

25819 - Ergonomics

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	271 - Bachelor's Degree in Industrial Design and Product Development Engineering
ECTS	9.0
Course	3
Period	Second Four-month period
Subject Type	Compulsory
Module	---

1. Basic info

1.1. Recommendations to take this course

1.2. Activities and key dates for the course

2. Initiation

2.1. Learning outcomes that define the subject

2.2. Introduction

3. Context and competences

3.1. Goals

3.2. Context and meaning of the subject in the degree

3.3. Competences

BASIC COMPETENCES

CB01. Students have demonstrated knowledge and understanding in a field of study that is part of the general secondary education curricular, 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.

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

25819 - Ergonomics

audiences.

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

GENERAL COMPETENCES

GC01. Able to acquire basic knowledge of the profession of industrial design, to combine that generalist knowledge and expertise with those who generate innovative and competitive proposals.

GC03. Ability to design and develop design projects in aspects related to the nature of products and services, their relevance to the market, usage environments and user, and based on their manufacture, the selection of materials and processes most appropriate in each case considering relevant aspects such as quality and product improvement.

GC04. Ability to organize time effectively and coordinate activities to acquire new knowledge quickly and perform under pressure.

GC05. Capacity to collect, manage, analyze and synthesize information from various sources for the development of design projects and product development. Capacity to use this documentation to obtain conclusions aimed at solving problems and making decisions with initiative, creativity and critical thinking, in order to generate new product concepts, new ideas and solutions.

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

SC24. Ability to take into account all the ergonomic aspects, usability and user interaction in design or evaluation of a product, task or space.

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

25819 - Ergonomics

The learning process designed for this subject is based on the following:

The learning methodology to be used in the subject is the Project Based Learning. Students live through the realization of their project, the experience of a professional work in the field of ergonomics.

5.2.Learning activities

Lectures

Lab practices

Project work

5.3.Program

1. Introduction.
2. Anthropometry.
3. Biomechanics.
4. Design for the task.
5. Design of spaces.
6. Design of controls, displays and tools.
7. Environmental aspects of ergonomics.
8. Design for all.

Lab practices

1. Anthropometry.
2. Environmental Ergonomics.

5.4.Planning and scheduling

25819 - Ergonomics

Schedule of sessions and project presentations

At the beginning of the course and depending on the academic calendar and schedules determined by the Center, the detailed schedule will be communicated to the students.

5.5. Bibliography and recommended resources

- BB** Carmona Benjumea, A. Aspectos antropométricos de la población laboral española aplicados al diseño industrial / Carmona Benjumea, A. . Instituto Nacional de Seguridad e Higiene en el Trabajo, 2003.
- BB** Ergonomía. 2, confort y estrés térmico / Pedro R. Mondelo [y otros 4]. [Libro electrónico]. - Reimpresión. Barcelona : Universitat Politècnica de Catalunya, 2013.
- BB** Ergonomía. 3, diseño de puestos de trabajo / Pedro R. Mondelo [y otros 3]. [Libro electrónico]. - Reimpresión. Barcelona : Universitat Politècnica de Catalunya, 2013.
- BB** Mondelo, Pedro R.. Ergonomía. 1, fundamentos / Pedro R. Mondelo, Enrique Gregori Torada, Pedro Barrau Bombardó. [Libro electrónico]. - Reimpresión. Barcelona : Universitat Politècnica de Catalunya, 2010.
- BB** Rebollar Rubio, Rubén. Diseño ergonómico de puestos de trabajo / R. Rebollar Rubio Copycenter, 2000.
- BC** Guía de recomendaciones para el diseño de mobiliario ergonómico / Grupo de biomecánica ocupacional ; coordinador Álvaro Page del Pozo ; autores Carlos García ... [et al.] Valencia : Instituto de Biomecánica de Valencia, D.L. 1992