

MASTER'S DEGREE IN TECHNOLOGY AND ENGINEERING MANAGEMENT

The master's degree in **Technology and Engineering Management (MEM)** is a challenging professional and academic degree programme.

High-quality teaching

Highly practical content and one-on-one attention.

Work placements and relations with industry

Educational cooperation agreements, conferences, business forums and speed networking.

Internationalisation

Mobility and exchange programmes worldwide.

Outstanding student projects

The School helps you to undertake applied engineering projects.

Excellent, useful and international research

Technology research has become a core strategy of the UPC's Terrassa Campus.

Your talent, our pride.

Note the date for the information session at our website!

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-  admissions.eseiaat@upc.edu



UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH

Terrassa School of Industrial, Aerospace
and Audiovisual Engineering

ESEIAAT

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UNIVERSITAT POLITÈCNICA
DE CATALUNYA
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International Campus of Excellence

MASTER'S DEGREE IN TECHNOLOGY AND ENGINEERING MANAGEMENT

The objective of the master's degree in Technology and Engineering Management (MEM) is to develop the knowledge and skills of engineers and scientists in the management of people, projects, resources and organisations in technical environments. The MEM focuses on effective decision making in engineering and technological organisations in today's competitive and rapidly changing business environment.

Why the MEM at the UPC?

The world is changing. Companies and organisations need engineers who are able to integrate technical and business skills to face new challenges and solve difficult problems. This master's degree gives students the knowledge and tools to face these challenges in this complex and competitive world of technology.

The methodology of the master's degree in Technology and Engineering Management follows an adapted project-based learning approach. During the course, students will work in teams on a project that demonstrates their newly assimilated knowledge and further development of their skills.

Over **50%** of master's degree students are international

2 international double master's degrees

90% graduate employment rate*

* Source: 5th graduate employment survey of graduates of Catalan universities by the Catalan University Quality Assurance Agency (AQU Catalunya, 2014)

85% of graduates would study at the ESEIAAT again*

Participation in international networks: **CLUSTER, TIME, CINDA and Smile-Magalhães**

Why the MEM rather than an MBA?

Traditional MBAs have a conceptual orientation that focuses on strategic issues and their curricula have a broad range of core subjects that includes economics, marketing, accounting and finance, as well as specialised courses in corporate strategy, management, human resources, international business and organisational behaviour. The MEM, on the other hand, has an analytical orientation that focuses on the management of people, projects, resources and organisations in technical environments. The MEM's curriculum has tech-based core courses in marketing, management, finance and law, as well as a wide range of optional technical courses in engineering, management and business.

Professional opportunities

In their professional roles, graduates of this master's degree will be expected to manage and lead cross-disciplinary engineering and science-based teams, apply quantitative analytical and critical thinking techniques to project and process management, take a multidisciplinary approach to complex problems involving the integration of engineering and management principles in projects and processes, and communicate clearly in the language of business to a variety of audiences.

Competencies acquired

Graduates of this master's degree will be able to:

- Analyse data to identify patterns.
- Optimise problems and systems using mathematical models and skills in decision making under uncertainty.
- Apply the theoretical and fundamental principles of management in engineering and technology companies in uncertain environments.
- Analyse the need for physical and financial resources in process and project management in technological environments.
- Include aspects related to internationalisation in decision making.
- Carry out and defend a comprehensive project in technology and engineering business management.

Work placements

The ESEIAAT offers students the option of taking extracurricular placements (on a voluntary basis) while they are studying: you can take up to 1085 hours of extracurricular placement. Every year, the ESEIAAT signs about 1000 placement agreements, which means that about 40% of students who take a placement sign an agreement with a company. Moreover, it is obligatory for students to be paid for placements.

International double master's degrees

The ESEIAAT offers double master's degrees with the University of Bergamo and the Politecnico di Torino.

Curriculum

1 year of on-campus courses (60 ECTS credits) + 6 months of on-campus or online work on the master's thesis (30 ECTS credits)

Language of instruction: English

Starting September and February

Timetable: from Monday to Friday from 8 AM to 2 PM (first year); 16 hours/week (second year)

Face-to-face classes

90 ECTS
(1.5 academic years)

Semester 1

Finance and Accounting	7,5
Tools for Decision Making	7,5
Information Technologies and Data Analysis	7,5
Asset and Facility Management	7,5
Game Theory	7,5
Environment, Health and Safety, and Quality Management	7,5

Semester 2

Production and Logistics	7,5
International Business	7,5
Strategy and Marketing	7,5
Advanced Project Management	7,5
Combinatorial Optimisation in Logistics	7,5
Simulation of Industrial and Logistic Processes	7,5

Semester 3

Master's Thesis	30
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4 compulsory subjects (30 ECTS credits)

4 optional subjects (30 ECTS credits)