

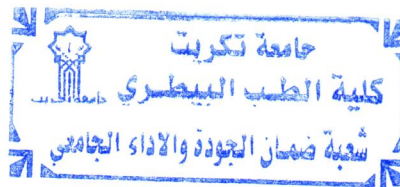
Microbiology

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

2025-2026



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 they have made the most of the available learning opportunities. It is derived from the program description.

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

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

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

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

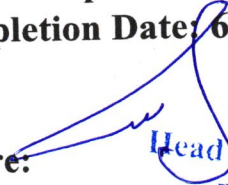
Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

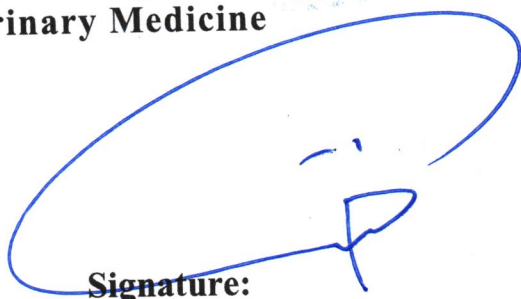
Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Tikrit University
Faculty/Institute: College of Veterinary Medicine
Scientific Department: Microbiology
Academic or Professional Program Name: Microbiology
Final Certificate Name: BSc degree in Veterinary Medicine
Academic System: Courses
Description Preparation Date: 5\10\2025
File Completion Date: 6\11\2025



Signature: 
Head of Department Name: Sanaa.S.Ahmed
Date: 6\11\2025

Signature: 
Scientific Associate Name:
Date: 6\11\2025

— Asst . Prof . Dr —
Montaser M. Helal

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:

Asist . Prof. Dr.
Ahmed Abdullah Sultan

.. Prof. Dr.
Ahmed Abdullah Sultan

Date: 6/11/2025

Signature: 


Tikrit University
College of Veterinary Medicine
Dr. Bashar Sadiq Noonni
Dean of the College
Approval of the Dean



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1. Program Vision

The College of Veterinary Medicine / Tikrit University seeks to become an educational, research and extension institution and to be a pioneer and distinguished in order to advance the educational process and advance it regionally and internationally by adhering to Arab and international quality assurance standards and policies and university performance and achieving excellence and creativity in the field of the veterinary medicine profession by creating competencies. Veterinary medicine is able to keep pace with scientific development in the field of the profession, as this is done through developing and updating the curriculum so that graduates can perform their work efficiently in accordance with the need of the labor market and provide the best service to society.

2. Program Mission

The basic outputs of the college are to prepare distinguished, competent graduates in the field of veterinary medicine by relying on the outputs of the College of Veterinary Medicine as basic building blocks for primary and postgraduate studies to serve the country's livestock. This is done by developing the curriculum in a way that is compatible with the spirit of the times and modernity. The college is also committed, through its mission, to honesty and quality in education at all levels. In addition to encouraging distinguished research projects for teachers in accordance with the needs of society and the labor market. The college also seeks to achieve excellence in preparing students with solid academic preparation that qualifies them to serve the community in the field of specialization. It also works to establish values and ideals among the college's members and students.

3. Program Objectives

The College of Veterinary Medicine aims to raise the scientific level of undergraduate and graduate students and build their capabilities at the scientific and applied levels, and work to direct scientific research in the applied direction in the field of veterinary medicine and livestock and protect humans from common diseases by combating them and carrying out awareness and educational campaigns to prevent them, as well as graduating doctors. Veterinarians are able to perform their work in the field of community service with high efficiency through the scientific capabilities available at the college, including laboratories, the consulting office, and the veterinary teaching hospital, examining and treating various field animals, poultry, and fish ponds, supervising and treating them, and providing consultations in the field of care and nutrition of animals, poultry, and fish in order to obtain a food product. Safe from healthy animal origin and free of diseases, spreading environmental and cultural awareness of the importance of veterinary medicine in serving society and developing the environment, focusing on the educational and moral aspect of the student and spreading the spirit of dedication, tolerance and commitment.

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4. Program Accreditation
National Council for Accreditation of Veterinary Medicine College

5. Other external influences
European System of Evaluation of Veterinary Training (ESEVT) European Association of Establishments for Veterinary Education” (EAEVE) European Coordinating Committee on Veterinary Training (ECCVT) European Board for Veterinary Specialization” (EBVS) World Organization of Animal Health (WOAH)

6. Program Structure				
Program Structure	Number of Courses	Study Unit	Percentage	Reviews*
Institution Requirements	30 hours (practical), first semester 30 hours (practical), second semester	5 first semester units + 5 second semester units		Basic course
College Requirements	Yes			
Department Requirements	Yes			
Summer Training	Yes			
Other				

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

7. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
2025-2026/Third stage	MIC134	Microbiology		3 Theoretical 2 practical

2025-2026/Third stage	MIC234	Microbiology		3 Theoretical 2 practical
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8. Expected learning outcomes of the program	
Knowledge	
	Enabling students to obtain knowledge and understanding of microbiology and fungal diseases.
Skills	
	1-Enabling Students to solve problems related to microbiology 2-proficiency in using the English language ,reading ,writing and applying it general concepts of the english language and its literature . 3-The students knowledge and memorization of some literary texts in the english to enhance his general culture . 4-Developing the students skills by focusing on some external influences that help him develop himself . 5-Enabling students to use glass slides including histological sections from various branches of veterinary medicine ,in addition figures and posters explaining specific disease conditions 6-Enabling students to pass job interviews .
Ethics	
	Developing students' abilities to share ideas
	1- Enabling the student to know how to diagnose the disease and the pathology of the disease 4- Enabling students to know about diseases and the extent of their impact on public health and economic aspects

9. Teaching and Learning Strategies
1. The lecture 2. Discussion 3. Holding discussion circles 4. Holding training courses in the field of practical applications 5. Providing students with basics and additional topics related to the previous learning outcomes of skills, to solve problems the operati

10. Evaluation methods

weekly, monthly, and daily exams, and the end of the semester

11. Faculty						
Faculty Members						
Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor PhD	Biology	Microbiology			Staff	Lecturer
Professor PhD	Biology	Microbiology			Staff	Lecturer
Assist.Prof.PhD.	Biology	Microbiology			Staff	Lecturer
Professor	Biology	Microbiology			Staff	Lecturer

Professional Development

Mentoring new faculty members

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

Professional development of faculty members

- 1-Time management and setting priorities
- 2-perseverance and teamwork
- 3-Freedom to choose a role model or stage representative for the student

12. Acceptance Criterion

The central admission system is based on the applicant's choice

13. The most important sources of information about the program

Textbooks and Recommended Reference
 P.J. Quin, BK Markey, ME Carter, WJ Donnelly and FC Leonard. Veterinary Microbiology and Microbial Disease. Blackwell Science
 Peter Borriello, Patrick R. Murray and Guido Funke. Topley and Wilson's Microbiology and Microbial Infections, Bacteriology Volumes I & II. Hodder Arnold
 Glen Sonder J & Karen W Post. Veterinary Microbiology: Bacterial and Fungal Agents of Animal Diseases. Cold Spring Harbor Lab. Press.
 Veterinary Clinical Microbiology, By Patrick Quinn Bryan Markey , Mark Carter and G.R. Carter. 2nd Revised edition.2013.

14. Program Development Plan

In order to link the theoretical information that the student receives to clinical reality, several things must be done, the most important of which are the following: -

- 1- Increasing field visits to government and private projects
- 2- Encouragement to visit the college library and the central library at the university
- 3- Urging students to benefit from summer training in veterinary centers and the teaching hospital
- 4- Improving research projects and graduation projects.

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	
2023-2024 Third	MIC134	Microbiology	Basic		x		x	X						x		
	MIC234	Microbiology	Basic													

- 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:	
2024-2025/ Third year	
4. Description Preparation Date:	
5/10/2024	
5. Available Attendance Forms:	
Weekly	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 practical hours. 2 practical hours per week	
7. Course administrator's name (mention all, if more than one name)	
<p>Name :</p> <p>First course</p> <p>Prof.Dr.Nihad Abdulhussain Jafar Email : nihadabid73@tu.edu.iq</p> <p>Lect. Dr. Dhuha Salah Noori Email : dhuhasalah@tu.edu.iq</p> <p>Second courses</p> <p>Prof.Dr.Bashar Sadeq Noomi Email : vetbashae@tu.edu.iq</p> <p>Dr.Assist.Prof. Sanaa Saoud Ahmed Email: Sanaa.s.ahmed@tu.edu.iq</p> <p>Prof. Hiba Younis Khalaf Email: hibamicrobiology@tu.edu.iq.</p> <p>Assist. Lect.Yosra Majeed Talab Email Yusra.m.talib@tu.edu.iq</p>	
<p>Practical</p> <p>Assist. Lect. Hanen omar bahjat Email ; Hanenomar@tu.edu.iq</p> <p>Assist. Lect. Ban Badran Adnan Email : ban.b.adnan@tu.edu.iq</p> <p>Assist. Lect. Rasha Jamal Khudhur Email rasha.jamal@tu.edu.iq</p>	
8. Course Objectives	
<p>This course aims to give the student a complete idea of microorganisms from ancient times to the present, through his study of a number of microorganisms and methods of detection using modern technologies.</p> <p>Providing the student with practical and theoretical information</p> <p>On how to study and cultivate microorganisms</p> <p>Accuracies and modern molecular methods in diagnosing some bacterial and viral diseases that infect humans and animals.</p> <p>A study on microscopic organisms bacteria, viruses, and their classification.</p>	
9. Teaching and Learning Strategies	
Strategy	<p>Delivering lectures explaining and clarifying.</p> <p>Clarifying. Using technological educational aids as aids</p> <p>For teaching, educational films, and electronic lectures. Self-learning method through the support of an environment</p>

Learner-centered learning.
 Encourage students to use the library as a method of learning
 Developing student's ability on the subject of microbiology
 Its risks, methods of transmission between humans and animals, and
 how to treat it with antibiotics

10. Course structure

Course level: third year

Course Name: Theoretical Microbiology

Semester: First

Evaluation Methods	Learning Methods	Subject Name	Learning Methods Outcomes	Hours	Weeks
Daily exam, discussion	Lecture, explanation, and PPT	Introduction and History of Microbiology	Introduction to microbiology and its historical context	6	1 & 2
Daily exam, discussion	Lecture, explanation, and PPT	Structure of Prokaryotic Cells	Understanding prokaryotic cell structure	3	3
Daily exam, discussion	Lecture, explanation, and PPT	Growth and Nutrition in Bacteria	Knowledge of bacterial nutrition and growth mechanisms	3	4
Daily exam, discussion	Lecture, explanation, and PPT	Control of Microbial Growth: Disinfectants, Antibiotics, Chemotherapy	Mastery of microbial control methods	3	5
Daily exam, discussion	Lecture, explanation, and PPT	Microbial Metabolism	Insight into microbial metabolism	3	6
					7
Daily exam, discussion	Lecture, explanation, and PPT	Bacterial Genetics	Comprehension of bacterial genetics and replication mechanisms	6	8
Daily exam, discussion	Lecture, explanation, and PPT	Mycology	Familiarity with fungal classification and pathogenicity	3	9
Daily exam, discussion	Lecture, explanation, and PPT	Staphylococcus	Identification of Staphylococcus virulence factors	3	10

Daily exam, discussion	Lecture, explanation, and PPT	Streptococcus and Related Cocci	Understanding Streptococcus and related cocci	3	11
Daily exam, discussion	Lecture, explanation, and PPT	Corynebacterium species and Rhodococcus equi	Knowledge of Corynebacterium species and their diseases	3	12
Daily exam, discussion	Lecture, explanation, and PPT	Genus: Arcanobacterium, Genus: Nocardia, Genus: Dermatophilus	Understanding various genera and their pathogenic effects	3	13
Daily exam, discussion	Lecture, explanation, and PPT	Spirochaetes Leptospira	Description of Spirochaetes and their impact on health	3	14
Daily exam, discussion	Lecture, explanation, and PPT	Genus: Borrelia, Genus: Listeria	Insight into Borrelia and Listeria virulence	3	15
		Final exam for the first course			

. Course structure

Course level : third year

Course Name: Theoretical Microbiology

Semester:Second

Evaluation Methods	Learning Methods	Subject Name	Learning Methods Outcomes	Hours	Weeks
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Genus: Mycobacterium	Description of the bacterium with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	3
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Genus: Pasteurella, Genus: Moraxella	Description of the bacterium with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	4
Mid exam					

Questions, discussion, and daily exam	Lecture, explanation, and PPT	Family: Enterobacteriaceae - General features and classification, Genus: Escherichia, Genus: Salmonella, Genus: Klebsiella, Genus: Proteus, Genus: Yersinia	Description of the bacterium with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	6
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Genus: Pseudomonas, Genus: Burkholderia, Genus: Mannheimia	Description of the bacterium with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	7
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Genus: Brucella, Genus: Campylobacter	Description of the bacterium with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	8
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Genus: Taylorella, Genus: Haemophilus	Description of the bacterium with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	9
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Genus: Mycoplasma	Description of the bacterium with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	10
Mid exam					
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Rickettsia and Chlamydia	Description of the bacterium with recognition of its main virulence factors and	3	12

			pathogenesis, and the major diseases it causes in animals		
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Systematic Mycology, Dermatophytes, Genus: Microsporum, Genus: Trichophyton	Description of the fungus with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	13
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Genus: Aspergillus: Candida albicans, Cryptococcus neoformans, Malassezia pachydermatis, Blastomyces dermatitidis, Coccidioides immitis	Description of the fungus with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	14
Questions, discussion, and daily exam	Lecture, explanation, and PPT	Histoplasma capsulatum, Histoplasma farciminosum, Sporothrix schenckii, Zygomycoses: Mucormycosis, Entomophthomycosis, Rhinosporidium seeberi, Fungi associated with mastitis and abortions in animals, Mycotoxicoes	Description of the fungus with recognition of its main virulence factors and pathogenesis, and the major diseases it causes in animals	3	15
Final exam					

Practical Microbiology
Semester: First & second.

Evaluation methods	Learning methods	Subjects name	Learning methods outcomes	Hours	Weeks
Questions, discussion and daily exam	Lecture and explanation	Safety in the microbiology laboratory and types of microscope	Learn about ways to preserve laboratory safety Microbiology, basic laboratory equipment and types of microscopes	2	1
=	=	<u>Sterilization and disinfection</u>	Learning about sterilization methods for disinfection and types of disinfectants and sterilizers	2	2
=	=	Bacterial media ,preparation and types of culture media	To learn culture media of bacteria methods of preparation	4	4&3
=	=	Isolation in culture techniques Bacterial colonies	Identify methods of culturing samples, techniques for obtaining pure growth	2	5
=	=	Measurement of bacterial growth and total count	Identify bacterial growth and number of bacteria	2	6
=	=	Bacterial staining	Identify the types of dyes and methods of staining	4	7&8
=	=	Preservation of bacteria	Preservation of bacteria	2	9
=	=	Practical Exam for the first course			10
=		Antibiotic Sensitivity Test	Learn about antibiotic testing		11
=	Lecture and explanation with preview of samples	Biochemical test	Identify of biochemical test to diagnose bacteria	6	12
=	Lecture and explanation with preview of samples	Staphylococcus	Identify the Staphylococcus and its pathogenicity	2	13
=	=	Streptococcus	Identify the Streptococcus and its pathogenicity	2	14 & 15

Practical Microbiology / 2 hours

Semester: second

15 - Coures level :3nd year

Course Name :Practical Microbiology/ 2 hours