



MEDICAL
VETERINARY
OF FORENSIC
BIOTECHNOLOGICAL
SCIENCE
MASTER'S
DEGREE

TRAINING OBJECTIVES

In this historical phase in which medicine, including veterinary medicine and forensic medicine, is strongly shifting towards a "molecular approach", a constant updating of professionals who possess full-developed biotechnological skills is required.

Training in the field of medical, veterinary and forensic biotechnologies requires the acquisition of knowledge about the molecular and cellular features involved in health and disease and the derived developments in molecular diagnostics, targeted therapies, animal production and breeding, toxicology, forensic genetics and related regulatory.

The International Master Degree in Medical, Veterinary and Forensic Biotechnological Sciences aims at enhancing and broadening knowledge and skills in medical, veterinary and forensic biotechnologies, with a properly balanced mixture of classroom lectures, lab and practical activities, individual and group learning, stages and internships.

The Course will be structured in a common training path in the first year and in a differentiated one in the second year according to the chosen curriculum. The teaching will be delivered entirely in English.

The common training path foresees the teaching of Genetics, Molecular Biology, Physiology, General Pathology, Pathology, Microbiology and Pharmacology. This first part of the Course aims at improving and expanding knowledge and skills in the following subjects: Human body morphology,

cellular and molecular pathogenetic mechanisms involved in major diseases, major molecular biology techniques.

Subsequently, disciplines aimed at the acquisition of specific knowledge in the medical, veterinary and forensic fields are foreseen according to the chosen curriculum. In detail, the teachings will include Blood Diseases, Cardiovascular Diseases, Forensic Genetics, Digestive System Diseases, Endocrine System Diseases, Biotechnological Approach to Oncological Diseases (medical curriculum); Molecular Diagnostics in Veterinary Infectious Diseases, Veterinary Molecular Genetics, Biotechnology Applied to Animal Derived Products, Animal Reproduction Biotechnology, Biotechnology Applied to Animal breeding, Laboratory Animals and Animal Experimentation (forensic curriculum); Biolaw, Computer Science Law and Forensics, Forensic Toxicology, Criminal Procedural Law and Forensic Techniques, Forensic Investigation Techniques, Legal Medicine (forensic curriculum).



This second part of the Course aims at delivering knowledge and skills in the following subjects according to the curriculum: Advanced molecular diagnostic and targeted therapies; animal production and breeding, veterinary pathology and diagnostics, animal models for biomedical studies; toxicology, legal medicine, procedural law, criminology, forensic techniques, regulatory in life science.

ADMISSION MODALITY

Admission to the course is free. However, it is subordinated to the possession of the admission requirements described in the Regulations of the Course.

Minimal requirement is the possession of a first level university degree (3 years = bachelor) or of any other qualification achieved abroad recognized eligible.

In detail, all applicants in possession of a university degree belonging to one of



EMPLOYMENT AREAS

Professionalizing activity as integral part of the initiation towards the profession of master degree medical, veterinary or forensic biotechnologist, is foreseen as structural part of the training path. In detail, a 3 EUC stage in an extra-academic institution will be offered to every student. Moreover, apprenticeship and realization of the final test thesis can be accomplished in domestic or foreign specialized institutions. The carrying out of these activities will be ensured by specific conventions with the selected institutions.

the following classes, obtained either at the University of Perugia (ex D.M. 270/2004) or at other university venues, can be admitted:

- L-2 Biotechnology degree class
- L-13 Biological Sciences degree class
- L-SNT3 Technical Health Care Professions degree class – limited to the degree in Biomedical Laboratory Techniques
- LM-41 Medical and Surgery master degree class
- LM-42 Veterinary Medicine master degree class
- L-38 Animal Science and Animal Production degree class
- Or according ex D.M. 09/1999
- Class 1 Biotechnology
- Class 12 Biological Sciences
- SNT3 class Technical Health Care Professions degree class – limited to the degree in Biomedical Laboratory Techniques
- 46/S class Medicine and Surgery
- 47/S class Veterinary Medicine
- 40 class Animal Science and Animal Production

Moreover, applicants in possession of any other university degree whose training will be rated congruous by a specific commission appointed by the President of the Course will be admitted. In detail, a strong background in chemistry, biochemistry, molecular and cellular biology, physiopathology is required for admission. If the Commission believes that the applicant is not in possession of the indispensable curricular requirements it can assign individual training debts. The individual training debts coverage mode will be decided by the Course Board, either through the activation of integrative and retrieval courses or allowing the registration to individual teachings offered by the University. The matriculation of students admitted with a training debt will only be confirmed after the debt is solved.

OTHER INFORMATION

EXAM MODALITY

If not already determined by the Didactic Regulations or by the Course Regulations, the Board annually establishes the verification and acquisition mode of the credits for each training activity.

Except as provided for in the Academic Teaching Regulations, each lecturer indicates the specific exam modality foreseen for his course before the beginning of the Academic Year and simultaneously to the didactic programming. The exam modality will also be published on the web page of the course.

The profit assessment final verifications will take place in the periods dedicated to the exams on dates established by the Course Board following responsible lecturer's proposal or agreed with him.

The student acquires the foreseen credits for each teaching passing the

corresponding exam. The evaluation of the exam will be in thirtieths.

For the apprenticeship and any other activity not recallable to the teachings, the duty to certify the overtaking of the step and the corresponding marks is empowered to specific commissions by the Course Board. The evaluation will be expressed as "eligibility".

Teaching courses can be integrated for the profit assessment final verification. In these cases, the evaluation will be unique and still expressed in thirtieths. For each integrated course a coordinator lecturer of the course is foreseen. He will yearly be selected by the Course Board.

INTERNATIONAL MOBILITY
Students can undertake study periods abroad in other European countries through Erasmus exchanges active with different academic institutions in Belgium, Bulgaria, Poland and Spain. Moreover, specific framework agreements will allow more exchanges outside of the European Community.

The agreements foresee the possibility to accomplish abroad the following activities:

- Accomplishment of the curricular apprenticeship
- Activities aimed at preparing the final test thesis

Special assistance with a dedicated office at the School of Medicine joined to the International Relations office of the University is granted for these experiences.

ADMISSION TO THE SUBSEQUENT TRAINING PATHS

The International Master Degree in Medical, Veterinary and Forensic Biotechnological Sciences allows the admission to the following subsequent training paths:

-2nd level vocational masters in the field of life science

-Ph.D. programs in the field of life science

COURSE	YEAR	ECTS
Histological and Anatomical Basis of Human Diseases	1	6
Molecular Immunology	1	6
Genetics and Epigenetics	1	6
Molecular Diagnostics in Microbiology	1	6
Molecular Basis of Human Diseases	1	6
Molecular Diagnostic in Neuropathology	1	
- Physiology		6
- Neurology		6
Biotechnological drugs and	1	
Biotechnology in Hemostasis and Thrombosis		
- Biotechnology in hemostasis and thrombosis		6
- Biotechnological Drugs		6
Training	1	6
Blood Diseases	2	6
Cardiovascular diseases	2	6
Alternatively		
Forensic Genetics		
Digestive System diseases	2	6
Endocrine system diseases	2	6
Alternatively		
Biotechnological Approach to Oncological Diseases		
Stage	2	6
Free choice exam	2	12
Training	2	6
Final test	2	12

CURRICULUM: VETERINARY

COURSE	YEAR	ECTS
Histological and Anatomical Basis of Human Diseases	1	6
Molecular Immunology	1	6
Genetics and Epigenetics	1	6
Molecular Diagnostics in Microbiology	1	6
Molecular Basis of Human Diseases	1	6
Molecular Diagnostic in Neuropathology	1	
- Physiology		6
- Neurology		6
Biotechnological drugs and	1	
Biotechnology in Hemostasis and Thrombosis		
- Biotechnology in hemostasis and thrombosis		6
- Biotechnological Drugs		6
Training	1	6
Molecular Diagnostics in Veterinary Infectious Diseases	2	6
Alternatively		
Veterinary Molecular Genetics		
Biotechnology Applied to Animal Derived Products	2	6
Alternatively		
Animal Reproduction Biotechnology		
Breeding Biotechnologies and laboratory animals	2	
- Biotechnology Applied to Animal breeding		6
- Laboratory Animals and Animal Experimentation		6
Stage	2	6
Free choice exam	2	12
Training	2	6
Final test	2	12

CURRICULUM: FORENSIC

COURSE	YEAR	ECTS
Histological and Anatomical Basis of Human Diseases	1	6
Molecular Immunology	1	6
Genetics and Epigenetics	1	6
Molecular Diagnostics in Microbiology	1	6
Molecular Basis of Human Diseases	1	6
Molecular Diagnostic in Neuropathology	1	
- Physiology	1	6
- Neurology	1	6
Biotechnological drugs and	1	
Biotechnology in Hemostasis and Thrombosis		
- Biotechnology in hemostasis and thrombosis		6
- Biotechnological Drugs		6
Training	1	6
Biolaw	2	6
Computer Science Law and Forensic	2	6
Alternatively		
Forensic Toxicology		
Criminal Procedural Law and Forensic Techniques	2	6
Alternatively		
Forensic Investigation Techniques		
Legal Medicine	2	6
Stage	2	6
Free choice exam	2	12
Training	2	6
Final test	2	12

INFORMAZIONI DI CONTATTO

Medicine Department

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