

220262 - Machine Design and Mechanical Vibrations

Coordinating unit: 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering
 Teaching unit: 712 - EM - Department of Mechanical Engineering
 Academic year: 2019
 Degree: MASTER'S DEGREE IN INDUSTRIAL ENGINEERING (Syllabus 2013). (Teaching unit Optional)
 ECTS credits: 5 Teaching languages: Catalan, Spanish, English

Teaching staff

Coordinator: Jordi Romeu Garbi - Francisco Javier Freire Venegas
 Others: Laura Carrion Lopez - Robert Arcos Villamarin - Arnau Clot Razquin

Degree competences to which the subject contributes

Specific:

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.

Teaching methodology

Learning objectives of the subject

Study load

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|---------------------------|--------------------|-----|--------|
| Total learning time: 125h | Hours large group: | 30h | 24.00% |
| | Hours small group: | 15h | 12.00% |
| | Self study: | 80h | 64.00% |

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Content

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| (ENG) -Mòdul 1: Introducció al disseny i fabricació | Learning time: 4h Theory classes: 2h Self study : 2h |
| (ENG) Mòdul 2: Disseny d'elements de màquines | Learning time: 60h 30m Theory classes: 14h Laboratory classes: 7h 30m Self study : 39h |
| (ENG) Mòdul 3: Vibracions mecàniques | Learning time: 60h 30m Theory classes: 14h Laboratory classes: 7h 30m Self study : 39h |
| Description: . Related activities: . Specific objectives: . | |

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Planning of activities

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| (ENG) ACTIVITAT 1: CLASSES TEORIQUES | Hours: 44h Theory classes: 26h Self study: 18h |
| (ENG) ACTIVITAT 2: CLASSES PRACTIQUES/LABORATORI | Hours: 32h Laboratory classes: 14h Self study: 18h |
| (ENG) ACTIVITAT 3: ENTREGA PROBLEMES PROPOSSATS | Hours: 18h Self study: 18h |
| (ENG) ACTIVITAT 4: ENTREGA INFORME PRACTIQUES | Hours: 18h Self study: 18h |
| (ENG) ACTIVITAT 5: EXAMEN PARCIAL | Hours: 6h Theory classes: 2h Self study: 4h |
| (ENG) ACTIVITAT 6: EXAMEN FINAL | Hours: 7h Theory classes: 2h Laboratory classes: 1h Self study: 4h |

Qualification system

Bibliography

Basic:

Budynas, R.G.; Nisbett, J.K. Diseño en ingeniería mecánica de Shigley. 8ª ed. México: McGraw-Hill, 2008. ISBN 9789701064047.

Salueña, X.; Nápoles, A. Tecnología mecánica [on line]. 2ª ed. Barcelona: Edicions UPC, 2001 [Consultation: 08/01/2016]. Available on: <<http://hdl.handle.net/2099.3/36437>>. ISBN 8483014491.

Tongue, Benson H. Principles of vibration. 2nd ed. New York: Oxford University Press, 2002. ISBN 0195142462.