

Mechanical Engineering for Industry 4.0 (IMMEI4.0)

Programme outline

This international Master programme focuses on developing the skills of tomorrow's engineers who wish to be involved in the growing industrial field of the Factory of the Future in a global context.

Course content is based on mechanical engineering topics that provide students with the knowledge and skills enabling them to contribute to Industry 4.0. All courses are delivered remotely, and workshops may be organised onsite

Classes and modules include the following topics: advanced and eco design, advanced manufacturing processes and entrepreneurship. The programme also features a mandatory internship allowing students to apply their acquired knowledge.

Lecturers and tutors include renowned researchers and experts in their respective fields linked to the Factory of the Future.

Level

Second year (Master 2) degree.

Programme duration

1 year (60 ECTS).

Admission requirements

Candidates must hold a Bachelor degree or equivalent in engineering science and must also have completed the first year of the University of Bordeaux's Master in Mechanical Engineering.

Language requirements

The teaching language is 100% English. Proof of proficiency in English is essential. The minimum requirements are the following:

- › TOEFL iBT score: 85
- › IELTS score: 6.5 (overall)
- › PTE score: 59
- › Duo Lingo score: 105

Academic cooperation

- › France: University of Bordeaux, Ecole Nationale Supérieure d'Arts et Métiers - ENSAM
- › Spain: University of the Basque Country
- › United States: University of Cincinnati

Fees

Annual registration fees for all selected applicants are calculated according to the rules and regulations of the University of Bordeaux (approximately 400€).

Strengths

Upon completion, students will master the scientific basis necessary to understanding and promoting the concepts related to the Factory of the Future in industry, from both a design and an industrial point of view.

The skills developed in entrepreneurship will allow students to use this knowledge coupled with their creativity to design tomorrow's industrial life and launch their own start-up or company.

Semester 1

Advanced design

- › 3D tolerancing
- › Non-destructive testing
- › Sustainable engineering
- › Digital chain
- › Design methods for additive manufacturing
- › Virtual manufacturing
- › Circular economy
- › Introduction to industrial artificial intelligence
- › Robot control and design

Advanced manufacturing processes

- › Closed door machining and technological intelligence
- › Bibliographic research study
- › Introduction to artificial intelligence and machine learning for industry
- › Advanced aeronautical machining
- › Sustainable manufacturing of advanced material and robot design
- › Computational methods additive manufacturing

Semester 2

Entrepreneurship

- › Techniques of innovation/creativity
- › Entrepreneurship workshop
- › Customer relationship management

Internship

- › Students must complete a mandatory internship abroad in a partner company or institution, leading to a Master thesis. Projects associated to technological platforms are available at partner locations.

How to apply?

The application procedure is processed via the Apoflux system.

And after?

The IMMEI4.0 international Master prepares students for careers in the fields of new technologies and methodologies related to the Factory of the Future, which are in a rapid development. This unique programme is one of the first in this domain and responds to important needs of manufacturing companies.

Contact

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