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

Academic Programand CourseDescription Guide

2024

Introduction:

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

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

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

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

Concepts and terminology:

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

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether theyhave 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**

Faculty/Institute:**Science**

Scientific Department: **Biology**

Academic or Professional Program Name:**Bachelor's**

Final Certificate Name: **Bachelor's in Biology**

Academic System:**courses**

Description Preparation Date: **26–5–2024**

File CompletionDate: **26–5–2024**

Signature:

Head of DepartmentName:

Asst. Prof. Dr. Hanaa Ali Aziz

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Departmentof Quality Assurance and University Performance

Director of the Quality Assurance and UniversityPerformance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

Our vision is to create a pioneering program in Immunology that advances a deep understanding of the principles of Microbiology that cause disease. We aim to foster an educational environment that fosters scientific curiosity, critical thinking, and the application of clinical knowledge to solve real-world health problems.

2. Program Mission

Our mission is to provide a comprehensive education in Immunology, equipping students with the knowledge and skills necessary to excel in academic, research, and healthcare settings. We strive to advance the field through cutting-edge research, ethical practices, and the development of innovative solutions to global health challenges.

3. Program Objectives

1- Providing students with experience in applied life sciences.
2- Providing state institutions with specialized cadres.
3- Preparing cadres with high experience in life sciences and experience in knowing high-tech devices for investigating microorganisms.
4- Providing students with scientific techniques in using devices and equipment that can be used in their theoretical and applied studies.
5--Research and study everything new in biological sciences and keep pace with scientific developments in this field.

4. Program Accreditation

Yes– Ministry of Higher Education and Scientific Research (Iraq)

5. Other external influences

Ministry of Higher Education and Scientific Research (Iraq)

6. Program Structure

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

College Requirements				
Department Requirements	**X**	**3**		
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	
Master		Immunology	**theoretical**	**practical**

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	• Providing the student with sufficient information to gain experience in dealing with life sciences and laboratory techniques • Gain experience in knowing all laboratory equipment and modern technologies. • Providing him with sufficient information to keep up with and study modern sciences
Skills	
Learning Outcomes 2	**Learning Outcome Statement 2** :To learn how to imitate and imitation • To learn the method of experimentation • Improving the student's ability to observation
Learning Outcomes 3	**Learning Outcome Statement 3:** Possessing scientific knowledge to keep pace with modern developments in biological sciences.
Ethics	
Learning Outcomes 4	Understand the ethical considerations, including the responsible handling of patient samples, confidentiality, and the ethical use of diagnostic techniques.
Learning Outcomes 5	• Enhancing the student's level of understanding through modern methods of learning • Providing him with accurate information • Making the student bear part of enhancing the scientific aspect

9. Teaching and Learning Strategies

Through weekly and quarterly examinations, in addition to scientific reports.

10. Evaluation methods

- Evaluation methods are implemented at various stages of the program, including:
- Continuous Assessment: Regular quizzes, assignments, and participation.
- Laboratory Reports: Evaluation of practical work and experimental results.
- Examinations: Mid-term and final exams to assess comprehensive understanding.
- Projects and Presentations: Assessing the ability to apply knowledge and communicate findings.
- Peer and Self-Assessment: Encouraging reflective learning and peer feedback.
- Mid exam
- Final exam

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Assistant Professor Dr.	Biology	Medical Microbiology			✓	

Professional Development

Mentoring new faculty members

- Orientation programs to familiarize them with departmental policies and teaching methodologies.
- Regular meetings with experienced faculty mentors to discuss teaching strategies and research integration.

Professional development of faculty members

The academic and professional development plan includes:

- Workshops on innovative teaching and learning strategies.
- Seminars on the latest research advancements in Immunology.
- Opportunities for faculty to attend conferences and participate in collaborative research projects.
- Regular assessments and feedback sessions to enhance teaching effectiveness.

12. Acceptance Criterion

The program follows the central admission regulations set by the university, which include academic qualifications, entrance exams, and interviews.

13. The most important sources of information about the program

1- **Medical Microbiology: Jawetz, Melnick & Adelberg's (2013).**
2- **Medical Microbiology & Immunology: Warren Levinson (2012).**
3- **Microbiology and Immunology ,Subhash Chandra Parija,2012**

14. Program Development Plan

The development plan for the Immunology program involves continuous curriculum review and updates based on the following key elements:

- **Feedback from Students, Faculty, and Industry Partners**: Regularly collect and incorporate feedback from students, faculty, and industry partners to ensure the curriculum remains relevant and meets the needs of all stakeholders.
- **Emerging Trends and Technological Advancements**: Stay abreast of the latest trends and technological advancements in immunity to integrate new knowledge and techniques into the curriculum.
- **Accreditation Requirements and Standards**: Adhere to accreditation requirements and standards set by relevant accrediting bodies to ensure the program maintains high educational and professional standards.
- **Periodic Assessments**: Conduct regular assessments and evaluations of the program to ensure it meets its educational and professional objectives, making adjustments as necessary to improve outcomes and maintain excellence.

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
		Immunology	optional	+	+	+		+	+			+	+		

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

Course Description Form

1. Course Name: **Immunology**

2. Course Code:

3. Semester / Year: First Semester

4. Description Preparation Date: 26-9-2024

5. Available Attendance Forms:

6. Number of Credit Hours (Total) / Number of Units (Total):
   4/3

7. Course administrator's name (mention all, if more than one name)
   Name: Asst Prof. Dr. Noor Sami Aboud
   Email: drnoor_s78@mu.edu.iq

8. Course Objectives

Course Objective	- Knowing the mechanisms of action innate immunity and acquired immunity - Study of the lymphatic system and immune cells - Study of antigens and antibodies - Understanding how immunity system acts against microbes - Understanding the occurrence of diseases resulting from immunodeficiency or hyperimmunity, such as allergies, autoimmunity, and AIDS - Linking information to reality and applying it

9. Teaching and Learning Strategies

Strateg	• Active Participation and Interaction: Engage students in discussions and interactive lectures to deepen understanding. • Hands-on Laboratory Sessions: Facilitate practical experiments to apply theoretical knowledge. • Case Studies and Practical Workshops: Provide real-world scenarios to enhance problem-solving skills. • Communication Skills Training: Develop written and oral communication skills for scientific contexts. • Integration of General and Transferable Skills: Incorporate critical thinking, problem-solving, and research skills • into the curriculum. • Ethical Considerations: Discuss ethical issues related to genetic research and engineering. • Staying Updated with Research: Encourage students to read scientific journals and participate in research activities. • Collaboration and Teamwork: Promote group projects and teamwork to simulate scientific collaboration.

10. Course Structure

Week	Hours	Required Learning	Unit or subject	Learning	Evaluation

		Outcomes	name	method	method
1	2	Immune system, Role of the immune system,Historical Background of Immunology , Types of immunity	Introduction to Immunology as Science	Lecture and Discussion	Quiz
2	2	Characteristics of non-specific (Innate) immunity A. Anatomical barriers against infections: 1. Mechanical (physical) factors 2. Chemical factors 3. Biological factors B. Humoral barriers against infections C. Cellular barriers against infections	Types of Innate Immunity	Laboratory Session	Report
3	2	Characteristics of acquired Immunity: Classification of adaptive immunity according to the nature of the components Classification of adaptive immunity according to the route acquirement Factors affecting the immune system	Adeptive immunity	Practical Workshop	Report
4	2	Granulocytes:- polymorphonuclear cells (PMNs) Non- granulated cells Lymphocytes	Cells of the immune system	Lecture and Discussion	Mid-term Exam
5	2	Lymph and Lymphoid Tissues Organs of Immune System 1- Primary (central) lymphoid organs 2- Secondary (peripheral) lymphoid organs	Lymphatic organs	Laboratory Session	Report
6	2	Mechanisms of immune response Primary immune response Secondary immune response	The effectiveness of the immune system and the immune response	Lecture and Discussion	Quiz
7	2	Structure of Immunoglobulin Classes of immunoglobulines	Antibodies	Practical Workshop	Assignment
8	2	The properties of foreign substances that induce an	Antigens and Immunogen	Laboratory Session	Report

		immune response Factors Influencing Immunogenicity Epitope, Paratope, Hapten, adjuvant			
9	2	Antigen-Antibody Complex Affinity 1. Neutralization of microbes and toxins. 2. Activation of complement system 3. Opsonization: 4. Agglutination 5. Antibody-dependent cell-mediated cytotoxicity (ADCC):	Antigen-Antibody Reaction	Lecture and Discussion	Quiz
10	2	Complement System	1.Synthesis and metabolism of complement components. 2. Activation of the complement system. 3. Function of the complement system 4. Complement Pathways 5.Membrane attack complex Formation:	Lecture and Case Study	Assignment
11	2	Autoimmune diseases	Origin of T Cells thymic education Immunologic Tolerance	Practical Workshop	Mid-term Exam
12	2	Immunologic Tolerance	Central T-cell tolerance Peripheral T-cell tolerance Central B Cell Tolerance Peripheral B-cell tolerance	Lecture and Discussion	Quiz
13	2	Relationship between tumor and immunity	Immune cell with antitumor activity Tumor associated antigens immunotherapy	Laboratory Session	Report
11. Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, dailyoral, monthly, or written exams, reports .... etc					
12. Learning and Teaching Resources					

Required textbooks (curricular books, if any)	
Main references (sources)	1- Medical Microbiology: Jawetz, Melnick & Adelberg's (2013). 2- Medical Microbiology & Immunology: Warren Levinson (2012). 3- Microbiology and Immunology ,Subhash Chandra Parija,2012
Recommended books and references (scientific journals, reports...)	Scientific journals on Immunology
Electronic References, Websites	• PubMed • Immunology Society website