

# Winding techniques for electrical machines



Component  
École Nationale  
Supérieure  
d'Électrotechnique  
d'Électronique

## In brief

- > **Amety's Code:** N9EE30D
- > **Open to exchange students:** Yes

## Presentation

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### Objectives

#### Course overview

The course aims to introduce students to the techniques of winding electrical machines. Winding is a very important part of the design phase of an electric actuator. It determines the voltage and current levels of the power supply module on the one hand, and on the other hand also contributes to the harmonic content of the magnetic fields and therefore impacts the efficiency of the machine-converter combination.

#### SPECIFIC OBJECTIVES

By the end of the course, students will be able to:

- Define a winding configuration for any type of three-phase alternating current machine
  - Propose conventional or highly specific windings
  - Characterise the harmonic content of the machine's dynamic torque
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### Description

This course is part of the third-year EMA Electromechanics and Advanced Mechatronics programme, and more specifically the Advanced Mechatronics teaching unit.