

340076 - TAD2-D4017 - Design Workshop II

Coordinating unit:	340 - EPSEVG - Vilanova i la Geltrú School of Engineering
Teaching unit:	717 - EGE - Department of Engineering Presentation
Academic year:	2018
Degree:	BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2009). (Teaching unit Compulsory) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional)
ECTS credits:	6
Teaching languages:	Catalan, Spanish

Teaching staff

Coordinator:	Manuel López Membrilla
Others:	Departament 713-EQ: Agusti Fortuny Sanroma. Departament 712-EM: Hernan Alberto Gonzalez Rojas. Departament 717-EGE: Manel L. Membrilla, Dolors López, Alba Torras, Ruben de Castro. Departament 732-OE: Josep Maria Colomer Mur. Departament 737-RMEE: Antoni Andreu Torras.

Degree competences to which the subject contributes

Transversal:

1. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
2. THIRD LANGUAGE. Learning a third language, preferably English, to a degree of oral and written fluency that fits in with the future needs of the graduates of each course.
3. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
4. EFFECTIVE USE OF INFORMATION RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.

Teaching methodology

Workshop 2 theory: contents are exhibited and theoretical basis of different materials, concepts, methods and results with practical applications are introduced and appropriate examples to facilitate their understanding.

Practises of workshop 2 consist of:

- 1) Sessions where projects are based on existing products.
 - 2) Global or specific complementary feedback so that students are able to develop proposed projects.
 - 3) Guided follow-up to achieve results.
 - 4) Existing product manipulation: dismantling and assembling products.
- Students propose solutions for analysed and developed projects.

The lab os workshop 2 contemplates:

- 1) Existing product manipulation: dismantling and assembling products.
- 2) Guided follow-up to achieve results.
- 3) Possibility to do the respective model (Prototype in 3D, possible solutions)

The independent learning is aimed at making presentations of projects as well as at complementary information research and existing product manipulation .

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Learning objectives of the subject

To acquire a general education based on the product and get acquainted to the different parts that form them. Internal and external product analysis.

Strengthen skills, ingenuity and ability to analyze and manipulate an industrial product.

To develop minimum technical ability to solve effectively the proposed projects and ideas that students themselves generate.

To interpret the process of product development from the formal and theoretical knowledge of different subjects that make up the Design Workshop.

To develop an attitude of criticism and self-criticism of the own works and those of the colleagues.

To gain an overview of the product. Product and its components. Structure of a product.

Study load

Total learning time: 150h	Hours large group:	6h	4.00%
	Hours medium group:	0h	0.00%
	Hours small group:	6h	4.00%
	Guided activities:	0h	0.00%
	Self study:	138h	92.00%

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Content

1. Existing Products and Improvements. Redesign of products.	Learning time: 3h Theory classes: 3h
2. Analysis and Study based Developement. Duality in Products.	Learning time: 3h Theory classes: 3h
3. Industrial Design Methodology. Design Process. Reverse Product Engineering.	Learning time: 3h Theory classes: 3h
4. Fabrication and Production Tecniques. Avaluation.	Learning time: 3h Theory classes: 3h
5. Presentation tecniques	Learning time: 3h Theory classes: 3h
(ENG) -	Learning time: 15h Practical classes: 15h
Design Workshop Laboratory	Learning time: 30h Laboratory classes: 30h
Autonomous Learning	Learning time: 90h Self study : 90h

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Qualification system

The evaluation of all different activities which form the subject are based on:

- Technical report of project and exercises worth 50%.
- Defence and technical exhibition of the project worth 30%.
- Assessment of skills and attitudes shown by students in individual and team activities worth 20%.

Laboratory sessions are complementary for a good follow-up of the subject.

Regulations for carrying out activities

It is recommended to attend and participate actively in the Design Workshop lessons and have a respectful, critical and active attitude to improve the results.

Exercises will be delivered in the established format and via Atenea.

Bibliography

Basic:

Hudson, Jennifer. Proceso : 50 productos de diseño : del concepto a la fabricación. Barcelona: Blume, 2009. ISBN 9788498013832.

Ashby, M. F. Materials and design : the art and science of material selection in product design [on line]. 2nd ed. Amsterdam [etc.]: Butterworth Heinemann, 2010 [Consultation: 07/10/2014]. Available on: <<http://www.sciencedirect.com/science/book/9781856174978>>. ISBN 9781856174978.

Budynas, Richard G.; Nisbett, J. Keith. Diseño en ingeniería mecánica de Shigley. 8a ed. México: McGraw-Hill Higher education, 2002. ISBN 9789701064047.

Complementary:

Kalpakjian, Serope; Schmid, Steven R. Manufacturing processes for engineering materials. 5th ed. Upper Saddle River: Pearson Education, 2007. ISBN 9789810679538.

Others resources: