

Turbomachinery



Lecturer

Patrick HENDRICK (Coordinator)

Course mnemonic

MECA-H402

Language(s) of instruction

English

Course period

Second term

- Correctly report on research or design results in the form of a technical report or in the form of a scientific paper
- Present and defend results in a scientifically sound way, using contemporary communication tools, for a national as well as for an international professional or lay audience
- Collaborate in a (multidisciplinary) team
- Has a broad scientific knowledge, understanding and skills to be able to design, produce and maintain complex mechanical, electrical and/or energy systems with a focus on products, systems and services.
- Has an in depth scientific knowledge, understanding and skills in at least one of the subfields needed to design, produce, apply and maintain complex mechanical, electrical and/or energy systems;
- Has an in-depth understanding of safety standards and rules with respect to mechanical, electrical and energy systems.

Course content

Study of incompressible and compressible flow turbomachinery (pumps, centrifugal and axial compressors, radial and axial turbines)

Objectives (and/or specific learning outcomes)

Understand the physics of the different rotating machines used to deliver energy to a fluid or extract its energy towards a shaft

Teaching method and learning activities

Theory + exercises + practical demo's

Contribution to the teaching profile

This teaching unit contributes to the following competences:

- In-depth knowledge and understanding of exact sciences with the specificity of their application to engineering
- Reformulate complex engineering problems in order to solve them (simplifying assumptions, reducing complexity)
- Conceive, plan and execute a research project, based on an analysis of its objectives, existing knowledge and the relevant literature, with attention to innovation and valorization in industry and society

Other information

Contact(s)

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Evaluation method(s)

Other

Programmes

Programmes proposing this course at the Brussels School of Engineering

MA-IREM | **Master of science in Electromechanical Engineering** | finalité Professional/unit 1 and finalité Operations engineering and management/unit 1