



Università di Camerino  
School of Bioscience  
and Veterinary Medicine

# BIOSCIENCES AND BIOTECHNOLOGY

## **Bachelor Degree**

First Cycle Degree

**Duration** 3 years

**ECTS credits** 180

**Campus Location** Camerino

**web site**

[biologybiotechnology.unicam.it](http://biologybiotechnology.unicam.it)

*School of Bioscience  
and Veterinary Medicine*

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## **COURSE PRESENTATION**

The Bachelor Degree in Biosciences and Biotechnology is an interclass degree: it consists of a common first year, where the student is provided with a solid base in mathematics, physics, chemistry, and cell biology, followed by a second and third year when the student follows either the program leading to the Biology or Biotechnology degree. Upon enrollment in the interclass degree, students must indicate the qualification desired (Biology or Biotechnology); however, the final decision between the two program degrees can be delayed to the third year, provided that the missing credits have been fully covered.

The course benefits from a friendly and skillful teaching staff and reliable supporting structures, such as laboratories, libraries, in addition to dedicated tutorship services. The Bachelor in Biosciences and Biotechnology is in the geo-biological group which ranked first in Italy for the quality of education in the ranking of Italian Universities (CENSIS, Ranking 2018/2019).

## **ADMITTANCE REQUIREMENTS**

High-school diploma) that satisfies the requirements for access to university education, i.e. conferred on completion of a minimum of 12 years of education.

Level of language proficiency required: ENGLISH level B1 (Threshold level).

**Further information on admission rules, pre-admission deadline and other services at**  
<http://international.unicam.it>

## **CAREER OPPORTUNITIES**

The curriculum in **Biology** is appropriate for students desiring a focused, in-depth grounding in all the essential elements of the biological sciences, and is particularly suitable for students intending to pursue graduate study in biological and applied sciences.

The curriculum in **Biotechnology** focuses on the study of biological processes of living organisms. Students learn the skills needed to naturally manipulate processes in the development of new medicine, food and organic substances. This course provides students with a basic knowledge for the study of biotechnology with an emphasis on DNA technology, cell and molecular biology, and a wide range of practical skills, supplemented with relevant aspects of ethics law and business.

In both programs, the foundation of knowledge, plus laboratory experience, prepares students to function effectively in a variety of technical and laboratory research settings.

The graduates in **Biosciences and Biotechnology** are also qualified for access to Master courses in either biological and biotechnological fields, by which they could achieve higher professionalism and also access to doctoral courses in biology or related fields.

Classes are held in English



## COURSE STRUCTURE

There are two Semesters, from October to the end of January, and from March to mid-June. The Winter Exam Session is in February. The programme of study is structured on a comprehensive core curriculum that is common to both Biology and Biotechnology majors but, upper-division level, coursework is designed to achieve a deeper education in specialized areas of Biology or Biotechnology. The course programs also offer flexibility through electives.

Completion of the degree program requires an internship carried out by the student under the supervision of an UNICAM tutor. An internship is a practical experience to be carried out in the university laboratories or in the workplace that offers the student an opportunity to apply, connect, and extend academic theory and competencies to build professional skills and network.

### Test for background knowledge

The test, that usually is held before the beginning of classes, is mandatory for the freshmen of all Bachelor Degrees, but it does not affect in any way the enrollment. It is in fact possible to finalize the enrollment before taking the test.

### Major in Biology (L-13)

I year	ECTS
General Biology and Histology	12
General and Inorganic Chemistry	8
Mathematics	8
Physics	7
Statistics and Computer Sciences	8
Organic Chemistry	7
English language - Level B2	6
Laboratory I	6

### II year

Molecular Biology, General Genetics	14
Biochemistry	8
Anatomy	6
General Microbiology	6
Zoology and Botany	14
Cell and Developmental Biology	8
Laboratory II	6

### III year

Hygiene and Clinical Microbiology	6
Physiology and Fundamentals of Pathology	12
Ecology and Parasitology	6
Molecular Genetics	6
Clinical Biochemistry	6
Student's choice	12
Stage	5
Bachelor Thesis	3

### Major in Biotechnology (L-2)

I year	ECTS
General Biology and Histology	12
General and Inorganic Chemistry	8
Mathematics	8
Physics	7
Statistics and Computer Sciences	8
Organic Chemistry	7
English language - Level B2	6
Laboratory I	6

### II year

Molecular Biology and General Genetics	14
Biochemistry	8
General and Industrial Microbiology	12
Intellectual Property, Regulatory and Bioethical Concerns	6
Cell Biology and Biotechnology	8
Food Chemistry and Processing	6
Laboratory II	6

### III year

Molecular Genetics, Genetics of Microorganism and Microbial Biotechnology	12
Physiology and Fundamentals of Pathology	12
Clinical Biochemistry	6
Molecular Applications in Biomedicine	8
Student's choice	12
Stage	5
Bachelor Thesis	3

## QUALITY ASSURANCE SYSTEM

UNICAM Quality Management System Certificate ISO 9001:2008 (from AFAQ-France, a French leader and one of the first certification bodies at the global level) guarantees students the quality of services provided.

The guarantee is via a rigorous analysis of internal organizational procedures and the prompt addressing of any weaknesses or shortcomings whether detected or reported by the students themselves.

The Quality Management System includes the following support services for students: orientation and guidance, mentoring, International mobility, Internships and communication. These integrate with and support the educational activities, so as to contribute to the complete training of the student.



For 2019, in the **U-MULTIRANK** international ranking, UNICAM was placed among the top 25 universities in the world in the area of international orientation, chosen among 1700 universities (of which 49 are Italian) from 96 countries.

The annual ranking takes into consideration the areas of greatest interest to students such as teaching and learning, knowledge transfer, orientation and research.



a.y. 2019/2020