

820058 - ACAD - Advanced Computer-Aided Design

Coordinating unit:	295 - EEBE - Barcelona East School of Engineering
Teaching unit:	717 - EGE - Department of Engineering Presentation
Academic year:	2017
Degree:	BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN ENERGY ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN BIOMEDICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Teaching unit Optional)
ECTS credits:	6
Teaching languages:	English

Teaching staff

Coordinator:	JORDI TORNER RIBÉ
Others:	JORDI TORNER RIBÉ

Opening hours

Timetable:	1D07 (1er pis)
	Tuesdays 11-14h
	Thursdays 11-14h

Prior skills

Must have completed successfully EGDAO (Graphic Expression and CAD)

Requirements

GRaphic Expression and CAD

Degree competences to which the subject contributes

Transversal:

1. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.

Teaching methodology

This course uses narrative method by 50%, individual work 25% and project-based learning by 50%. No reassessment test is performed.

Learning objectives of the subject

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Acquire fundamentals and knowledge in order to use different CAD Systems according to the drawing, design or project to produce.

Study load

Total learning time: 150h	Hours large group:	0h	0.00%
	Hours medium group:	0h	0.00%
	Hours small group:	45h	30.00%
	Guided activities:	15h	10.00%
	Self study:	90h	60.00%

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Content

<p>(ENG) Giving a general knowledge of features and characteristics in CAD systems.</p>	<p>Learning time: 30h Practical classes: 7h 12m Guided activities: 3h Self study : 19h 48m</p>
<p>Description: CAD software Project management</p>	
<p>(ENG) Getting knowledge on how to use 2D layer CAD systems</p>	<p>Learning time: 30h Practical classes: 7h 12m Guided activities: 3h Self study : 19h 48m</p>
<p>Description: Introduction 2D plots Modification and Editing Blocks, dimensioning and layers 2D to 3D Layouts Solids</p>	
<p>(ENG) Using tools on CAD software: Drawings. Animation. Simulation. Analysis. Assembly Visualization. Configurations. Exploded assemblies</p>	<p>Learning time: 30h Practical classes: 7h 12m Guided activities: 3h Self study : 19h 48m</p>
<p>Description: Drawings Animation Simulation Analysis Assembly Visualization Configurations Exploded assemblies</p>	

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(ENG) Introducing concepts on Advanced Surface Modeling (Bezier. B-Spline i NURBS)	Learning time: 30h Practical classes: 7h 12m Guided activities: 3h Self study : 19h 48m
Description: Introduction Precision modeling Creating surfaces NURBS basics Editing objects 3-D Modeling and editing Importing and exporting	
(ENG) Using visualization and rendering solutions	Learning time: 30h Practical classes: 7h 12m Guided activities: 3h Self study : 19h 48m
Description: Animator Photoview Events Simulation	

Qualification system

Exam 1: 20%
 Exam 2: 20%
 Final Project: 55%
 Competence: 5%

Bibliography

Basic:

Omura, George. Introducing AutoCAD 2010 : and AutoCAD LT 2010 [on line]. Hoboken: Sybex, 2009 Available on: <<http://site.ebrary.com/lib/librarytitles/docDetail.action?docID=10325832>>. ISBN 9780470561423.

Gu, Ning; Wang, Xiangyu. Computational design methods and technologies : applications in CAD, CAM and CAE education [on line]. IGI Global, 2012 Available on: <<http://www.amazon.com/Computational-Design-Methods-Technologies-Applications/dp/1613501803>>. ISBN 9781613501801.

Gómez González, Sergio; Torner Ribé, Jordi. Grasshopper para Rhinoceros e impresión 3D. Barcelona: Marcombo, 2016. ISBN 9788426722751.