Engineering Graphics

Academic Year: (2022 / 2023) **Review date: 18/05/2022 16:40:50**

Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher: MENESES ALONSO, JESUS

Type: Basic Core ECTS Credits : 6.0

Year : 1 Semester : 2

Branch of knowledge: Engineering and Architecture

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Students are expected to have completed Technical Drawing in the high school, or the curso0 "Dibujo Técnico en Ingeniería"

OBJECTIVES

Upon successful completion of this subject, students will be able to:
1. Know, interpret and use the representation systems, their geometric foundation and the conventions and standardized symbols that underlie industrial design and computer-aided design.
2. Apply your knowledge and understanding to read, interpret and correctly develop industrial drafts.
3. Understand and use different methods to graphically express ideas, designs and projects in a precise, clear, unambiguous and standardized manner.
4. Develop technical level and computer-aided design laboratory tasks.
5. Select and use appropriate tools and methods to graphically document industrial designs.
6. Combine theory and practice to solve problems of engineering graphics.
7. Work effectively both individually and as a team

DESCRIPTION OF CONTENTS: PROGRAMME

Standardized representation systems, dihedral and axonometric system in greater depth.
Standardized representation of basic industrial elements
Dimensioning. Dimensional and geometric tolerances
Geometric bases of Computer Aided Design

LEARNING ACTIVITIES AND METHODOLOGY

Magistral lectures, exercises in classroom and / or computer room, personal work and drafts elaboration, teamwork for mechanical modeling, assemblying and drafting.

ASSESSMENT SYSTEM

% end-of-term-examination/test:	49
% of continuous assessment (assigments, laboratory, practicals…):	51

The content of the subject can be divided into three parts; In addition, the evaluation system is composed by CONTINUOUS ASSESSMENT and FINAL EXAM. Below are the percentage with which each item contributes to the final grade:

CONTINUOUS ASSESSMENT
TR: Subject work (Computer-aided design), delivered exercises, etc: 30%
EC1: Partial exam part 1. 4.5%, if not passed. 15% if passed (F1 exempt in Ordinary call)
EC2: Partial exam part 2. 7.5%, if not passed. 25% if passed (F2 exempt in Ordinary call)
EC3: Partial exam part 3. 9%, if not passed. 30% if passed (F3 exempt in Ordinary call)

FINAL EXAM
F1: Final exam part 1. 10.5%. Exempt (in Ordinary call) if EC1 is passed
F2: Final exam part 2. 17.5%. Exempt (in Ordinary call) if EC2 is passed

% end-of-term-examination/test:	49
% of continuous assessment (assigments, laboratory, practicals…):	51

F3: Final exam part 3. 21%. Exempt (in Ordinary call) if EC3 is passed

In ordinary call, it is required to pass.
- A total score grater than or equal to 5.
- A minimum of 35% in each made part of the final exam.
- A minimum of 35% in the computer-aided design part.

In extraordinary call, no part is exempt. The grade will be the most beneficial among the cases: i) 100% of the final exam and ii) 10.5%, 17.5% and 21% of F1, F2 and F3 respectively, plus 4.5%, 7.5% and 9% of the partial EC1 , EC2 and EC3 respectively, plus 30% of TR

In extraordinary call, a minimum of 35% of the exam is required to pass.

The percentage distribution between CONTINUOUS EVALUATION and FINAL EXAM ranges from 51% - 49%, if none of the partial exam is passed, to 100% - 0% if all the partial exams are passed. Only in extraordinary call, case i), the distribution is 0% -100%

BASIC BIBLIOGRAPHY

- B. Ramos Barbero y E. García Maté Dibujo Técnico, AENOR, 2006

- C. Preciado y F.J. Moral Normalización del dibujo técnico, Donostiarra, 2009

- F. J. Rodríguez de Abajo y R. Galarraga Normalización del dibujo industrial, Donostiarra, 1993

- González Monsalve y Palencia Cortés Geometría Descriptiva., Autores., 1991

- Izquierdo Asensi Geometría Descriptiva, Paraninfo, 2000

- J. Félez y M. L. Martínez Dibujo Industrial, Síntesis., 2000

BASIC ELECTRONIC RESOURCES

- Grupo de Expresión Gráfica de la UC3M . SPOC de la asignatura: http://spoc.uc3m.es