



## Course guides 220252 - 220252 - Control of Electrical Machines

Last modified: 29/05/2020

**Unit in charge:** Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
**Teaching unit:** 709 - DEE - Department of Electrical Engineering.

**Degree:** MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2013). (Optional subject).

**Academic year:** 2020    **ECTS Credits:** 5.0    **Languages:** Catalan, English, Spanish

### LECTURER

**Coordinating lecturer:** Antoni Garcia Espinosa

**Others:** Jaume Saura Perisé

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

#### Specific:

1. Capability for modeling, analysis, calculation and design of electrical power systems.
3. Ability to project conventional and non-conventionals power facilities.
6. Ability to model and solve problems associated with the operation of electric power systems by integrating information technologies and communication: protection, network operation, and electricity market stability.

### TEACHING METHODOLOGY

Lectures and laborator sessions

### LEARNING OBJECTIVES OF THE SUBJECT

To study the vector control schemes as well as Direct Torque Control schemes

### STUDY LOAD

Type	Hours	Percentage
Hours small group	15,0	12.00
Self study	80,0	64.00
Hours large group	30,0	24.00

**Total learning time:** 125 h

### CONTENTS

#### Vector control of Induction Motor and Permanent Magnet Synchronous Machines.

**Full-or-part-time:** 125h

Theory classes: 30h

Laboratory classes: 15h

Self study : 80h



## GRADING SYSTEM

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First exam\*0.3+Final exam\*0.5+laboratori \*0.2

## EXAMINATION RULES.

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In case to fail the first exam, the obtained mark could be improved

## BIBLIOGRAPHY

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### Basic:

- Mohan, Ned. Advanced electric drives: analysis, control and modeling using simulink. Minneapolis: MNPERE, cop. 2001. ISBN 0971529205.