UNIVERSITÉ DE TECHNOLOGIE DE BELFORT-MONTBÉLIARD

Engineering programs

Master degree for international students

• Computer Science • Mechanical Engineering and Design • Manufacturing Management and Engineering • Electrical and Control Systems Engineering • Ergonomics, Industrial Design and Mechanical Engineering

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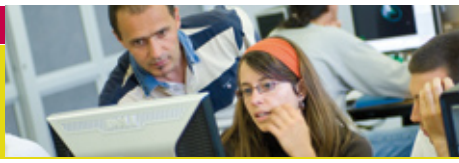
5 engineering programs
master degree



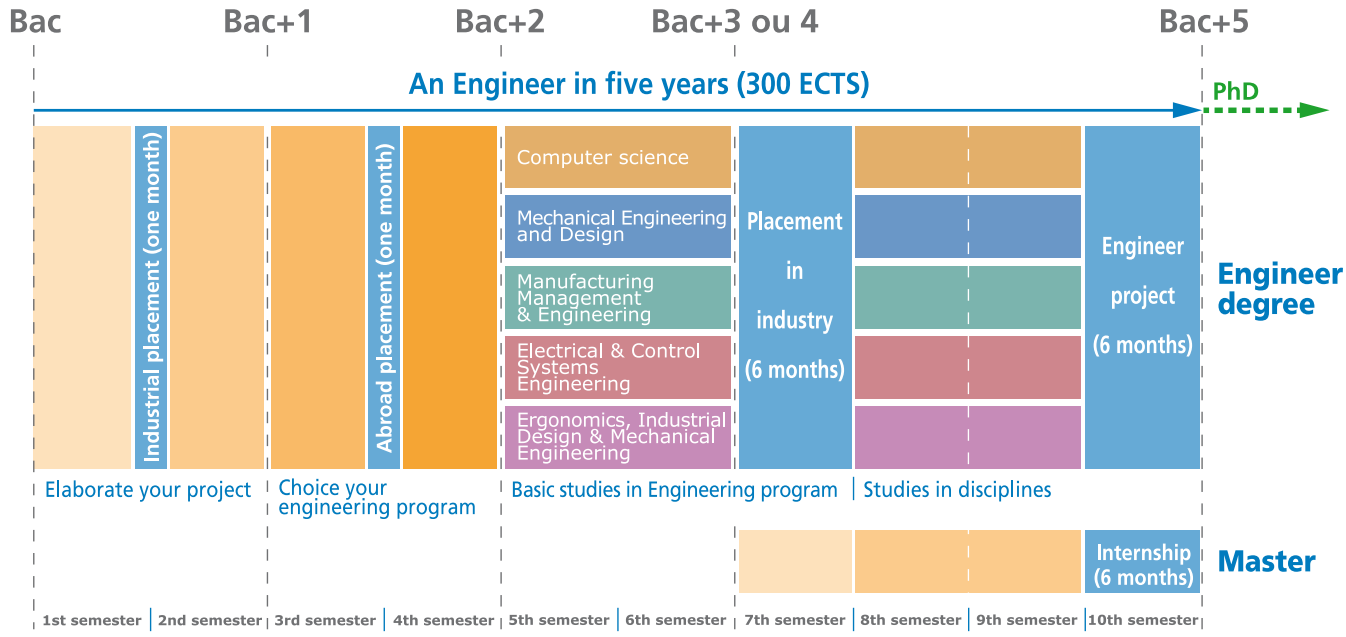
SOME FACTS AND FIGURES

- **5 university degrees** open to mature students
- **7 research departments**
- **140 partnerships** with foreign universities
- **426 engineering graduates in 2007**
- **Professors are researchers**

UTBM trains engineers to be quickly operational and particularly suited to technological evolution and to changes in society. Furthermore, the courses offered are enhanced by industrial research activities.

Created in 1999, UTBM is a university with scientific, cultural and professional objectives. A member of a group of universities of technology, UTBM was formed from the merger of two universities: the Engineering University of Belfort (l'Ecole Nationale d'Ingénieurs de Belfort founded in 1962) and the Polytechnic Institute of Sevenans (l'Institut Polytechnique de Sévenans - founded in Sévenans in 1985).

Master of engineering in 5 years



Computer Science

The Computer Science Department trains engineers for a further three years after the Foundation Studies programme. Engineers coming from this course can carry out the analysis, development and installation of computer systems. They are familiar with the most advanced technologies, such as mobile networks, virtual reality, embedded computing, etc.

After a sound basis in general computer engineering skills, students can complete their study programme in one of 4 disciplines. These are constantly brought up to date to meet industry needs and the latest job market requirements:

- Image, interaction and virtual reality.
- Software and knowledge engineering
- Networks and telecommunications
- Real-time systems, embedded systems and mobile computer systems.

Mechanical Engineering and Design

The Mechanical Engineering and Design department equips mechanical engineers with a broad range of skills, which give them the necessary competence, depending on the options selected, to manage or to work on any project related to the design and manufacture of products, equipment, and industrial processes. In particular, they are trained to participate in design and development work, while taking into particular consideration the effect of their work on people and on the environment.

After a general grounding in mechanical engineering and design, including: strength of materials, engineering drawing, electronics, computing, design, quality, project management, CAD, modelling, statistical analysis and mathematics, there are 5 disciplines to choose from:

- Product design and development
- Design of technical innovation
- Design of mecatronic systems
- Ergonomics, design and digital engineering
- Modelling and optimisation of thermo-mechanical systems

Manufacturing Management and Engineering

Engineers trained in this department are competent in manufacturing engineering and management. Manufacturing engineering includes product engineering (the choice and definition of the production processes used to manufacture a product). Product engineering is carried out as a multi-disciplinary task with the product design office. Manufacturing engineering also includes the design of production equipment, both for large-scale projects (such as the installation of a new manufacturing facility) or for more specific projects (such as the detailed design of a machine).

Manufacturing management concerns the every day operation of facilities: management and optimisation of product flow to meet output, quality and cost requirements. Manufacturing managers must have the necessary skills to able to lead and motivate their team; they must be able to organise the work of engineers working in extremely technical roles, such as on the management of machining facilities or on the definition and optimisation of production flow.

This department offers four disciplines:

- Design of Production Systems
- Product Engineering
- Production Management and Logistics
- Production Systems Automation

Engineering programs
master degree

Electrical and Control System Engineering

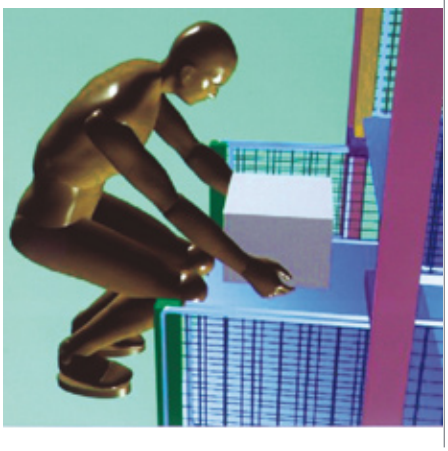
The Department of Electrical Engineering and Control Systems trains engineers to analyse, design and build complex systems within the fields of electronics, electrical engineering, industrial automation and computing.

Engineers from this training course have a mastery of recent as well as emerging electrical engineering technologies.

The department offers four disciplines:

- Control systems and automation
- Electronics and embedded systems
- Energy and transport
- Electrical machine systems and industrial electronics

Ergonomics, industrial design and mechanical engineering



The main goal of the Ergonomics, industrial design and mechanical engineering department is to train generalist engineers for evaluation and design of tasks, products, systems, environments..., in order to make them compatible with the needs, capacities and limits of the users.

This specific mechanical engineer curriculum takes into account, all the human dimensions : from muscles, bones, until emotion, by integrating the fundamentals of two main disciplines: ergonomics and industrial design.

This department proposes 3 specialities :

- Ergonomics and design
- Man-machine interaction
- Multi-sensorial industrial design

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