

Biological Sciences

Master Degree

Second Cycle Degree

duration 2 years

ECTS credits 120

Campus Location Camerino

web site

<https://biologicalsciences.unicam.it>

School of Biosciences and Veterinary Medicine

Director

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Delegates

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International Mobility

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Stage and Placement (Internship)

prof. Stefania Silvi

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INTRODUCING THE MASTER

The second level degree in Biological Sciences (LM-6 class Biology) aims to train graduates with advanced knowledge and expertise in modern biomolecular and biotechnological methodologies for application in diagnostic, nutritional, and environmental fields. Indeed, students can choose from various parallel curricula:

- **Molecular Diagnostics and Biotechnology**
- **Nutrition: Functional and Sustainable Food**

These curricula, which share core courses, provide students with the flexibility to tailor their degrees to their backgrounds, interests, and career goals. To support the mobility and successful integration of students and graduates in an international context, these courses will be offered in English.

- **Conservation Biology and Environmental Management**

This curriculum is primarily presented in Italian. However, some courses, which provide relevant professional skills for an international context, are offered in English, as indicated in the list on the next page.

The characterization of the degree course in Biological Sciences is also enriched of a further curriculum, offered in Italian and more specifically aimed at preparing for the profession of nutritional biologist, with a particular attention towards sports nutrition:

- **Nutrizione per il Benessere e lo Sport**

In parallel with the degree course in Biological Sciences, students can enroll in the Scuola di Studi Superiori "Carlo Urbani", an institution of excellence, subject to selection based solely on merit.

For more information, visit: <https://scuolastudisuperiori.unicam.it>

ADMITTANCE REQUIREMENTS

- Bachelor Degree that satisfies the requirements for access to University Master Degree courses
- List of subjects studied (transcript of records with grades obtained):
 - at least 15 ECTS in basic courses (Mathematics, Physics, Chemistry)
 - at least 60 ECTS in courses in biological areas
- Level of language proficiency, strongly recommended for the curricula offered in English: ENGLISH level B2

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

CAREER OPPORTUNITIES

The goal of the Master course in Biological Sciences is to prepare its graduates to start a career in different areas of Biological Sciences with particular regard to scientific research and diagnostics on biomedical, nutritional, and environmental fields.

Graduates will be equipped to apply biology and biotechnology at functional and molecular levels in industry, in the service sector, and in various areas of public administration. The degree in Biological Sciences, through its specific curricula, prepares professionals such as nutritional biologists, who are qualified to formulate personalized diets and oversee educational, nutritional, and environmental surveillance programs.

All curricula prepare students to engage in research, lead lab teams, make development and planning decisions, and create and apply research methodologies to large projects.

Graduates in Biological Sciences will be adequately prepared for access to third-level education (PhD programs or specialized schools) in molecular biology and biotechnology worldwide.



ORGANIZATION

The course includes fundamental training activities and elective courses chosen by the student, making the study program extremely flexible and personalized. A portion of the credits (CFU) is reserved for laboratory or field activities to deepen experimental methods and the principles of scientific investigation. Periods of study abroad at numerous partner universities are highly encouraged.

COURSE STRUCTURE

There are two Terms, from October to the end of January, and from March to mid-June.

The Winter Exam Session is in February, the Summer session is in June, July and September..

The Study Plan proposes different curricula focused to achieve a deeper education in specialized areas of Biology or Biotechnology.

Curriculum Molecular Diagnostics and Biotechnology

I year	CFU
Genomics and Proteomics	12
High Performance Bio-Analytical Methods	6
Epigenetics	6
Biology of Cancer and Biomolecular Therapeutic Agents	6
Clinical and Molecular Diagnostics	6
Rotation Laboratory	6
Student choice	8

II year	CFU
Stem Cell Technologies and Animal Models	12
Molecular Parasitology	6
Molecular Ecology	6
Molecular Archeological and Forensic Anthropology	6
Microbial Pathogenesis and Biofilms	6
Experimental Thesis	30
Final Dissertation	4

Curriculum Nutrition: Functional and Sustainable Food

I year	CFU
Alternative Food & Nutrients Sources	6
Applied Nutrition	6
Food Quality	12
Functional-Sustainable Food Technologies	6
Microbiota and Nutritional Conditions	6
Epigenetics	6
Pathological Conditions related to Nutritional Habits	6
Sustainable Food Systems	12

II year	CFU
Blood Parameters and Nutritional Conditions	6
Endocrino-Metabolic Interplay	6
Population Epidemiology through Genome Wide	8
Association Studies	8
Internship	6
Student choice	8
Experimental Thesis	24
Final Dissertation	2

Curriculum Conservation Biology and Environmental Management

I year	CFU
Ecologia delle comunità	8
Programmi di valutazione e monitoraggio della biodiversità/ Biodiversity assessment and monitoring schemes	12
Statistica applicata	6
Genetica della popolazione ed ecologia animale	6
Principi di ecologia del paesaggio/Principles of landscape ecology	6
Metodi bio-analitici di precisione/ High performance bio-analytical methods	6
Attività di laboratorio/Rotation laboratory	6
Crediti liberi / Student choice	10

II year	CFU
Adattamento degli animali all'ambiente	6
Servizi ecosistemici	6
Genetica ed ecologia delle popolazioni vegetali	7
Microbiologia del suolo e biodiversità	7
Tesi sperimentale/ Experimental thesis	30
Dissertazione finale/ Final dissertation	4

Curriculum Nutrizione per il Benessere e lo Sport

I year	CFU
Alimenti Funzionali per il Benessere e lo Sport	12
Epigenetica & Nutrizione	6
Fisiopatologia & Nutrizione	12
Metodi Bioanalitici per la Valutazione dello Stato Nutrizionale/Metabolico	6
Nutrizione Applicata 1: nutrizione per il benessere	6
Nutrizione Applicata 2: nutrizione a supporto dell'attività sportiva	6
Nutrizione di Precisione per il Benessere e lo Sport	12

II year	CFU
Basi Etnico-Culturali della Nutrizione	6
Ecosistema Microbiota-Stato Nutrizionale Organismo	6
Endocrinologia & Metabolismo	6
Parametri Biochimico-Clinici e Stato Nutrizionale	6
Tirocinio	6
A libera scelta	8
Tesi	20
Dissertazione Tesi	2

QUALITY ASSURANCE SYSTEM

UNICAM Quality Management System Certificate ISO ISO9001:2015 (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.

Student Services

Guidance

<https://orientamento.unicam.it/>

Scholarships

- WelcomeinUnicam for master's degrees
- TalentinUnicam for merit students
- Unicam/Cus per sport students

<https://www.unicam.it/studente/servizi-studenti/borse-di-studio>

"Carlo Urbani" School of Higher Studies

<https://scuolastudisuperiori.unicam.it/>

Counseling and psychological well-being

<https://www.unicam.it/studente/servizi-studenti/servizio-di-consulenza-psicologica>

Services for Students with Disabilities and DSA

<https://disabili.unicam.it/>

Internships and Placements

<https://stage.unicam.it/>
<https://placement.unicam.it/>

Welcome and International mobility

welcoming international students and mobility programs
<https://international.unicam.it/>



Information

Open

Monday-Wednesday-Friday 10.30-13.00
Tuesday-Thursday 15.00-17.00

Guidance

via Gentile III da Varano, 2 - 62032 Camerino
0737 404606 - 404622 - 403727 orientamento@unicam.it

Address Student Office

via Gentile III da Varano 26 - 62032 Camerino

Ticketing: <https://segreteria studenti.unicam.it/>

Contributions and registrations

Procedure available at <https://miiscrivo.unicam.it/> from 3 luglio
Personalized fees on the basis of the ISEE-U
Total or partial tuition fees exemptions

More information

<https://www.unicam.it/didattica/guida-dello-studente>
Students International
<https://international.unicam.it/> e-mail: welcome@unicam.it

Educational services, Classrooms, Lesson timetables
<https://www.unicam.it/studente>

Bachelor's Degree and Master's Degree Programmes

<https://www.unicam.it/didattica>