Who is the ENVIRONMENTAL ENGINEER?

An environmental engineer focuses on protecting the environment by reduction of pollution and waste quantities, as well as on improving the water, air and soil quality.

How do you become an environmental engineer?

Environmental Engineering is a complex field. Nonetheless, our study program is designed to support the training of environmental specialists by acquiring solid knowledge in the field and it provides the future graduates with:

- **An integrated knowledge in the field**: you will acquire interdisciplinary knowledge in the field of fundamental natural sciences (chemistry, physics, biology), and in the technical-engineering field. Also, you will have the opportunity to explore other associated fields, such as Economy, legislative regulations, quality standards and others, necessary in the training of a specialist in the field of environmental protection.

- **Opportunities for the development of practical skills:** We place great emphasis on the applied activities both during the seminars and laboratories, as well as within the practical field trips. Also, in the laboratories of our faculty, equipped with state-of-the-art techniques, you can acquire practical skills needed for the integration on labor market.

- **Opportunities to accumulate experience in the field:** you will benefit from traineeships in partner companies and environmental institutions. In addition, you will take advantage of the opportunities provided by the research centers within our faculty, to become involved in the ongoing research projects even during your Bachelor studies.

What will you learn throughout the years of study?

During the first years, you will learn basic notions that will support you in building a solid engineering knowledge base. Then, gradually, you will acquire knowledge on Environmental Engineering specific aspects and themes such as the analysis of environmental factors, resource management, identification and implementation of environmental protection measures. By this approach, we provide you with fundamental and complementary both theoretical and practical training.

In order to give you the best professional training opportunities, we follow closely the requirements of the market as well as the current knowledge necessities in developing our curricula.

Core disciplines:

1st Year:

Fundamentals of environmental science, Physics, Chemistry, Geology, Applied Informatics, Applied

Mathematics, Computer aided graphics, Statistics and data processing, Fundamentals of environmental engineering, Biology.

2nd Year:

Chemistry, Environmental legislation and policy, Hydrology and oceanography, Ecology and ecological management, Transfer phenomena and unitary operations in environmental engineering, Meteorology and climatology, Soil science, Material science, Environmental applied GIS, Instrumental analyses in environmental protection

Optional courses

Risks and Natural Hazards OR Environment integrated monitoring

Fieldwork

3rd Year:

Contaminated sites, Technologies for water management and treatment, Atmosphere protection technologies, Environmental radioactivity, Investigation of environmental factors, Mineral resources management, Engineering of chemical reactions for environmental protection, Environmental impact assessment, Management of environmental projects, Land use planning.

Optional courses:

Environmental geomorphology OR Analysis of technological processes

Ethics in environmental research OR Chemical risk management

Analysis of environmental samples OR Sensors for environmental control

Fieldwork

4th Year:

Integrated waste management, Atmospheric remote sensing, Technological risk assessment, Alternative energies, Design and automation for technological installations, Environment economy, Integrated environmental, quality and safety management systems, Corrosion and corrosion protection Hydrotechnical works and constructions

Optional courses:

Elements of electronics and electrical engineering OR Soil depollution technologies and biotechnologies

Industrial ecology OR Technologies with low impact on the environment

Pollutant sources, processes and products OR Ecotoxicology

Fundamentals of emergency situations management OR Applied hydrology

Elaboration of the diploma project

Diploma project practice

What skills will you possess after completing your studies and how will these help you in the future?

The professional skills you will develop over the years of study with us will prepare you for:

- **Providing consultancy and conducting environmental studies** to analyze and manage environmental risks and to propose solutions for the prevention, control and remediation of their negative effects, in order to protect human health and environmental quality.

- **Conducting audits and environmental inspections** to identify the environmental issues by measuring various parameters by means of the special equipment.

- **Conduct a wide range of services for environmental protection and remediation**, among which the development and implementation of waste management procedures, contaminated sites remediation strategies and environmental policies.

Beside these key skills, you will develop even more transversal skills, such as communication abilities, multidisciplinary teamwork capacities, analytical and critical thought on environmental problems and sustainable development.

After graduation, you may choose various professional trajectories as technological environmentalist, industrial environmental engineer, auditor engineer/safety management systems auditor, environmental protection engineers or even as secondary school teacher, if you take also the teacher training module.