



## Course guides

# 220260 - 220260 - Power Transmission Systems

**Last modified:** 29/05/2020

**Unit in charge:** Terrassa School of Industrial, Aerospace and Audiovisual Engineering  
**Teaching unit:** 729 - MF - Department of Fluid Mechanics.  
712 - EM - Department of Mechanical Engineering.  
724 - MMT - Department of Heat Engines.

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

**Academic year:** 2020    **ECTS Credits:** 10.0    **Languages:** Catalan, Spanish

### LECTURER

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**Coordinating lecturer:** Gamez Montero, Pedro Javier  
Freire Venegas, Francisco Javier  
Comas Amengual, Angel  
Codina Macia, Esteve

**Others:** Comas Cespedes, Esteve  
Torrent Celma, Miquel

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Specific:**

3. Ability to learn and understand design tools like CAD / CAM / CAE, CFD numerical simulation and dynamic simulation for design and advanced computing facilities and fluid dynamic systems.
4. Ability to know the laws, regulations and directives in force whenever assessing the environmental implications, energy, social and ethical professional activity.
5. Ability to learn and understand the dynamic phenomena and its formulation for application in the development of each of the stages of conception, design and mechanical calculations.
6. Ability to learn and understand numerical simulation tools for the design, calculation and fabrication of components, systems and mechanical installations.

### TEACHING METHODOLOGY

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Aquesta assignatura tindrà una part de teoria i una part de pràctiques.

Les classes de teoria podem incloure lliçons magistral, així com exemples i problemes.

Les classes pràctiques podem incloure visites a empreses, practiques de laboratori/taller, seminaris, presentació de treballs/projectes.

NOTA: per evitar interferències de les classes pràctiques amb altres assignatures, cal dedicar un matí o una tarda sencera (6 hores) a aquesta assignatura.

Esta previst que les classes teòriques es divideixin en tres blocs de dues hores, de manera que cada dues hores es canviï el tema estudiat.

### LEARNING OBJECTIVES OF THE SUBJECT

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## STUDY LOAD

Type	Hours	Percentage
Hours large group	60,0	24.00
Self study	160,0	64.00
Hours small group	30,0	12.00

**Total learning time:** 250 h

## CONTENTS

<b>Description:</b>
<b>Specific objectives:</b>
<b>Related activities:</b>
<b>Full-or-part-time:</b> 83h Theory classes: 20h Laboratory classes: 10h Self study : 53h

Gears
<b>Description:</b> content english
<b>Specific objectives:</b> objective english
<b>Related activities:</b> activity english
<b>Full-or-part-time:</b> 83h Theory classes: 20h Laboratory classes: 10h Self study : 53h



**title english**

**Description:**

content english

**Specific objectives:**

objective english

**Related activities:**

activity english

**Full-or-part-time:** 84h

Theory classes: 20h

Laboratory classes: 10h

Self study : 54h

## ACTIVITIES

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**Description:**

activity english

**Specific objectives:**

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**Material:**

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**Delivery:**

None

**Full-or-part-time:** 138h

Theory classes: 54h

Self study: 84h

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**Description:**

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**Specific objectives:**

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**Material:**

material english

**Delivery:**

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**Full-or-part-time:** 69h

Laboratory classes: 27h

Self study: 42h



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**Description:**

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**Specific objectives:**

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**Material:**

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**Delivery:**

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**Full-or-part-time:** 8h  
Theory classes: 2h  
Self study: 6h

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**Description:**

activity english

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**Specific objectives:**

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**Material:**

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**Delivery:**

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**Full-or-part-time:** 8h  
Theory classes: 2h  
Self study: 6h

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**Description:**

activity english

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**Specific objectives:**

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**Material:**

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**Delivery:**

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**Full-or-part-time:** 8h  
Theory classes: 2h  
Self study: 6h



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**Description:**

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**Specific objectives:**

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**Material:**

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**Delivery:**

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**Full-or-part-time:** 9h  
Laboratory classes: 3h  
Self study: 6h

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**Description:**

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**Specific objectives:**

objective english

**Material:**

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**Delivery:**

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**Full-or-part-time:** 10h  
Self study: 10h

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## GRADING SYSTEM

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## BIBLIOGRAPHY

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### Basic:

- Müller, Herbert W. Epicyclic drive trains: analysis, synthesis and applications. Detroit: Wayne State University Press, 1982. ISBN 9780814316634.
- Gibert, Jaume. Ingeniería de los engranajes. Barcelona: l'autor, 2005. ISBN 8460954552.
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- Kröll, Imre [et al.]. Fundamentals of hydraulic power transmission. Amsterdam: Elsevier, 1988. ISBN 0444418725.
- Ivantysyn, J.; Ivantysynova, M. Hydrostatic pumps and motors: principles, design, performance, modelling, analysis, control and testing. New Delhi: Tech Books International, 2003. ISBN 9788188305087.
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- Manring, Noah D. Hydraulic control systems. Hoboken: John Wiley & Sons, cop. 2005. ISBN 9780471693116.
- Masià, J.; Esquerdo, T.; Colomina, J. Trens d'engranatges epicicloïdals. València: Universitat Politècnica de València, 2007. ISBN 9788483630501.
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- Riba Romeva, C. Mecanismes i màquines, vol. 2, Transmissions d'engranatges [on line]. 2ª ed. Barcelona: Edicions UPC, 2002 [Consultation: 08/01/2016]. Available on: <http://hdl.handle.net/2099.3/36254>. ISBN 8483014467.

## RESOURCES

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### Hyperlink:

- Documentació a la web ATENEA. Resource