

25868 - Graphic Expression I

Información del Plan Docente

Academic Year	2017/18
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	558 - Bachelor's Degree in Industrial Design and Product Development Engineering
ECTS	6.0
Year	1
Semester	Second semester
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

BASIC COMPETENCES

CB01. Students have demonstrated knowledge and understanding in a field of study that is part of the general secondary educationcurricular, and is typically at a level which, although it is supported by advanced textbooks, includes some aspects that involve knowledge of the forefront of their field of study.

CB02. Students can apply their knowledge to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

CB03. Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include an important reflection on social, scientific or ethical issues.

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CB04. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

CB05. Students have developed those skills needed to undertake further studies with a high degree of autonomy.

GENERAL COMPETENCES

GC06. Ability to generate the necessary documentation for the proper transmission of ideas through graphics, reports and technical documents, models and prototypes, oral presentations in Spanish and other languages.

GC07. Ability to use and master techniques, skills, tools and techniques and communication and others specific of design engineering needed for design practice.

GC08. Ability to learn continuously, to develop autonomous learning strategies and to work in multidisciplinary groups with motivation and determination to achieve goals.

SPECIFIC COMPETENCES

SC04. Capacity of spatial vision and knowledge of graphic representation techniques, both traditional methods of metric geometry and descriptive geometry, such as through applications of computer-aided design.

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 following:

- Type 1 (Diédrico theory classes and Perspective System) Teaching: Based on classroom exposure of theoretical concepts using slate and animated PowerPoint presentations.
- Teaching type 2 (kinds of problems Diédrico System and Perspective): casework in the classroom to each student find difficulties in solving problems and cases.
- Type 3 (classes Laboratory Practice Computer Aided Design) Teaching: Based on the explanation, exercise approach and personal attention in computer use. control, assistance and evaluation, individually, of the exercises by mandatory appointment in office.
- Type 6 (tutored practice tracking exercises Industrial Standards) Teaching

5.2. Learning tasks

The 6 credits of the subject correspond to 150 hours of student work, which are organized in:

Theory class : 30 h.

Classes of problems: 15 h

CAD Practices: 15 h.

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Personal work of the student: 84h.

Testing and testing: 6h.

The program offered to the student to help achieve the expected results includes the following activities ...

Teaching type 1: Theory classes (30 hours). Classes of Normalization theory of Industrial Drawing and Representation Systems. It is based on classroom exposition of theoretical concepts with the use of blackboard and teaching didactic means (transparency, PowerPoint presentations, etc.).

Teaching type 2: Classes of problems (15 hours). Classes of problems of Standardization of Industrial Drawing and Representation Systems. For this learning process an individualized assistance in the classroom will be established to the difficulties that each student finds in the solution of problems and cases.

Teaching type 3: Laboratory practices (15 hours). Classes of laboratory practices of Computer Aided Design. It is based on the explanation, approach of exercises and personalized attention in the use of the computer.

Teaching type 6: Practical work supervised. Practices supervised to follow the exercises of Normalization, technical applications and systems of representation, which includes control and assistance in an individualized way in the exercises presented, by appointment mandatory in dispatch.

Teaching type 7: Personal study. Individual dedication necessary to consolidate a correct learning process.

Teaching type 8: Evaluation test. In addition to the qualifying function, the evaluation is also a learning tool with which the student tests the degree of comprehension and assimilation he has achieved in the subject.

Other activities: Tutoring. Direct attention to the student, identification of learning problems, orientation in the subject, attention to exercises and works ,.

5.3.Syllabus

- Standardization and drawing sets

Introduction to Graphic Expression

Standardization and Computer Aided Design

Tools and equipment for drawing

Formats, scales, line types and writing

Views dihedral. Representation of threads and gears

Cuts and sections

Dimensioning

Introduction to drawing sets

- Diédrico system

Intersection of lines and planes

Parallelism

Perpendicularity

Projection change plans

Views Partial Single and Double

Spins

Lowering the elements of a plane

Measure distances

Measuring angles

- Practical applications dihedral system

Defining and building surfaces, apparent contour and representation surfaces

flat sections and intersection straight

Intersection of surfaces

Surface development

Shades

- perspectiva conical

Principles of perspective

basic geometric concepts

Running prospects

Shades

5.4.Course planning and calendar

- block 1

Basic rules of representation standardized product. Development space student ability. Representation of objects and simple sets.

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- Block 2

Descriptive geometry. Development of spatial geometry, application practice it to a system representation.

- Block 3

Practical applications of the dihedral system. geometric intersection complex surfaces, their development.

- Block 4

Perception of the product. Representation systems view own.

- block 5

Shades of elements. Representation of shadows

June / July to September: Global Assessment: a test on Standardization, Systems representation and Prospects + a test on tutored exercises + a test on practices in Cad.

5.5. Bibliography and recommended resources

- Dibujo Técnico 2º Bachillerato. Autor: Jesús Álvarez, José Luis Casado y Lola Gómez. Editorial: S.M.
- Trazado Geométrico. Autor: Mario González y Julián Palencia. Editorial: Propia
- Expresión Gráfica. Autor: José María Altemir Grasa. Editorial: Copy Center
- Dibujo Industrial: Normalización. Autor: Manuel Calvo Lanza. Editorial: Gorfisa
- Geometría Descriptiva. Autor: Fernando Izquierdo Asensi. Editorial: Dosat
- Geometría Descriptiva. Autor: Mario González y Julián Palencia. Editorial: Propia
- Geometría Descriptiva. Autor: Manuel Calvo Lanza. Editorial: Gorfisa
- Ejercicios de Geometría Descriptiva I, III y IV. Autor: Fernando Izquierdo Asensi. Editorial: Paraninfo
- Apuntes de la asignatura colocados en el ADD de Unizar