

PROJECT MANAGEMENT FOR ENVIRONMENTAL & ENERGY ENGINEERING MASTER OF SCIENCE

ACCREDITATION

The MSc in Process and Bioprocess Engineering (PBPE), track in Project Management for Environmental and Energy Engineering (PM3E) is accredited by the Ministry of Higher Education, Research and Innovation.

National Accreditation Reference: 20170876-1702350F.

Co-accreditation with University of Nantes for a specialization in Microalgae Bioprocess Engineering, and with ONIRIS for a specialization in Project Management for food factories of the future.

Mention

Process and Bioprocess Engineering

KEY WORDS

Environment, Energy Systems, Sustainability, Resource Management, Environmental Process Engineering, Renewables, Energy Efficiency, Project Management.

SCHOOL OFFERING THE MASTER

IMT Atlantique is a "Grande Ecole" ranked among the best French Graduate Engineering Schools, and recognized internationally as a leading Technological University in the world most prestigious rankings. It is a member of Institut Mines-Télécom (IMT), the largest group of public Engineering and Management Graduate Schools in France.

LOCATION

This MSc program is offered on Nantes campus. Nantes is France's sixth-largest city and capital of the third largest industrial region. Nantes lies just 50 km from the Atlantic coast; Paris is 2 hours away by high-speed train.

Nantes is a dynamic city, which has been frequently recognized for its quality of life. The campus provides all the students facilities: student's residence, sports facilities, wireless network, library, associations, etc.

INDUSTRIAL PARTNERS

Alstom, Total, Arcelor Mittal, Technip, Veolia...

LANGUAGE OF TEACHING

100% English

ENVIRONMENT

Nowadays, globalization, energy and the environment represent the primary theme on which many countries are focusing. One of the main challenges humanity will have to face tomorrow will be to master its energy use and supply, together with a sustainable use of its natural resources and environmental quality. While energy and environment problems used to be mostly considered as local and independent (e.g. local pollutions due to effluent emissions—local resources exploitation) they are now increasingly considered to be regional and global issues (e.g. acid rain, transboundary impacts of energy use, the greenhouse effect etc.). Therefore there is a growing need for specialists able to understand both energy and environmental problems. Such problems have now become major political issues and the subject of international debate and regulation. Energy and environmental problems are no longer isolated issues which can be dealt with in each country or region independently from the others.

On the contrary, they are internationally shared topics which require multi-nation analysis and solutions. It is thus fundamental that future specialists have an international perspective and have studied in a multicultural program.

COURSE AIMS

The objective of the Master of Science is to train project leaders or supervisors capable of managing complex engineering projects in the domain of the environment and energy (conversion systems, energy policy and energy efficiency) within an international context. The MSc PBPE/PM3E offers a balanced program of management skills and engineering techniques for environmental and energy projects. The technical part of the course concentrates on technology and process engineering as well as process modeling, simulation and control. A significant part of the program is also devoted to social sciences for project managers.

PROGRAM

Scientific and technical modules:

- > Transfer phenomena
- > Introduction to Energy & Environmental issues
- > Environment and process engineering
- > Incineration and Waste Minimization
- > Air and soil remediation
- > Water Treatment Processes
- > Water strategies and innovation
- > Process modeling, simulation and control
- > Thermodynamics for Energy systems
- > Renewables
- > Energy systems
- > Energy efficiency and services
- > Energy networks
- > Energy modeling and Optimization

Social Science and Management modules:

- > Project management
 - > Energy management
- Company visits, Scientific seminars, Technical projects, Generic methods for Engineers, French language & culture.

Professional coaching (Student centred process of reflection on competencies and professional objectives)

- > 6-month MSc thesis in Industry or research lab

ADMISSION REQUIREMENTS

Bachelor degree in Engineering or Science in Chemical Engineering, Mechanical Engineering, Environmental Engineering or Energy Engineering... or an equivalent degree.
Possible admission into the 2nd year of the Master for the students who already have a Master degree (year 1) or at least a four-year university degree in Environment (process Engineering applied to air, water, waste)...

LANGUAGE REQUIREMENTS

English

- > Mother tongue or
- > Bachelor degree taught in English or

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MASTER OF SCIENCE

- > English test such as:
 - > TOEFL IBT 80
 - > IELTS 6.0
 - > TOEIC 750
 - > Cambridge
- No prerequisite in French.

APPLYING

Apply at:
<https://pbpe.imt-atlantique.fr>

STRONG POINTS OF THE SCHOOL

- > MSc accredited by the Ministry of Higher Education, Research and Innovation
- > International Faculty
- > Masters taught entirely in English and in small groups
- > Strong links with the industries
- > 6-month master thesis in industry or in a research lab
- > European track possibility
- > Intercultural seminars
- > Free French language courses
- > Master boosted by a research department
- > An international team for international students
- > A quality chart to welcome international students
- > Accommodation available on campus
- > Scholarship based on excellence
- > French Summer School program in July and August for students who wish to improve French language and culture skills

COMPETENCES ACQUIRED

- > A strong scientific background and technical knowledge in environmental and energy processes
- > A good know-how in process modeling and simulation
- > Cross-disciplinary management skills essential to set up and pilot projects in an international context
- > A significant grounding of social sciences for engineers

TYPICAL JOBS

- > **Project engineer** - Is involved in projects of construction or improvement of industrial units, design and optimization of clean manufacturing processes, pollution, waste and water treatment facilities, energy conversion and distribution systems
- > **Exploitation or production engineer** - Runs and manages an industrial production unit at different levels (technical, financial, human, regulatory); coordinates and implements environmental management activities of the firm
- > **Business or consultant engineer** - Assesses new markets and develops new activities for firms at an international level, carries out audits and consultancy for industry, especially for sustainability and transfer of new technologies
- > **Research & Development** - Designs, carries out experimental studies, develops models and simulates innovative processes applied to air, water, waste treatments or energy production

COST

Participation cost for free movers:
> €12,000/year

SCHOLARSHIPS

Scholarships are available depending on the applicant's situation:

- > Excellence of profile
- > Country of origin
- > University of origin
- > Participation to student's fair
- > Recommendation from French Embassy, etc

CALENDAR

One intake per year in September.
Year 1: Two academic semesters on Nantes campus
Year 2: One academic semester on Nantes campus + 6-month Master thesis in industry or in a research lab.

LODGING

The student's residence (called "MDE") located on campus offers furnished individual rooms. They are 18m² and equipped with a private bathroom and a small kitchen. Some rooms for couples are also available. The standard size is 30m², including a living room and a separate bedroom.
housing-nantes@imt-atlantique.fr

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