

## Microbiology program's description

Identification Card	
Program:	Microbiology
Program Code:	MBIO
Qualification Level:	6 (Bachelor)
Department:	Botany and Microbiology
College:	Science
University:	King Saud University
Program's Main Location:	Al Daryah, Riyadh
Program's Branches:	NA
Total credit hours:	136
Exit Points:	NA

### Microbiology Program's Mission

Providing distinguished education and advanced scientific research to meet the needs of the society through an innovative and stimulating academic and administrative environment, with the optimal use of technology and local and international partnership in the field of Microbiology.

### General description

The Microbiology program is designed to equip students with a comprehensive understanding of fundamental microbiological theories and principles, as well as the practical skills necessary for laboratory work. Students will engage in various laboratory techniques to validate their theoretical knowledge, conduct independent research projects involving hypothesis formulation, experimentation, and data analysis, while adhering to ethical guidelines and safety protocols. The curriculum emphasizes effective organization and management of work in both laboratory and field settings. Learning outcomes focus on recognizing key microbiological concepts, understanding the relationships between microorganisms and their environments, and analyzing their roles across medical, agricultural, industrial, and pharmaceutical contexts. Teaching strategies include lectures, group discussions, and cooperative activities, with assessments through written exams, quizzes, practical tests, and research project evaluations. Graduates will emerge with specialized knowledge, critical thinking abilities, technical skills, and a strong foundation in professional ethics, preparing them for lifelong learning and leadership in the field.

### Microbiology program's study plan

The Microbiology program's study plan is structured across nine levels, systematically building students' knowledge, skills and values in microbiology and related disciplines. In the initial levels, students engage in foundational courses such as Differential Calculus, General Chemistry, and English Language, alongside introductory subjects like IT Skills and Entrepreneurship. As they progress, specialized courses like General Microbiology, General Virology, and Microbial Ecology emerge, complemented by practical laboratory skills training. Advanced levels focus on medical microbiology, immunology, and research methodologies, finishing in a significant research project and extensive training in medical microbiology laboratories. Electives throughout the curriculum allow for customization and exploration of specific interests within the field, ensuring that Graduates are equipped for a range of professional opportunities in microbiology.

### Facilities and Equipment

The Microbiology program offers 30 modern classrooms with audiovisual facilities and capacities of 30 to 50 students, fostering an interactive learning environment. It features 20 well-equipped laboratories stocked with essential tools and materials for practical sessions, supported by a Departmental Laboratory and Safety Committee that ensures regular maintenance and updates. Safety is prioritized with first-aid kits available in all laboratories, enhancing the overall educational experience.

### Jobs for which students are qualified

Graduates of the Microbiology program have a wide array of career opportunities, including roles as laboratory technicians and research assistants in various ministries, such as Higher Education, Education, Defense, and Health. They can also work as researchers in microbiology for the Ministry of Agriculture or as quality experts with the Saudi Standards, Metrology, and Quality Organization. Additionally, there are opportunities in wildlife conservation, scientific research institutions, and sales positions with scientific preparation companies.

### Program Description's Approval Data

Council / Committee	Botany and Microbiology department
Reference No.	Program description 2024
Date	October 2024