29806 - Graphic expression and computer-assisted design

Información del Plan Docente

Academic Year	2017/18
Faculty / School	110 - Escuela de Ingeniería y Arquitectura 326 - Escuela Universitaria Politécnica de Teruel
Degree	440 - Bachelor's Degree in Electronic and Automatic Engineering 444 - Bachelor's Degree in Electronic and Automatic Engineering
ECTS	6.0
Year	1
Semester	Half-yearly
Subject Type	Basic Education
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

The learning process that is designed for this subject is based on....

The teaching process will be developed in four main levels: theory classes, exercise classes, laboratory and supervised practices what means an increasing level of student participation. In the theory classes the contents Standardization

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Industrial Drawing and Descriptive Geometry will be thaught ilustrated with numerous examples each topic. In the exercises classes the students will solve exercises, under the supervisión of a teacher. The laboratory practices will be developed in small groups, where the student will handle the software for Computer Aided Design. The supervised practices will consist of individual or group home work of technical applications that the student will develop with the guidance and supervision of the teacher.

5.2.Learning tasks

Graphic Expression and Computer Aided Design is a subject of 6 ECTS credits, equivalent to 150 total hours of work, corresponding to 60 hours (Theory classes, problems, laboratory of Computer Aided Design...) and 90 non-contact hours (resolution of tutored exercises, study...)

5.3.Syllabus

The main contents are summarized in the following points:

Standardization and industrial drawing: Introduction to Graphic for Engineers. Standardization and Computer Aided Design. Drawing instruments and drafting machines. Formats, scales, line types and tettering. Orthographic views. Representation of threads. Broken-out sections. Dimensioning.

Descriptive Geometry : Techniques of labering points, lines and planes. Intersections. Parallelism. Orthogonality. Auxiliary views. Rotations. True size of a plane. True-lenght diagram. Distances.

Surfaces : Contour apparent and representation of surfaces. Defining and types of surfaces. Sections and intersections of lines. Transformed and geodesic. Development of surfaces

Computer aided design 2D : Introduction and general operation of the program. Main screen. Comand input. Function keys. File management. Program environment. Drawing aids. Coordinate systems. Display commands. Drawing commands. Selecting entities. Reference entities. Editing commands. Working with layers. Text. Dimensioning. Blocks. Attribute listing.

5.4.Course planning and calendar

The theory classes, the problem classes and the practice sessions in the laboratory are given according to an established schedule by the center. This schedule is published before the starting date at the center's web page and at the notice boards.

Each profesor will inform about his tutorial classes schedule.

The rest of the activities will be planned according to the number of students and they will be published with enough time.

5.5.Bibliography and recommended resources

BB Altemir Grasa, José María. Expresión gráfica : apuntes / Jose Mª Altemir Grasa . Zaragoza : El autor, cop. 2008 **BB** Álvarez Álvarez, Jesús. Dibujo técnico 2 : Bachillerato / autores, J. Álvarez, J. L. Casado, Mª D. Gómez . Madrid : SM, D.L. 2003 **BB** Calvo Lalanza, Manuel. Dibujo industrial : normalización / Manuel Calvo . [1a. ed.] Zaragoza : Universidad, Secretariado de Publicaciones, 1991 **BB** Calvo Lalanza, Manuel. Geometría descriptiva : sistema diédrico, sistema acotado / A. Manuel Calvo Lalanza . Zaragoza : [s. n.], [2012]|e(Zaragoza :|fGorfisa) **BB** Gonzalez Monsalve, Mario.

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Dibujo técnico. Tomo II, Geometría descriptiva : sistema diédrico, sistema acotado, sistema axonomético, perspectiva caballera, sistema cónico / Mario Gonzalez Monsalve, Julián Palencia Cortés. Sevilla : Los autores, 1996 **BB** González Monsalve, Mario. Trazado geométrico / Mario González Monsalve, Julián Palencia Cortés . Sevilla : [los autores], 1992 **BB** Izquierdo Asensi, Fernando. Ejercicios de geometría descriptiva. Tomo I, Sistema diédrico / Fernando Izquierdo Asensi . 16ª ed. corr. Madrid : El autor, D.L. 2009 **BB** Izquierdo Asensi, Fernando. Ejercicios de geometría descriptiva. Tomo III, Sistema axonométrico . 14ª ed. rev. Madrid : El autor, D. L. 2005 **BB** Izquierdo Asensi, Fernando. Ejercicios de geometría descriptiva. Tomo IV, Sistema cónico . Madrid : El autor, D.L. 1997 **BB** Izquierdo Asensi, Fernando. Geometría descriptiva / Fernando Izquierdo Asensi . 24ª ed. totalmente rev. Madrid : [El autor], D.L. 2000