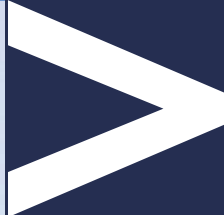


EMNantes

Graduate School of Engineering



EUROPEAN JOINT MASTERS

in Management & Engineering
of Environment and Energy

ME3



Erasmus Mundus



ECOLE DES MINES DE NANTES



POLITÉCNICA



Queen's University
Belfast



ROYAL INSTITUTE
OF TECHNOLOGY



MŰEGYETEM 1782



O verview

The European joint Masters in Management and Engineering of Environment and Energy (ME3) is an interdisciplinary programme which brings together : (1) Management and Engineering; (2) Energy and Environment, and (3) European and outside Europe collaboration. All these aspects make the ME3 Masters course a unique programme in European higher education, and constitute the “raison d’être” of the university consortium.

The objective of the course is to prepare students to work in industrial or academic sectors, in internationally-oriented working environments, where a solid background in state-of-the art process technology is required, together with the ability to deal with multi-cultural management and working practices.

At the end of the course, graduates will have acquired the professional skills required to pilot complex engineering projects in industry and solve environmental and energy issues through an integrated approach, taking into account human, social and economic challenges.

The programme lasts 2 years, the first 18 months of which are mainly devoted to academic learning, acquisition and consolidation of knowledge and skills. During the last 6 months, students perform a professional internship leading to a Master’s thesis. The language of instruction is English. For an optimum teacher / student ratio, the expected enrolment is about 30 students per year.



Discover Europe and its cultural diversity !

During the first year of the Masters programme, students will experience the ways of life of Spain (Madrid) and France (Nantes).

During the second year, it is possible to do a part of the programme in another European country : Sweden (Stockholm), UK (Belfast) or Hungary (Budapest).



ERASMUS MUNDUS : a European label of excellence

Erasmus Mundus is a European Community Action programme which seeks to enhance the quality of European higher education worldwide, and to promote intercultural understanding between Europe and third (non-EU) countries. The Erasmus Mundus programme supports top-quality Masters Courses offered by European university consortia, and provides EU-funded scholarships for third (non-EU) country nationals.

For further information, please visit :

[http://ec.europa.eu/education/
programmes/mundus/index_en.html](http://ec.europa.eu/education/programmes/mundus/index_en.html)



The ME3 consortium

The consortium of the European joint Masters in Management and Engineering of Environment and Energy is coordinated by :

- The Ecole des Mines de Nantes (EMNantes), France, a member of the GEM (Groupe des Ecoles des Mines) network of 7 prestigious French engineering schools.

The partner universities of the consortium are :

- Escuela Tecnica Superior de Ingenieros Industriales of Universidad Politecnica de Madrid (UPM/ETSII), Spain;
- Kungliga Tekniska Högskolan (Royal Institute of Technology) (KTH), Sweden;
- Budapest University of Technology and Economics (BME), Hungary;
- Queen's University of Belfast (QUB), Northern Ireland, United Kingdom;

The first three institutions will host students during the academic part of the programme. The last two will participate in the teaching, and possibly may host students during the last semester devoted to the Master's thesis.

Objectives

Nowadays, environmental protection and sustainability within the chemical processing and energy industries are major issues. In the near future, experts predict that the energy demand will drastically increase, especially because of the spectacular industrial and economic growth of emerging countries. In such a context, meeting the energy needs of society without serious adverse impacts on humanity and on the environment is a world challenge.

Whilst generating energy with minimal environmental impact falls within the broad scope of engineering, managing the demand for energy is in the realm of economics and social sciences. In most cases, these issues are interrelated and global solutions and strategies have to be found.

The original feature of the ME3 Masters course is to combine Energy and Environmental Process Engineering with Management and Social Sciences. It offers a well-balanced education to future engineers and managers by providing the skills necessary to solve environmental and energy issues through an integrated approach, combining technological development and innovations together with the consideration of human, social and economic constraints. The ME3 Masters thus aims to form engineers and managers, who will work in Europe or other regions of the world, and are able to pilot complex socio-technical projects related to the Environment and Energy.



Madrid



Nantes



Stockholm



Programme content



The ME3 Masters programme is composed of an academic period which lasts 3 semesters, and an industrial or research project period, which covers the 4th semester.

The first year is common to all the students entering the programme. It is divided into two parts: Foundations in Management (Semester 1-ETSII/UPM, in Madrid, Spain) and Environmental Process Engineering (Semester 2-EMNantes, France).

During the 3rd semester, two options are proposed, either in Sustainable Energy Engineering (Option 1- KTH, in Stockholm, Sweden) or in Rational Use and Design of Energy Technology (Option 2-EMNantes, France).



Course content

YEAR 1

Foundations in Management	Environmental Process Engineering
1 st semester at UPM/ETSII (Madrid, Spain) 30 ECTS	2 nd semester at EMNantes (France) 30 ECTS

- | | |
|---|--|
| <ul style="list-style-type: none"> • Introduction to Organisations & Corporate Strategy • Innovation & Technology Strategy • Accounting & Finance for Management • Intercultural Management & International Negotiations • General Management Skills (Project Management, Teamwork, Leadership) • Energy and Environmental Policy • Spanish Language | <ul style="list-style-type: none"> • Basic Sciences (Fluid Mechanics, Thermodynamics...) • Environment & Process Engineering • Remediation & Purification Technologies • Waste minimisation and process integration • Modelling, Simulation & Control • Environment and Risk Management • International Strategies (Water and Energy) • Competencies Evaluation and Professional Objectives • French Language |
|---|--|

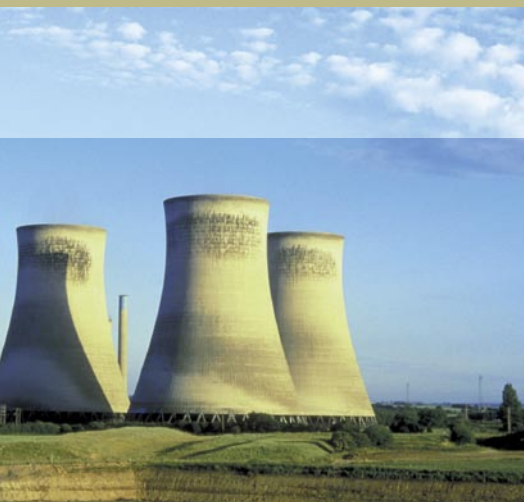
YEAR 2

OPTION 1 : Sustainable Energy Engineering	OPTION 2 : Rational design and use of energy technologies
3 rd semester at KTH (Stockholm, Sweden) 30 ECTS	3 rd semester at EMNantes (France) 30 ECTS

- | | |
|--|---|
| <ul style="list-style-type: none"> • Sustainable Energy Utilisation • Sustainable Power Generation • Renewable Energy Technologies • Management of Sustainable Energy Systems • Nuclear Engineering • Swedish Language | <ul style="list-style-type: none"> • Heat Engines and Boilers • Thermodynamic Cycles & Refrigeration Cycles • Complex Cycles of Internal Combustion Engine Modelling • Machine Technology and its Evolution • Thermooptim training • Energy and Environmental Auditing • Economics of Energy projects • French Language |
|--|---|

4th semester , Industrial or research project – 30 ECTS

According to their professional orientation, students can choose to carry out a research project within one of the consortium's universities or a project in industry. Industrial projects are geared towards solving company's environmental and/or energy problems and involve advanced engineering and/or management tasks. The project work leads to a Masters thesis.



Tuition Fees and scholarships

The tuition fees are 15 000 Euros, for the two-year programme. For the highest quality candidates coming from countries outside Europe, Erasmus Mundus scholarships provided by the European Commission are offered. These amount to 42 000 Euros per student for the full programme. A certain number of scholarships will be awarded to European students by the ME3 consortium. Industrial sponsorships may also be available.

How to apply ?

All information related to the application process (forms and electronic submission) is available on the website

<http://www.mastereurope-me3.org>

- For non-European students applying for an Erasmus Mundus scholarship, the deadline for reception of the complete electronic application is **25th January**.
- For students who are not applying for an Erasmus Mundus scholarship, the deadline for reception of the complete electronic application is **30th June**.
- The consortium will examine the electronic submission once the complete original paper application has been received by the coordinating institution :

Admission criteria

The European joint Masters ME3 is offered to students who have the highest potential for graduate study.

To enter the programme, candidates must have either a bachelor's degree in science or engineering or an equivalent 3-year university level from a recognised university or Engineering college.

Scientific disciplines such as Chemical Engineering, Energy, Mechanical Engineering, Electrical Engineering, Physics, Chemistry, Biotechnology, Civil Engineering and other domains closely related to the topics of the programme will be preferred.

Documents to be submitted :

- Completed application form.
- Transcripts and certified copies of degree certificates and diplomas with the grades in individual exams. English translation is required along with information on the grading scale.
- A comprehensive Curriculum Vitae (in English) : attention will be paid to professional experience.
- An essay to present the career project and the motivations to pursue the Masters programme (in English).
- Two letters of recommendation (in English).
- Certificate or other proof of English proficiency, equivalent to a minimum TOEFL score of at least 200 (550 in old score scale).

**Ecole des Mines de Nantes
European joint Masters ME3
4, rue Alfred Kastler
BP 20722
44307 Nantes cedex 3
France**

No application will be considered without original paper documents.

For more information about the application process, please contact Mrs Evelyne Moreau, incoming student coordinator :
Evelyne.Moreau@emn.fr

For more information about the programme content, please contact Dr Pascaline Pré, ME3 Masters
Coordinator : me3@emn.fr



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