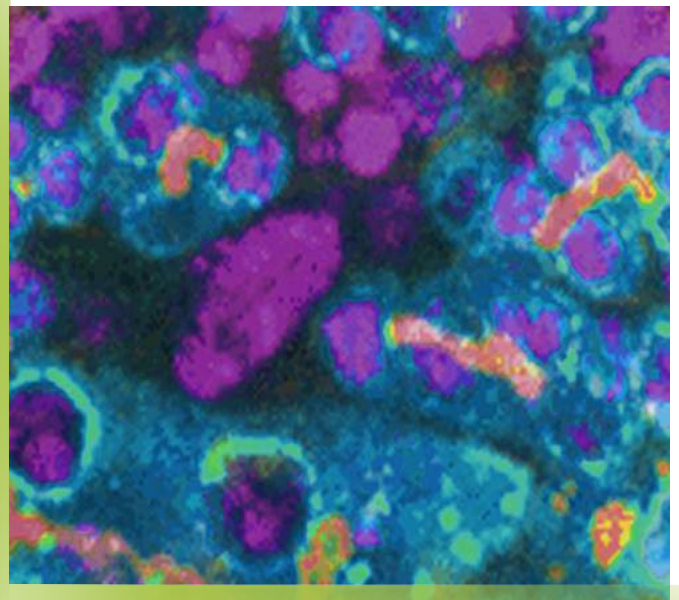
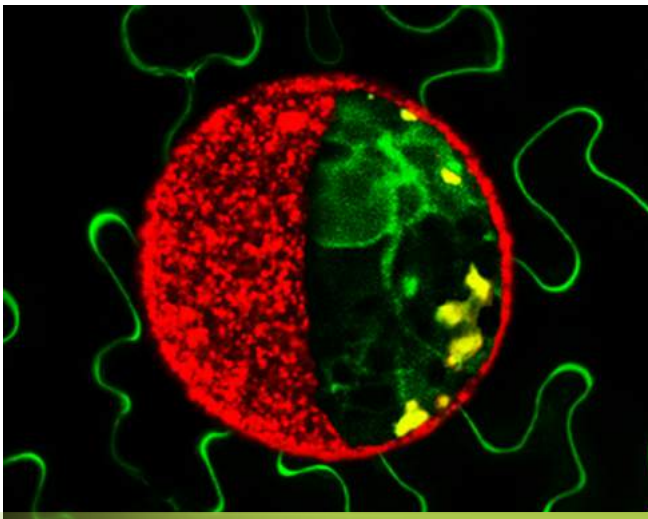


Department of

# Biological and Environmental Sciences and Technologies

(DiSTeBA)



**UNIVERSITÀ  
DEL SALENTO**

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## The Department of Biological and Environmental Sciences and Technologies: an overview

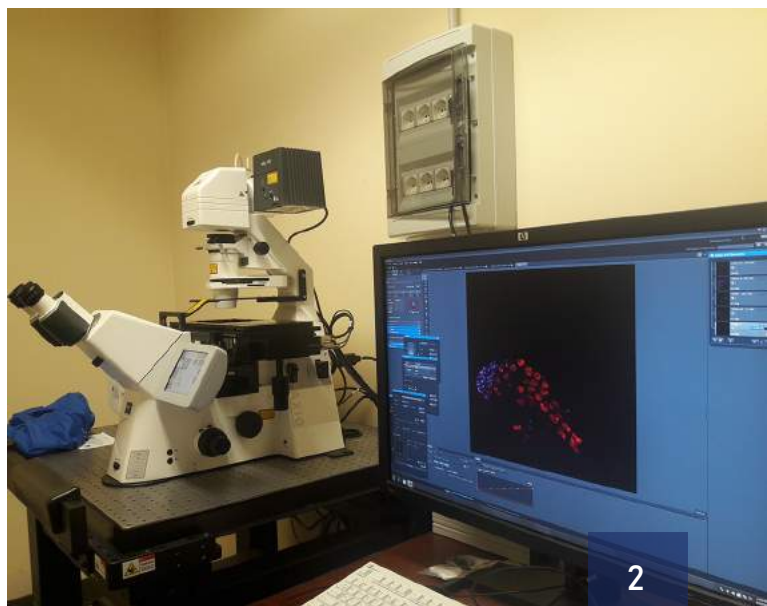
The Department of Biological and Environmental Sciences and Technologies or Dipartimento di Scienze e Tecnologie Biologiche e Ambientali, is an active and dynamic institution of the University of Salento in Lecce (Italy) awarded in 2018 as a Department of scientific excellence by the Italian Ministry of University and Research.

The Department combines expertise in many scientific areas, gaining relevance as an integrated multidisciplinary research centre.



Advanced research laboratories cover activities in the fields of animal and plant biology, at the molecular, biochemical, genetic, cellular, physiological and ecological levels. The chemical area is represented in the many innovative aspects of the international research.

The Department has structured professors, researchers and technical staff. Researchers are included in regional, national and international research projects and they offer a sparkling and international work environment.





## The Campus and the city

In addition to the academic advantages, the logistic of our Department and the geographic location of our city offer valuable scientific, cultural, social and sportive options for incoming students.

The departmental building is located in the Ecotekne campus that is in an extra urban area with the canteen, green areas, playgrounds, conference rooms, advanced research structures and infrastructures, classrooms.

Lecce is a historic city in the South of Italy in the region of Puglia. It is just 40 km from the Salento airport.



## International actions

DiSTeBA is expanding its international relations by Erasmus exchanges and specific projects such as the Interasia project that allows us to host 20 students from Asian Universities.



## Bachelor Degree in Viticulture and Oenology

The course aims at the training of graduates able to manage production activities in the viticultural and oenological fields and to develop advanced technological skills for quality control in vineyards and in wine companies. The course offers training internships at many wineries in the Salento area.



## Course content

Language: Italian

### 1st year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Mathematics	48	-	6	1
General and inorganic chemistry	40	12	6	1
Botany	56	12	8	1
English	16	12	3	1
Informatics	16	12	3	1
Physics	48	-	6	2
Organic chemistry	40	12	6	2
Agricultural genetics	40	12	6	2
Plant physiology and plant propagation	64	12	9	2





## Bachelor Degree in Viticulture and Oenology

### Course content Language: Italian

#### 2nd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Agronomy	40	12	6	1
General viticulture and applied viticulture	80	24	12	1
Agrochemistry	56	12	8	1
Rural engineering and wine production facilities	64	14	9	2
Entomology	40	12	6	2
Economics, valuation and marketing of the wine industry	80	24	12	2
Agricultural microbiology and fermentation*	72	24	11	2

\* Integrative teaching



## Bachelor Degree in Viticulture and Oenology

### Course content Language: Italian

#### 3rd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Administrative law in the wine sector	48	-	6	1
Oenology I	64	12	9	1
Oenology II and sensory analysis of wine	64	12	9	1
Mechanization	40	12	6	2
Plant pathology	64	12	9	2
Educational activities freely chosen by the student	-	-	12	-
Stage	-	-	9	-
Final test	-	-	12	-



## Bachelor Degree in Biological Sciences

The course offers the fundamental knowledge for a professional career in all branches of Life Sciences and forms the professional figure of the junior biologist.



## Course content

Language: Italian

### 1st year

	LECTURE	PRACTICE	CREDITS	SEMESTER
General and inorganic chemistry	56	24	9	1
Mathematics	40	12	6	1
Probability and statistics	24	12	4	1
Cytology and histology	56	12	8	1
Laboratory safety I	-	-	1	1
Laboratory safety II	-	-	1	1
Physics	40	12	6	2
General botany	64	12	9	2
Informatics	64	12	9	2
English language	8	24	3	2





## Bachelor Degree in Biological Sciences

### Course content Language: Italian

#### 2nd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Organic chemistry	56	24	9	1
Plant physiology	64	12	9	1
Genetics	64	12	9	1
Biochemistry	64	14	9	2
Zoology	64	12	9	2
Comparative anatomy and embryology	56	12	8	2
Hygiene	40	12	6	2



## Bachelor Degree in Biological Sciences

### Course content

Language: Italian

#### 3rd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Molecular biology	64	12	9	1
Physiology	64	12	9	1
Recombinant technologies I	40	12	6	1
Recombinant technologies II	24	-	3	1
Ecology	64	12	9	2
Microbiology	64	12	9	2
Educational activities freely chosen by the student	-	-	12	-
Stage	-	-	5	-
Final test	-	-	6	-



## Master Degree in Biology

The course includes a first common year with disciplines of general interest and a second year with three professional courses: agri-food, bio-health and human nutrition.



## Course content

Language: Italian

### 1st year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Human anatomy	72	-	9	1
Biochemistry	72	-	9	1
Applied microbiology	48	-	6	1
Applied hygiene	48	-	6	1
Plant cytobiology	48	-	6	2
Human physiology	64	12	9	2
Plant physiology, productivity and quality of products I	48	-	6	2
Plant physiology, productivity and quality of products II	48	-	6	2



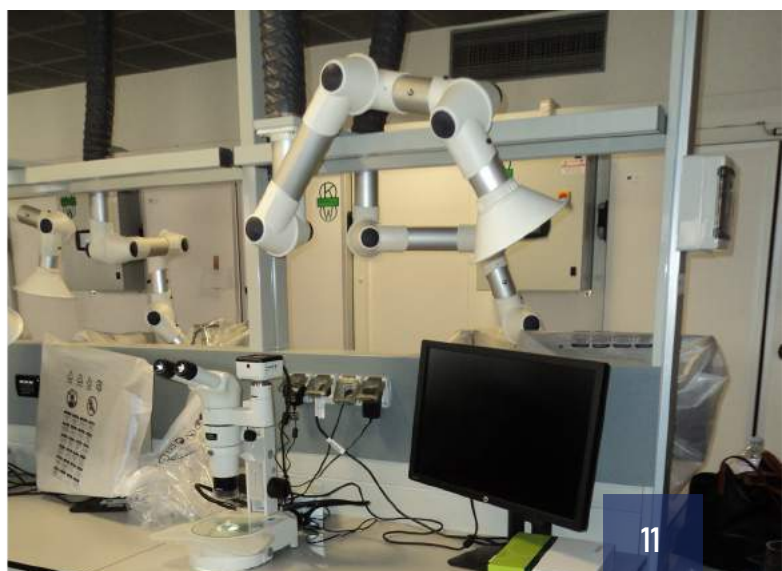


## Course content

Language: Italian

### 2nd year - Human nutrition curriculum

	LECTURE	PRACTICE	CREDITS	SEMESTER
Physiology of nutrition	48	-	6	-
Molecular methods for the analysis and production of food	64	12	9	-
Nutrigenomics	48	-	6	-
Nutrition science: principles and applications	48	-	6	-
Ethical, economic and regulatory aspects	8	-	1	-
Educational activities freely chosen by the student	-	-	9	-
Final test	-	-	26	-



## Course content

Language: Italian

### 2nd year – Bio-Sanitary curriculum

	LECTURE	PRACTICE	CREDITS	SEMESTER
Applied biochemistry and diagnostics	48	-	6	-
Developmental biology	48	-	6	-
Human genetics	48	-	6	-
General pathology	48	36	9	-
Ethical, economic and regulatory aspects	8	-	1	-
Educational activities freely chosen by the student	-	-	9	-
Final test	-	-	26	-



## Course content

Language: Italian

### 2nd year – Agrifood curriculum

	LECTURE	PRACTICE	CREDITS	SEMESTER
Plant biology of agrifood products	72	-	9	-
Agrifood biotechnology	48	-	6	-
Physiology applied to aquaculture	40	12	6	-
Agrifood methodologies	32	24	6	-
Ethical, economic and regulatory aspects	8	-	1	-
Educational activities freely chosen by the student	-	-	9	-
Final test	-	-	26	-





## Master Degree in Coastal and Marine Biology and Ecology

The course delivers qualified education on fundamental and applied biological and ecological marine sciences and on the coastal, transitional and marine ecosystem functioning.



## Course content

Language: English

### 1st year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Ecology and biology of transitional and marine waters	32	12	5	1
Environmental microbiology	48	-	6	1
Life cycles, development and evolution	32	12	5	1
Life cycles, development and evolution II	32	12	5	1
Oceanography of marginal seas and of the coastal zone	48	-	6	1
Ecological indicators and biomonitoring	24	36	6	2
Ecology and biology of transitional and marine waters	32	24	6	2
Community ecology	24	36	6	2
Pelagos biology (zooplankton and neuston)	56	12	8	2
Biodiversity of coastal plants	64	12	9	2



## Course content

Language: English

2nd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Environmental physiology	40	12	6	-
Marine biodiversity and ecosystem functioning	48	-	6	-
Environmental chemistry	40	12	6	-
Educational activities freely chosen by the student	-	-	9	-
Ethical, economic and normative aspects	-	-	1	-
Final test	-	-	30	-



## Bachelor Degree in Biotechnology

The course has a strong multidisciplinary connotation and trains graduates with tools and expertise in different sectors of biotechnology for the production of resources and services.



## Course content

Language: Italian

### 1st year

	LECTURE	PRACTICE	CREDITS	SEMESTER
General and inorganic chemistry	56	10	8	1
Mathematics and statistics	48	10	7	1
Informatics	24	30	6	1
Cytology, Histology, Embryology 1st module	48	-	6	1
Cytology, histology, embryology 2nd module	8	10	2	1
Botany and cellular biology of plants	56	10	8	2
Organic chemistry	56	10	8	2
Physics applied to biotechnologies	48	10	7	2
General biology	40	10	6	2



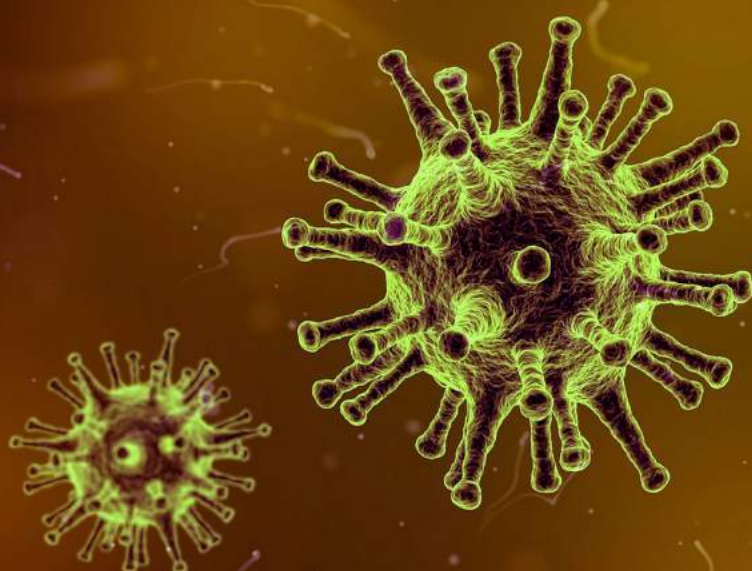


## Bachelor Degree in Biotechnology

### Course content Language: Italian

#### 2nd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Biochemistry and enzymology	56	10	8	-
Microbiology	56	10	8	-
Bioprocess technology	24	10	4	-
Human anatomy	40	10	6	-
Bioethics	48	-	6	-
Biophysics and physiology	56	10	8	-
Molecular biology	56	10	8	-
Genetics	56	10	8	-
English	8	20	3	-
Bioinformatics laboratory	8	20	3	-



## Bachelor Degree in Biotechnology

### Course content Language: Italian

#### 3rd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Cellular biology	56	10	8	-
Analitical chemistry	40	10	6	-
Physiology and plant biotechnology	56	10	8	-
Pathology and immunology	40	10	6	-
Hygiene	40	10	6	-
Pharmaceutical chemistry	40	10	6	-
Educational activities freely chosen by the student	-	-	12	-
Stage	-	1000	4	-
Final test	-	1000	4	-



## Master Degree in Medical Biotechnologies and Nanobiotechnologies

The course expresses our excellence in the fields of research and biotechnological transfer to the production world in biomedical, nanobiotechnological and tissue engineering areas.



### Course content Language: Italian and English

#### 1st year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Microbial biotechnologies	40	10	6	1
Cellular biotechnologies	64	10	9	1
Biochemical biotechnology	48	-	6	1
Biomolecular biotechnologies	48	-	6	1
Biomedical physics	40	10	6	1
Molecular genetics	48	-	6	2
Developmental biology	48	-	6	2
Pharmaceutical chemistry	48	-	6	2
Bioinorganic chemistry	24	-	3	2
Bioorganic chemistry	24	-	3	2





Master Degree  
in Medical Biotechnologies and Nanobiotechnologies

**Course content**  
Language: Italian and English

2nd year - Biomedical curriculum

	LECTURE	PRACTICE	CREDITS	SEMESTER
Functional anatomy	48	-	6	-
Cell physiology	48	-	6	-
Molecular pathology	48	-	6	-
General and applied hygiene	48	-	6	-
Bioproduction	40	-	5	-
Educational activities freely chosen by the student	-	-	9	-
Stage	-	-	1	-
Final test	-	-	24	-



Master Degree  
in Medical Biotechnologies and Nanobiotechnologies

**Course content**  
Language: Italian and English

2nd year - Nanobiotechnology curriculum

	LECTURE	PRACTICE	CREDITS	SEMESTER
Physics and nanoengineering of biosystems	40	10	6	-
Physics applied to biotechnologies for diagnosis and therapy	40	10	6	-
Biophysics	40	10	6	-
Chemical-physical methods for biotechnologies	40	-	5	-
Nanofabrication and analysis methods nanoscale for advanced biotech	48	-	6	-
Educational activities freely chosen by the student	-	-	9	-
Stage	-	-	1	-
Final test	-	-	24	-



Master Degree  
in Medical Biotechnologies and Nanobiotechnologies

**Course content**  
Language: Italian and English

2nd year – Tissue Engineering curriculum

	LECTURE	PRACTICE	CREDITS	SEMESTER
Physics and nanoengineering of biosystems	40	10	6	-
Functional anatomy	48	-	6	-
Cell-biomaterial interaction	48	-	6	-
Biomaterial science and technology	40	-	5	-
Tissue engineering	40	10	6	-
Educational activities freely chosen by the student	-	-	9	-
Stage	-	-	1	-
Final test	-	-	24	-



## Bachelor Degree in Environmental Sciences and Technologies

The course integrates the knowledge of different disciplines providing a systemic vision of environmental systems in terms of abiotic and biotic components and environmental processes, and developing environmental skills that can be spent in public and private sectors.



## Course content

Language: Italian

### 1st year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Physics 1	32	24	6	1
Physics 2	48	-	6	1
Mathematics	72	-	9	1
Environmental stratigraphic geology	40	48	9	1
English language	24	-	3	1
General and inorganic chemistry	32	24	6	2
Zoology	56	12	8	2
Botany 1	56	12	8	2
Botany 2	24	12	4	2
Computer skills for environmental sciences	24	-	3	2





## Course content

Language: Italian

### 2nd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Physical chemistry	32	24	6	-
Organic chemistry	32	24	6	-
Physical geography and geomorphology	48	12	7	-
Statistical treatment of experimental data	32	12	5	-
Fundamentals of meteorology and physical oceanography	40	12	6	-
Ecology and fundamentals of ecological systems	48	24	8	-
General physiology	48	-	6	-
Environmental microbiology	40	12	6	-
Applied geophysics	64	12	9	-



## Course content

Language: Italian

### 3rd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Analytical chemistry	32	24	6	-
Multidisciplinary laboratory	-	36	-	-
Biodiversity and ecosystem functioning	32	24	6	-
Applied ecology to planning	32	24	6	-
Plant physiology	32	-	4	-
Environmental law	24	-	3	-
Economics and environmental accounting	24	-	-	-
Educational activities freely chosen by the student	-	-	12	-
Stage	-	-	7	-
Final test	-	-	11	-



## Master Degree in Environmental Sciences

The course aims to train graduates with a highly interdisciplinary cultural preparation in the field of Environmental Sciences, which allows to perform functions of high responsibility in various areas of Public Administration and Private Organizations in terms of the scientific activities (research and design) and application (control and consultancy) fields.



## Course content

Language: Italian

### 1st year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Chemistry of the elements	32	24	6	1
Business economics	48	-	6	1
Urban meteorology and local scale atmospheric circulation	40	12	6	1
Dynamics of climate	24	-	3	1
Applied Zoology to the conservation and management of natural systems	32	24	6	1
Analytical chemistry of environmental matrices	32	24	6	2
Physical chemistry of ecological systems	24	-	3	2
Environmental physiology	40	12	6	2
Environmental hygiene	24	-	3	2
Hydrogeophysics	40	12	6	2
Analysis of environmental processes*	40	-	5	2
Physical techniques for environmental monitoring*	40	-	5	2
English language	-	-	3	2
Educational activities freely chosen by the student	-	-	8	2

\* The student must choose between the two teachings characterizing highlighted with the same color

## Course content

Language: Italian

### 2nd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Environmental chemistry	64	-	8	-
Applied geomorphology	40	10	6	-
Applied botany	48	-	6	-
Energy and environment	-	-	3	-
EIA, ESA and EMAS registration	32	20	6	-
Stage	-	-	3	-
Final test	-	-	21	-





## Bachelor Degree in Sport Sciences

The Bachelor Degree Course in Sport Sciences proposes an educational program aimed at the preparation of professional operators in sport activities. Particular attention is spent to the disciplines that allow the maintenance of psycho-physical wellness and the prevention of disorders related to sedentary lifestyles.



## Course content

Language: Italian

### 1st year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Applied physics and elements of biomechanics	48	-	6	1
Human biology	64	-	8	1
Medical statistics	48	-	6	1
Sciences and techniques of sports	96	-	12	1
Biochemistry	64	-	8	2
General pathology	48	-	6	2
Movement science*	96	-	12	2
Scientific english	24	-	3	2
Occupational safety and rudiments of emergency	24	-	3	2

\*Integrated course:

- 1) Theory and methodology of training
- 2) Theory and methodology of human movement



## Course content

Language: Italian

### 2nd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Human anatomy applied to motor sciences	64	-	8	1
Human physiology	64	-	8	1
General psychology	40	-	5	1
Methodology of educational research	40	-	5	2
Psychobiology and physiological psychology	40	-	5	2
Theory, technique and didactics of motor activities I	64	-	8	2
Physical and rehabilitation Medicine	48	-	6	2
Sports law	40	-	5	2
Stage	225	-	9	2

\* Integrated course:

- 1) Theory, technique and didactics of motor activities in the developmental age
- 2) Theory, technique and didactics of free time motor activities



## Course content

Language: Italian

### 3rd year

	LECTURE	PRACTICE	CREDITS	SEMESTER
Food and human nutrition	48	-	6	1
General and applied hygiene**	48	-	6	1
Internal medicine for sports and emergency**	48	-	6	1
Sporting activity: nutrients and nutraceuticals in vegetables**	48	-	6	2
History of sports medicine**	48	-	6	2
Theory, technique and didactics of motor activities II*	96	-	12	2
Free credits	-	-	12	-
Stage	225	-	9	2
Final test	150	-	6	-

\*Group of choice of 12 cfu within the related activities

\*\*Integrated course:

- 1) Theory, technique and didactics of preventive and adapted motor activities
- 2) Theory, technique and didactics of motor activities for adults and the elderly





# UNIVERSITÀ DEL SALENTO

Department of  
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