

# Erasmus Mundus master's degree in Advanced Materials Science and Engineering (AMASE)

The **Erasmus Mundus master's degree in Advanced Materials Science and Engineering (AMASE)** ([master's degree website](#)), coordinated by the **Universität des Saarlandes** and with the **UPC as a participant**, provides an in-depth education in the field of materials science and engineering, an interdisciplinary area of knowledge that includes the study of structures, properties, processing and applications of metallic, ceramic, polymeric and biological materials. It covers traditional structural materials, functional materials, nanomaterials and biomaterials.

## GENERAL DETAILS

### Duration and start date

Two academic years, 120 ECTS credits. Starting September

### Timetable and delivery

Mornings and afternoons. Face-to-face

### Language of instruction

Check the language of instruction for each subject in the course guide in the curriculum.

Information on [language use in the classroom and students' language rights](#).

### Location

[Barcelona East School of Engineering \(EEBE\)](#)

### Official degree

[Recorded in the Ministry of Education's degree register](#)

## ADMISSION

### General requirements

[Academic requirements for admission to master's degrees](#)

### Places

15

### Pre-enrolment

To enrol for an interuniversity master's degree coordinated by a university other than the UPC, you must enrol through the coordinating university:

[Universität des Saarlandes \(Germany\)](#)

## DOUBLE-DEGREE AGREEMENTS

### With universities around the world

- Materials Engineering (EEBE) + Master Advanced Materials Science and Engineering (AMASE) *Diplôme d'Ingénieur* (Université de Lorraine)
- Mechanical Engineering (EEBE) + Master Advanced Materials Science and Engineering (AMASE) *Diplôme d'Ingénieur* (Université de Lorraine)
- Chemical Engineering (EEBE) + Master Advanced Materials Science and Engineering (AMASE) *Diplôme d'Ingénieur* (Université de Lorraine)
- Bachelor's degree EEBE (Biomedical, Electrical, Industrial Electronics and Automatic Control, Energy, Mechanical, Materials, Chemical) / Bsc. C. Ecole Centrale + Master EEBE ( Master in Advanced Materials Science and Engineering, Master in

## PROFESSIONAL OPPORTUNITIES

---

### Professional opportunities

Graduates of the **Erasmus Mundus Master in Advanced Materials Science and Engineering (AMASE)** will be internationally recognised experts in materials science and engineering. In this field, they will exercise their abilities and apply their academic, professional and research knowledge. Languages are part of students' training and mobility is compulsory, allowing students to improve their German, French or English language skills and to obtain two qualifications from two European universities (the home institution and the host institution). These characteristics are particularly valued by many European companies.

### Competencies

#### Generic competencies

Generic competencies are the skills that graduates acquire regardless of the specific course or field of study. The generic competencies established by the UPC are capacity for innovation and entrepreneurship, sustainability and social commitment, knowledge of a foreign language (preferably English), teamwork and proper use of information resources.

#### Specific competencies

On completion of the course, students will be able to do the following:

- Design, develop and select materials.
- Create and develop production and transformation processes.
- Carry out inspections and quality control of materials and production, and transformation and utilization processes.
- Evaluate the security, durability and functional life of materials.
- Design, develop and control recovery, re-use and recycling processes for materials.
- Issue all kinds of expert reports on materials and processes.
- Carry out research and teaching in the areas mentioned.

---

## ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

---

### European programme

Erasmus Mundus

### UPC school

[Barcelona East School of Engineering \(EEBE\)](#)

### Participating institutions

[Universitat Politècnica de Catalunya \(UPC\)](#)

[Institut Nationale Polytechnique de Lorraine \(France\)](#)

[Luleå Tekniska Universitet \(Sweden\)](#)

[Montanuniversität Leoben](#)

[Università degli Studi di Padova \(Italy\)](#)

[Universität des Saarlandes \(Germany\)](#) - **coordinating** university

### Academic coordinator

[Gemma Fargas](#)

April 2024. [UPC](#). Universitat Politècnica de Catalunya · BarcelonaTech