Course guide
820058 - ACAD - Further Computer-Aided Design

Last modified: 04/06/2026

Unit in charge: Barcelona East School of Engineering
Teaching unit: 717 - DEGD - Department of Engineering Graphics and Design.

Degree: BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN MATERIALS ENGINEERING (Syllabus 2010). (Optional subject).

Academic year: 2026 **ECTS Credits:** 6.0 **Languages:** English

LECTURER

Coordinating lecturer: JORDI TORNER RIBE

Others: JORDI TORNER RIBE

PRIOR SKILLS

Must have completed successfully EG

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

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

STUDY LOAD

Type	Hours	Percentage
Hours small group	45,0	30.00
Self study	90,0	60.00
Guided activities	15,0	10.00

Total learning time: 150 h

CONTENTS

Contents

Description:
1: Giving a general knowledge of features and characteristics in CAD systems.
2: Getting knowledge on how to use 2D layer CAD systems.
3: Using tools on CAD software: Drawings. Animation. Simulation. Analysis. Assembly Visualization. Configurations. Exploded assemblies.
4: Introducing concepts on Advanced Surface Modeling (Bezier. B-Spline i NURBS).
5: Algorithmic parametric modeling / Computational Design & Methods
5: Using visualization and rendering solutions.
6: Working with communication between software. Importing/exporting files.
7: Virtual Reality

Full-or-part-time: 30h
Practical classes: 7h 12m
Guided activities: 3h
Self study : 19h 48m

GRADING SYSTEM

Any academic fraud, plagiarism or use or possession of unauthorised means in an assessment activity leads to a mark of zero (0) for the affected test or assignment. Furthermore, in accordance with the University's regulations, if disciplinary proceedings are initiated the subject is recorded as "Pending Assessment" until a decision is reached. These incidents are managed in accordance with the **Action Framework for Academic Integrity in Assessment at the UPC**.

â□ªExercises (design case studies in classroom) 20 %
â□ªExam Rhino 20 %
â□ªExam Autocad 10 %
â□ªFinal Project 50 %

BIBLIOGRAPHY

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