



Course guides

220262 - 220262 - Machine Design and Mechanical Vibrations

Last modified: 01/10/2020

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 712 - EM - Department of Mechanical 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: Clot Razquin, Arnau
Arcos Villamarín, Robert

Others: Orta Roca, Jordi

PRIOR SKILLS

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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

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LEARNING OBJECTIVES OF THE SUBJECT

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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

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Description:

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Specific objectives:

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Related activities:

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Full-or-part-time: 4h

Theory classes: 2h

Self study : 2h

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Description:

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Specific objectives:

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Related activities:

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Full-or-part-time: 60h 30m

Theory classes: 14h

Laboratory classes: 7h 30m

Self study : 39h

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Description:

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Specific objectives:

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Related activities:

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Full-or-part-time: 60h 30m

Theory classes: 14h

Laboratory classes: 7h 30m

Self study : 39h



ACTIVITIES

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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: 44h

Theory classes: 26h

Self study: 18h

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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: 12h 30m

Laboratory classes: 3h 30m

Self study: 9h

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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: 12h 30m

Laboratory classes: 3h 30m

Self study: 9h



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Description:

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Specific objectives:

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Material:

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Full-or-part-time: 12h 30m

Laboratory classes: 3h 30m

Self study: 9h

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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: 12h 30m

Laboratory classes: 3h 30m

Self study: 9h

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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: 18h

Self study: 18h



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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: 6h

Theory classes: 2h

Self study: 4h

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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: 7h

Theory classes: 2h

Laboratory classes: 1h

Self study: 4h

GRADING SYSTEM

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EXAMINATION RULES.

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BIBLIOGRAPHY

Basic:

- Den Hartog, J. P. Mechanical vibrations . New York : Dover Publications, 1984. ISBN 0486647854.
- Thomson, William Tyrrell. Theory of vibration with applications . 4th ed. Cheltenham : Nelson Thornes, cop. 1993. ISBN 0748743804.
- Budynas, R. G.; Nisbett, J. K. Diseño en ingeniería mecánica de Shigley [on line]. 8ª ed. México: McGraw-Hill, 2008 [Consultation: 04/11/2020]. Available on: http://www.ingebook.com/ib/NPcd/IB_BooksVis?cod_primaria=1000187&codigo_libro=8075. 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.

RESOURCES

Other resources:

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