Contacts / Contactos

UNIVERSITÉ DE PAU ET DES PAYS DE L'ADOUR

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DOUBLE DIPLÔME - DOBLE TÍTULO

Université de Pau et des Pays de l'Adour
Pau

Master Chimie et Sciences du Vivant

Parcours Biologie Moléculaire et Microbiologie de l'Environnement (BME)

Universidad de Oviedo

Máster Biotechnology of Environment and Health (BEH)

UNIVERSITÉ DE PAU ET DES PAYS DE L'ADOUR
COLLÈGE STEE

Universidad de Oviedo

Master's degree in Molecular Biology and Environmental Microbiology

Overview

Understand and anticipate the impact of global changes on the functioning of ecosystems constitute today challenges for industrial and environmental policies. **Increasingly strong societal demand in the fields of the Environment, sustainable development and health** now calls for a synergy of cutting-edge skills involving Chemical and Biological Sciences.

The Molecular Biology and Environmental Microbiology Master's degree is at the heart of this technological and socio-economic evolution. At a meeting point of applied and fundamental research, the MBEM Master's degree offers a training program that allows to meet these new challenges. Biological methods developed for the remediation of contaminated sites, the treatment of effluents, the control of the use of pesticides or the search for pathogens in natural or artificial environments are increasingly in demand and proposed as necessary alternatives for the sustainable improvement of environmental problems.

Master's graduates will be able to meet these challenges thanks to their solid training in molecular analysis techniques (quantitative PCR, DNA chips, high-throughput sequencing, bioinformatics analysis, microbial biosensors, GMOs, protein engineering) and their expertise in project management.

Program

MANDATORY

LANGUAGE
- English or French as a Foreign Language

DATA ANALYSIS
- Statistical tools-project

MOLECULAR BIOLOGY AND ENVIRONMENTAL MICROBIOLOGY
- Molecular biology technological applications
- Microbial biotransformations and environmental applications

INTERNSHIP
in academic or industrial research project

BIBLIOGRAPHIC RESEARCH

OPTIONAL

MOLECULAR BIOLOGY AND ENVIRONMENTAL MICROBIOLOGY
- Molecular ecology
- Trends and challenges in microbiology

QUALITY
- Quality assurance for analysis

ENVIRONMENTAL CHEMISTRY
- Trace element biogeochemical cycles
- Speciation concepts and analysis
- Biological Macromolecules Characterization
- Imaging techniques for environmental samples and materials characterization

GROUP PROJECT
- Environmental engineering project

Applications

- **PREREQUISITES:** the double degree is open to students of M1 BME or BEH with B1 level in French (Oviedo students) or in English and/or Spanish (UPPA students).
- **CAPACITY:** 5 students from each university.
- **CONDITIONS:** Academic and language levels.

Master's degree in Biotechnology of Environment and Health

Overview

The Master in Biotechnology of Environment and Health (Máster Universitario en Biotecnología del Medio Ambiente y la Salud - MBEH) is a multidisciplinary proposal destined to broaden knowledge in the biotechnological applications related to the environment and health. The MBEH concentrates on the study of the effects of environmental changes on health, a powerful subdiscipline of the newly arisen subject called environmental health.

The study program has been designed to give to the students solid knowledge in the basic scientific and technical principles of biotechnology applied to the analysis of the chemical and biological risks that affect the environment and health. The early detection, the prevention and the evaluation of risks, together with the use of modern biotechnological techniques for the preservation of the environment and health, make up the core of the masters.

The course also includes instruction in management and marketing of biotechnology, on intellectual and industrial property, environmental laws, as well as professional skills and ethical principles with regard to biotechnological activities.

Program

MANDATORY

GESTIÓN DE BIOEMPRESAS / ESTUDIO AVANZADO NUEVAS METODOLOGÍAS BIOTECNOLÓGICAS
- Fundamentos de la creación de empresas biotecnológicas *(English)*
- Gestión de la Innovación *(English)*
- Gestión de proyectos biotecnológicos *(English)*
- Nuevas aproximaciones al diseño de fármacos y de métodos diagnósticos *(English)*

PRÁCTICAS EXPERIMENTALES O PROFESIONALES *(English)*

TRABAJO FIN DE MÁSTER *(English)*

OPTIONAL

GESTIÓN EMPRESARIAL
- Gestión de empresas biotecnológicas *(Spanish)*
- Aspectos legales del medioambiente y la salud *(Not activated*)*

SALUD AVANZADO
- Bionanotecnología *(Spanish)*
- Biosensores *(English)*
- Factores físicos ambientales y enfermedad *(Not activated*)*

MEDIOAMBIENTAL AVANZADO
- Análisis de sostenibilidad de la producción biotecnológica *(English)*
- Bioremediación *(English)*
- Evaluación de riesgos medioambientales *(Spanish)*

* May be suspended if the required number of students is not reached.

For classes in Spanish, materials, tutorials and exams are provided in English

Mobility organization and funding

- **DURATION:** Full year (two semestres)
- **CREDITS:** 60 ECTS
- **FUNDING** (application no later than 31/03 year n-1):
  - Erasmus+ program
  - Aquimob (Nouvelle Aquitaine funding for UPPA students, from 250 € to 400 €)