

## **Master Degree (MSc) in MICROBIOLOGY**

### Course overview

The MICROBIOLOGY Master's program, starting in September 2013, offers a highly competitive education in modern microbiology. The focus of this MSc program is on the study of microorganisms which is instrumental for the understanding of the fundamental mechanisms of life and for new developments and applications in industrial biotechnology, environmental restoration and energy production and in human and animal health and food sectors. This is a joint Master's degree in Microbiology based on a consortium of 4 Schools in the Lisbon area: the Instituto Superior Técnico (IST), the Faculty of Sciences (FC), the Faculty of Medicine (FM) and the Faculty of Veterinary Medicine (FMV). The Institutions involved have been positioned for years in the frontline of teaching activities in the field of Microbiology and related areas at the 1st, 2nd, and 3rd cycles of studies. Given the fusion between UTL-Technical University of Lisbon (IST and FMV) and UL-University of Lisbon (FC and FM), this joint program exploits the synergies made possible at the level of teaching, research and link to society in the new University of Lisbon.

The program encompasses two years of full time studies and spans from an in-depth understanding of molecular and cellular microbiology and the contemporary view of genome-based microbiology, to microbial diversity and evolution. It provides hands-on knowledge on the use of integrative approaches made available through the exploitation of Omics and bioinformatics tools in a system and synthetic microbiology perspective. Thanks to the contribution of the four schools involved, this study cycle offers versatile and comprehensive high quality training in the various fields of intervention of Microbiology: Biotechnology and Food Industry, Food Safety, Health and the Environmental sectors. The program will also contribute to the development of the necessary skills for innovation and entrepreneurship in the microbiology field. It further prepares the students for leadership positions in a career in Microbiology and related areas, endowing them with autonomous learning ability and critical spirit, versatility and creativity that enable them to meet the challenges of a professional environment and provide the academic training required for the continuation of studies at PhD level. The program guarantees the integration of experimental and applied microbiology and learning in international and research-intensive environments. The teaching staff is strongly involved in Research and Development in the field of Microbiology and related fields in centers of excellence of the national scientific system. Opportunities for the development of the MSc thesis in these research laboratories are available. A diversity of formative offers, internships and MSc thesis programs in various research centers and in companies, in Portugal and abroad, these supported by several networks and international programs that promote student's mobility, provide tools and knowledge for a career in the exciting area of microbiology.

### Career prospects

Career prospects in a wide range of sectors are expected for the holders of the Masters's degree in Microbiology are high given the highly competitive, solid, advanced, up-to-date and wide-spectrum education in microbiology provided by the Consortium of Schools involved in this study cycle. These professionals are qualified to pursue a career, as microbiologists, in a broad employment market either in industry or in the public sector, for example in biotechnology, pharmaceutical and food industries and in the Environmental and Biomedical areas. They are also prepared to be enrolled in high-standard PhD programs and to develop international level

scientific research in the field of Microbiology or in areas of interface with Microbiology. These MSc holders will not only have career options in R&D Institutions, in academia, in industry, and in public services/institutions, but they also have the skills to develop their own projects and enterprises, thus contributing to national economic growth and modernization

#### Candidates

The target population for this master's program is essentially composed of potential applicants that are holders of a degree of "licenciado" or equivalent in the areas of Life and Health Sciences, Biotechnology, Engineering, if including a biological component, or in related fields.

#### Application procedures and requirements

Applications are open from the 17<sup>th</sup> June to the 16<sup>th</sup> August. Candidates must apply online, using the IST website <http://www.ist.utl.pt/en/prospective-students/admissions/master/>

#### Additional Information

<http://bioengenharia.ist.utl.pt/MMicroBiologia/mmicrob-descricaoEN.htm>

Tel: +351-218419184; Email: [coordgrad@bioengenharia.ist.utl.pt](mailto:coordgrad@bioengenharia.ist.utl.pt)