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

Academic Program and Course Description Guide

2025

Introduction:

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

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

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 10/9/2024 regarding the programs that adopt the Bologna Process as the basis for their work.

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

Concepts and terminology:

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

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

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

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

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

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

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

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are

followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Al–Muthanna university

Faculty/Institute: College of education for pure sciences

Scientific Department: Biology

Academic or Professional Program Name: ....undergraduate ....

Final Certificate Name: Msc. biologist

Academic System: 2025

Description Preparation Date: 10\1\2025

File Completion Date: 10\1\2025

Signature:	Signature:
Head of Department Name:	Scientific Associate Name:
Dhay Ali Azeez	Muhaned A. Hamzah
Date: 10\1\2025	Date: 10\1\2025

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

The Department of Life Sciences aspires to gain international recognition in the fields of scientific research and teaching by achieving academic quality as well as local recognition in the field of supplying the labor market with highly qualified scientific cadres.

2. Program Mission

.Graduating a student who is able to study in middle and secondary schools

.Graduating a student who is familiar with the basic concepts of life sciences .

.Graduating a student who is familiar with educational methods for dealing with adolescents

.Graduating an elite group of students who have the ability to continue their higher education to support higher education in the future.

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	**14**	**23**		
thesis		**8**		
Other				

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

7. Program Description

عدد الساعات الاسبوعية	عدد الوحدات	المادة باللغة الانكليزية	المادة العلمية باللغة العربية	ت
2	2	**Adv. Animal Physiology**	فسلجة حيوان متقدم	.1
1	1	**Adv. Teaching Methods**	طرائق تدريس متقدم	.2
1	1	**Adv. English Language I**	لغة انكليزية متقدم I	.3
3	3	**Adv. Microbiology**	أحياء مجهرية متقدم	.4
2	2	**Adv. Ecology**	علم البيئة المتقدم	.5
2	2	**Adv. Biochemistry**	كيمياء حياتية متقدم	.6
2	2	**Adv. Biostatics**	احصاء حياتي متقدم	.7
3	3	**Adv. Immunology**	مناعة متقدم	1
1	1	**Adv. English Language I**	لغة انكليزية متقدم	2
3	3	**Adv. Parasitology**	طفيليات متقدم	3

2	2	Adv. Potany	نبات متقدم	4
2	2	Adv. Biotechnology	تقانات أحيائية متقدم	5
1	-	Seminar	حلقات دراسية	6
2	2	Research Methodology	طرق بحث	7

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/Sk	Number of the teaching staff

	General	Special			Staff	Lecturer
Assistant Professor	Biology	Biology			Original	
✔				فسلجة حيوان	طب بيطري	أ.د. علي موسى رشيد
	✔			احياء مجهرية طبية	علوم حياة	أ.م.د. تيسير عبد الاله كاظم
	✔			مناعة طفيليات	طب بيطري	أ.د. مهند عبد الحسين حمزة
	✔			احياء مجهرية طبية	علوم حياة	أ.م.د. ضي علي عزيز
✔				علم البيئة	علوم حياة	أ.د. علي عبد الحمزة عبيد
	✔			علم الطفيليات	علوم حياة	أ.د. ياسر دخيل كريمش
✔				محاصيل حقلية	زراعة	أ.د. محمد رضوان محمود
	✔			وراثة جزيئية	زراعة	أرشد ناجي حسين
	✔			كيمياء عضوية	كيمياء	أسراء عبد الحسن حمدان
✔				تقنيات احيائية	علوم حياة	ضفاف جبار شمران
	✔			جغرافية طبية	جغرافية	نادية حسين علي
	✔			فسلجة حيوان	علوم حياة	أقبال عوض كاطع

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

Year /Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024 - 2025		Adv. Animal Physiology		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. Teaching Methods		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. English Language I		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. Microbiology		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. Ecology		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. Biochemistry		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. Biostatics		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. Immunology		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. English Language I		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. Parasitology		√	√	√	√	√	√	√	√	√	√	√	√
		Adv. Potany													

		Adv. Biotechn ology													
		Seminar													
		Research Methodo logy													

● **Please tick the boxes corresponding to the individual program learning outcomes under evaluat**

Course Description Form

1. Course Name:
Microbiology

2. Course Code:

3. Semester / Year: Master's course
2024-2025

4. Description Preparation Date:
2024-2025

5. Available Attendance Forms
: Daily attendance

6. Number of Credit Hours (Total) / Number of Units (Total):
3 h. (theoretical)

7. Course administrator's name (mention all, if more than one name)
Name: lecturer Dhay Ali Azeez   Email: Dhayali_1985@mu.edu.iq

8. Course Objectives

Course Objectives	- Identify microorganisms and methods of controlling them - Identify the history of microorganisms, their origins, and

			the position of bacteria among other organisms. • Identify the body's immunity and resistance to diseases • Identify the types of Gram-positive and Gram-negative bacteria. • Identify viruses, their structure, and classification. • Identify fungi, their structure, ways of life, and reproduction

9. Teaching and Learning Strategies

Strategy	Education strategy collaborative concept planning. 2- Brainstorming education strategy. 3- Education Strategy Notes Series

10. Course Structure

Wee k	Hour s	Required Learning Outcomes	Unit or subject name	Learning method	Evaluatio n method
1-15	3	knowledge	**1.Introduction of microbiology** **2. Bacteria Compared with Other Microorganisms** **3.general charactertion and classificatio bacteria** **4. Structure of Bacterial Cells** **5. Growth** **6. Genetics**	A student who knows how to handle dangerous and toxic chemicals He also knows the correct handling	Weekly, monthly, daily, written exams, and the end-of-year

			. Classification of Medically Important Bacteria (gram positive bactreia) **8. gram negative bacteria** **9. Normal Flora** **10. Pathogenesis** **11. Host Defenses** **12. Laboratory Diagnosis** **13. Antimicrobial Drugs:** **14.Mechanism of Action** **15. Antimicrobial Drugs: Resistance**	method in the laboratory He is good at explaining chemistry and linking it to biology, as he is a life sciences teacher In addition to the skill of chemical calculations We teach organic reactions and their benefits in daily life	exam.

11. Course Evaluation

The distribution is as follows: Mid exam is 25%, the seminar and quiz is 5%, and the final exam is 70%,

Course Name: biostatistics	
Course Code:	
Semester / Year:	
Description Preparation Date:	
2024-2025	
Available Attendance Forms: In person	
Number of Credit Hours (Total) / Number of Units (Total)	
Number of Credit Hours (Total) 60 hours	

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

Name: D.Mohammed Radwn Mahmoud   e: modrn@mu.edu.iq

Course Objectives

Course Objectives	1- Identify the concept of inferential and inferential statistics. 2- Identify the null and alternative statistical hypotheses and how to verify them. 3- Identify the differences between statistics. 4- Enabling students to be able to interpret statistical results. 5- Enabling students to be able to distinguish between how to use nonparametric statistics. 6- Enabling students to apply statistical methods appropriately in light of each topic.

Teaching and Learning Strategies

tegy	**Strategic teaching and learning methods** **Audio methods (teaching explanation of the topic)** **Style of writing on the blackboard** **The method of direct dialogue between the teacher and the student, with student's evaluation in class participation** **Conduct experiments.**

Course Structure

Week	Hours	SEMISTER 1	SEMISTER 2	Learning method	Evaluation method
The first week	**2Theoretical .**	**To know and distinguish between the population and the sample and employ sampling methods when**	**Introduction to statistics**		**Exams , reports, discussions Quizzes**

		selecting the sample			
second week	**2Theoretical.**	**Data tab**	**Population and sample/methods for selecting samples/parameters and estimates/sample errors**		**Exams , reports, discussions**
the third week	**2Theoretical.**	**Arithmetic mean -**	**Measures of central tendency 1**		**Exams , reports, discussions**
fourth week	**2Theoretical.**	**The mediator - Manwal**	**Measures of central tendency 2**		**Exams , reports, discussions**
The fifth week	**2Theoretical.**	**Variance – Standard Deviation Range – Mean Deviation**	**Data tab - tabular display**		**Exams , reports, discussions**
the sixth week	**2Theoretical.**	**Standard error - coefficient of variation**	**• Frequency distribution table.**		**Exams , reports, discussions**
Seventh week	**2Theoretical.**	**To employ statistical hypotheses in research**	**• Tabular display of metadata.**		**Exams , reports, discussions**
The eighth week	**2Theoretical.**	**To reduce the possibility of the researcher making an error when testing the hypotheses, type 1 alpha error and type 2 beta error**	**• Frequency distribution table for quantitative data.**		
Week nine	**2Theoretical.**	**To employ the level of significance / degrees of freedom / examples using the statistical package**	**• Ascending and descending clustered frequency table.**		**Exams , reports, discussions**
The tenth week	**2Theoretical.**	**To know the inferential statistics of**	**Measures of dispersion1**		**Exams , reports,**

			the monthly test		discussions
Week eleven	**2Theoretical.**	**To employ statistical hypotheses in research**	**Measures of dispersion2**		**Exams , reports, discussions**
The twelfth week	**2Theoretical.**	**z test**	**Measures of dispersion3**		**Exams , reports, discussions**
The thirteenth week	**2Theoretical.**	**T test**	**Monthly test**		**Exams , reports, discussions**
The fourteenth week	**2Theoretical.**	**F test**	**Statistical hypotheses/what are statistical hypotheses/null and alternative hypotheses**		**Exams , reports, discussions**
The fifteenth week		**Monthly exams**	**The chances of the researcher making an error when testing hypotheses/type 1 alpha error/type 2 beta error**		

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

Learning and Teaching Resources

quired textbooks (curricular books, if any)	**Introduction to Statistics by Dr. Khashia Al-Rawi, University of Mosul 2000 - Principles of Statistics by Dr. Khashia Al-Rawi - Naim Thatmi Al-Muhammad - Muayyad Ahmed Al-Younes - Zulayd Khaled Al-Marai**
Main references (sources)	From methodological books, help books,

	Internet, and scientific research
Recommended books and references (scientific journals, reports…)	Iraqi Scientific journals in basic specializations
Electronic References, Websites	Al−Muthanna University e−learning website https://agr.mu.edu.iq/

Course Description Form

1. Course Name:
Adv. Ecology
2. Course Code:
3. Semester / first semester
First--- 2024-2025
4. Description Preparation Date:
2024-2025
5. Available Attendance Forms
: week attendance

6. Number of Credit Hours (Total) / Number of Units (Total):
2 hours (theoretical) 2 hours(practical)

7. Course administrator's name (mention all, if more than one name)
Name: lecturer Ali Al-Fanharawi Email: alialfanharawi@mu.edu.iq

8. Course Objectives	
Course Objectives	1- Analysis the ecological problems. Teaching students about laboratory work and dealing with tools and chemicals 2- Teaching students the principle process 3- Providing students with the skill of scientific research into cause and effect 4- Teaching students energy flow and nutrients cycle.

9. Teaching and Learning Strategies	
Strategy	Education strategy collaborative concept planning. 2- Brainstorming education strategy. 3- Education Strategy Notes Series

			10. Course Structure		
Wee k	**Hour s**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluatio n method**
1	**2**	knowledge	-**Environmental Problems, Their Causes, and Sustainability.** -**Pollution, and What Can We Do about It?** -**Scientific Principles of Sustainability.** -**Energy and How Can It Be Changed.** -**Ecosystems: What Are They and How Do They Work.** -**Biodiversity, Species Interactions, and Population Control. How Do Species Interact?** -**Natural Selection Reduce Competition between Species.** -**Limitation of the Growth of Populations.**	Analysis methods Problems detection Make a decision	Weekly, monthly, daily, written exams, and the end-of-year exam.

			-Human Population and Its Impact. **How Many People Can the Earth Support?** **-Factors Influence the Size of the Human Population.** **-Population's Age Structure.** **-People and the Earth Support.**		

11. Course Evaluation	
The distribution is as follows: the first mid exam is 25%, activities 5% and final exam is 70%,	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	G. Tyler Miller, Jr. and Scott E. Spoolman. 2009. Essentials of Ecology.
Recommended books and references (scientific journals, reports...)	--
Electronic References, Websites	Websites available on Google Chrome

Course Description Form

1. Course Name:
Biochemistry
2. Course Code:
3. Semester / Year: Master's course
2024-2025
4. Description Preparation Date:
2024-2025
5. Available Attendance Forms
: Daily attendance
6. Number of Credit Hours (Total) / Number of Units (Total):
2 h. (theoretical)
7. Course administrator's name (mention all, if more than one name)
Name: lecturer israa hamdan Email: israa.hamdan@mu.edu.iq
8. Course Objectives

Course Objectives	1- Teaching students about laboratory work and dealing with tools and chemicals 2- Teaching students to prepare solutions and perform chemical calculations 3- Providing students with the skill of scientific research into cause and effect

			4- Teaching students some organic reactions

9. Teaching and Learning Strategies

Strategy	Education strategy collaborative concept planning. 2- Brainstorming education strategy. 3- Education Strategy Notes Series

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	Carbohydrates, introduction, its prevalence and importance of studying it Properties, classification, monosaccharides Disaccharides, polysaccharides, starches Glycogen, dextrins Cellulose, amino sugars	A student who knows how to handle dangerous and toxic chemicals He also knows the correct handling method in the	Weekly, monthly, daily, written exams, and the end-of-year exam.

| | | | Fats, classification, properties, neutral lipids, phospholipids
Sphingomyelin, glycolipids, cerebrosides
Waxes, steroids, terpenes
Proteins, their importance, existence, general properties, classification
Amino acids (essential and non-essential), non-protein amino acids, properties of amino acids and zwitterionic composition.
Primary structure of protein,
Secondary structure of protein,
Tertiary structure of protein
Methods of protein purification,
Methods of protein quantification,
Methods of protein molecular weight estimation
Types of peptides, Physiologically active peptides, Identification of amino acids at the ends of the peptide chain
Enzymes, Structure, Importance, Classification, Nomenclature of enzymes
Kinetic properties of enzymes,
Mechanism of action of regulatory enzymes (allostery)
Isotypic enzymes, Enzyme activators and inhibitors | laboratory
He is good at explaining chemistry and linking it to biology, as he is a life sciences teacher

In addition to the skill of chemical calculations
We teach organic reactions and their benefits in daily life | |

			Exam		

11. Course Evaluation
The distribution is as follows: the first semester exam is 5%, the second semester is 5%, and the half year is 15%, the first semester practical exam is 5%, and the second semester practical exam is 5%, in addition to absences 3%.

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

Course Description Form

13. Course Name:
English language

14. Course Code:

15. Semester / Year: Master's course
2024-2025

16. Description Preparation Date:	
2024-2025	
17. Available Attendance Forms	
: Daily attendance	
18. Number of Credit Hours (Total) / Number of Units (Total):	
3 h. (theoretical)	
19. Course administrator's name (mention all, if more than one name)	
Name: lecturer muhanned A. Hamzah Email:muhanad.hamzah@mu.edu.iq	
20. Course Objectives	
Course Objectives	
21. Teaching and Learning Strategies	
Strategy	1.Education strategy collaborative concept planning. 2- Brainstorming education strategy. 3- Education Strategy Notes Series

طريقة التقييم	طريقة التعلم	اسم الوحدة	مخرجات التعلم المطلوبة	الساعات	الأسبوع
Answer and question		International student		1 hour	1
Answer and question		Vocabulary development		1 hour	2
Answer and question		Where is the world		1 hour	3
Answer and question		Newspaper article		1 hour	4
Answer and question		Modern technology		1 hour	5
Answer and question		Conferences and visits		1 hour	6
Answer and question		Science and our world		1 hour	7
Answer and question		Writing tends		1 hour	8
Answer and question		Reading air pollution		1 hour	9
Answer and question		Past and present		1 hour	10
Answer and question		IT		1 hour	11
Answer and question		Travel and tourism		1 hour	12
Answer and question		Process		1 hour	13
Answer and question		Invention discoveries		1 hour	14
تقييم المقرر					
توزيع الدرجة من 100 على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ					

مصادر التعلم والتدريس	
New hand way:- Academic skills reading	الكتب المقررة المطلوبة (المنهجية أن وجدت)
writing Academic skills reading writing 2018, 2019	المراجع الرئيسة (المصادر)
المكتبة المركزية	الكتب والمراجع الساندة التي يوصى بها (المجلات العلمية، التقارير....)
المكتبة الافتراضية	المراجع الإلكترونية ، مواقع الانترنيت