Erasmus Mundus Master in Advanced Materials Science and Engineering (AMASE)

The **Erasmus Mundus master's degree in Advanced Materials Science and Engineering (AMASE)**, 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

Subjects will be taught 80% in Spanish and 20% in English.

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)

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)
Universität des Saarlandes (Germany) - **coordinating** university

CURRICULUM