exams
٩	٢		Branches of zoology	Standard method, Text Method	Class performance and exams
١٠	٢		Animal cell	Standard method, Text Method	Class performance and exams
١١	٢		Physical properties of protoplasm	Standard method, Text Method	Class performance and exams
١٢	٢		The germ cell.	Standard method, Text Method	Class performance and exams
١٣	٢		Painting tissue.	Standard method, Text Method	Class performance and exams
١٤	٢		Muscle tissue.	Standard method, Text Method	Class performance and exams
١٥	٢		Final exams		

١١-Course Evaluation	
Distribution of the grade out of ١٠٠ according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc	
١٢-Learning and teaching resources	
(Required textbooks (methodology, if any	Professor Dr. Nizar Mustafa Al-Mallah
Main references (sources)	Professor Dr. Hussein Ali Al-Saadi
Recommended supporting books and references (scientific journals, reports)	Biology author Peter Haven et al
Electronic references, Internet sites	Any website related to biology