



KIC InnoEnergy Master School

MSc EMINE – EUROPEAN MASTER IN NUCLEAR ENERGY

MSc EMINE's uniqueness lies in the active involvement of major nuclear energy companies, such as AREVA, EDF, ENDESA and Vattenfall. Students notice this as degree projects and internships intertwined with the high-level technical education in nuclear power and business training related to innovation and energy management.

MSc EMINE (European Master in Nuclear Energy) helps tomorrow's nuclear engineers take up the challenges that the nuclear energy industry faces in terms of safety, social acceptability and waste management. By offering outstanding technical training and addressing the economic, social and political issues of nuclear energy, the programme broadens the scope of traditional nuclear education.

MSc EMINE will help provide the industry, which already employs around 400,000 people in Europe, with the highly-qualified engineers required to meet the ambitious nuclear expansion plans that many countries are now drawing up.

The uniqueness of EMINE lies in the involvement of its industrial partners. Four major players in nuclear

energy - AREVA, EDF, ENDESA and Vattenfall – take active part in the Master programme. CEA is also actively involved, thus contributing its expertise as one of the most important research centres in nuclear energy in Europe.

PROGRAMME CONTENT

The two-year MSc EMINE programme teaches you about energy management issues and provides in-depth knowledge of the nuclear industry. It includes mandatory international mobility among recognized European universities, engineering institutes and business schools.

As an MSc EMINE student, you receive the high-level technical education required to master the engineering complexities of nuclear power generation, as well as business training related to innovation issues and energy management. The programme thus helps you integrate the technical aspects of the nuclear industry with key political, economic and social issues.

Students in our programme benefit from the involvement of our industrial partners in the form of lecturers from industry, one week in-house training at key research centres, and activities such

as 'PIMS' projects, where students work on the business plans of KIC InnoEnergy start-ups. During the 3-week summer school at Grenoble Ecole de Management, you learn about innovation issues in energy markets.

Last but not least, you also have a direct entry point to submit your CV for a 6-8 month internship with one of the programme's industrial partners. Students wishing to do their internship with a company that is not a partner of the programme have the possibility to organize this themselves. As a result of this 'learning-by-doing' approach, you acquire the hard and soft skills very much appreciated by employers, e.g. creating problem-solving solutions or developing fresh initiatives.

YEAR 1

Your first year is spent learning the fundamentals of nuclear engineering plus safety and radiation protection, as well as the design and management of power plants (all mandatory for any nuclear engineer) at either of the following locations:

- Royal Institute of Technology (KTH), Stockholm, Sweden
- Technical University of Catalonia (UPC), Barcelona, Spain

SUMMER SCHOOL

At the end of this first year, students from both UPC and KTH gather for a summer school at Grenoble Ecole de Management to discuss and dissect innovation issues in energy markets in general, and nuclear in particular. Industry experts from the nuclear industry share their knowledge in guest lectures. You also make field visits to nuclear facilities.

YEAR 2

During your second year, you attend either of the following institutions:

- Grenoble Institute of Technology (Grenoble INP), France
- Université Paris Saclay, France

You choose one of the specializations below:

- Materials Science for Nuclear Energy
- Nuclear Reactor Physics and Engineering
- Nuclear Plant Design
- Operations
- Fuel Cycle
- Decommissioning and Waste Management

Visit the Courses and Syllabus page to find out where you study each specialization.

During your second year, you perform a Master thesis at an industrial group or research laboratory.

COMPETENCIES AND CAREER

MSc EMINE gives you a comprehensive understanding of the stakes of the nuclear field. It opens a path towards a wide range of positions,

from design and construction to operation and maintenance, decommissioning and waste management. You are also able to evolve in managerial positions and also pursue a research career leading to a PhD degree.

EMPLOYMENT FORECASTS

The European nuclear industry is a big job creator in the low-carbon energy mix. Based on the EU Energy Roadmap 2050 (where nuclear contributes nearly 20% of this mix by 2050), the industry will create 347,000 additional jobs in Europe from lifetime extension, new build, decommissioning and geological disposal programmes over and above the 900,000 jobs created by regular operation.

Partners



REQUIREMENTS

MSc EMINE master programme is for outstanding students with an aboveaverage Bachelor's degree in Mechanical Engineering, Electrical Engineering or Chemical Engineering. Admission of students with a different background in a related field may be possible after careful assessment. To qualify for EMINE, applicants need to fulfil the admission requirements related to previous studies.

ENGLISH PROFICIENCY

All applicants must provide proof of their English language proficiency, which is most commonly established through an internationally recognised test such as TOEFL, IELTS or University of Cambridge/ University of Oxford Certificates

Detailed information on the application procedure and requirements can be found on our website:
www.kic-innoenergy.com/application

CONDITIONAL ACCEPTANCE

Students in their final year of undergraduate education may also apply and if qualified, receive a conditional offer. If you have not completed your studies, please include a written statement from the degree administration office (or equivalent department), confirming that you are enrolled on the final year of your education and giving your expected completion date. If you receive a conditional offer, you should present your degree certificate to the KIC InnoEnergy Admissions Office before your admission in a specific programme can be formalized. The KIC InnoEnergy Admission Office will forward this to your programme, and appointed Year 1 university, such that your admission can be completed.

PARTICIPATION FEES AND SCHOLARSHIPS

See info on website.

ACCREDITATION

Having successfully completed the programme (120 ECTS), you will be awarded the Master of Science (M.Sc.) as a double-degree of the two universities you have attended.

CONTACT

MSc EMINE
Prof. Béatrice Cabon - Director MSc EMINE
Christine Dominjon - Coordinator MSc EMINE
Mail: emine@kic-innoenergy.com
Phone: +33 456 52 91 11

FOR MORE INFORMATION:

www.kic-innoenergy.com/emine