

Mechanical design of actuators and generators



Component
École Nationale
Supérieure
d'Électrotechnique
d'Électronique

In brief

- **Ametys Code:** N9EE28C
- **Open to exchange students:** Yes

Presentation

Objectives

The course 'Mechanical Design of Actuators and Generators' aims to provide students with the skills necessary to design and optimise the mechanical aspects of actuators and generators used in electromechanical systems.

Description

Students will learn to analyse mechanical and thermal constraints, as well as select appropriate materials and geometries to ensure device performance, reliability and durability. Emphasis will be placed on modelling forces, torques and vibrations in actuators, as well as techniques for dimensioning rotors, stators and other mechanical components. Students will also explore the integration of electrical and mechanical aspects into design to maximise machine efficiency. Finally, through case studies and practical projects, they will apply this knowledge to real-world industry problems, thereby strengthening their ability to design actuation and generation systems suitable for a variety of applications.

Pre-requisites

None