Course guide
320154 - DPBE - Practical Design of Goods and Equipment

Last modified: 19/04/2023

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 717 - DEGD - Department of Engineering Graphics and Design.

Degree: BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2010). (Optional subject).

Academic year: 2023 **ECTS Credits:** 6.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: Francisco Bermúdez Rodríguez

Others: Tomeu Ventayol Femenías

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
1. DES: Capability to interface design

2. DES: Ability to identify the language of shapes, their values and their relations with the cultural setting.

3. DES: Knowledge of basic animation and 3D simulation.

4. DES: Knowledge of anthropometry.

5. DES: Knowledge of the design methodology

6. DES: Knowledge of design tools for their use in design projects and product redesign.

7. DES: Advanced knowledge in 3D modeling.

8. DES: Knowledge of ergonomic needs.

9. DES: Knowledge of the types of design and products, and their presentation.

Transversal:
10. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.
11. 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.
12. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.

TEACHING METHODOLOGY

· Face-to-face sessions of contents.
· Face-to-face practical sessions.
· Self study study and performance of exercises.
In the sessions of exhibition of the contents the professor will introduce the theoretical bases of the Subject matter, concepts, methods and results illustrating them with convenient examples to facilitate them your understanding.
In the practical work sessions the teacher will guide students in product analysis and the resolution of Problems applying theoretical techniques, concepts and results. In a second phase, students will work in the project guided by the teacher.
The students, independently, will have to study to assimilate the concepts, solve the exercises proposed and develop the project.
- The subject includes workshop developments in the form of directed activities

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

Type	Hours	Percentage
Hours large group	30,0	20.00
Hours small group	30,0	20.00
Self study	90,0	60.00

Total learning time: 150 h

CONTENTS

(ENG) TEMA 1: Gestió i planificació de projectes

Full-or-part-time: 10h
Laboratory classes: 4h
Self study : 6h

(ENG) TEMA 2: Disseny de subsistemes

Full-or-part-time: 80h
Laboratory classes: 32h
Self study : 48h

(ENG) TEMA 3: Prototips

Full-or-part-time: 36h
Laboratory classes: 12h
Self study : 24h

(ENG) TEMA 4: Documentació

Full-or-part-time: 22h
Laboratory classes: 12h
Self study : 10h

ACTIVITIES

(ENG) PLANIFICACIÓ DE PROJECTES

Full-or-part-time: 12h
Laboratory classes: 4h
Self study: 8h

(ENG) DISSENY DE SUBSISTEMES

Full-or-part-time: 80h
Laboratory classes: 32h
Self study: 48h

(ENG) GENERACIÓ DE PROTOTIPS

Full-or-part-time: 36h
Laboratory classes: 12h
Self study: 24h

GRADING SYSTEM

A continuous assessment model will be applied with the basic purpose of pondering both self-employment and teamwork from students.

The evaluation of the acquisition of knowledge, skills and abilities will be carried out from scheduled deliveries, according to the following criteria:

25% Delivery activity 1
25% Delivery activity 2
25% Delivery activity 3
15% Self-employed work
10% Attendance

BIBLIOGRAPHY

Basic:
- Melton, T.; Iles-Smith, P.; Yates, J. Project benefits management: linking your project to the business [on line]. Amsterdam: Butterworth-Heinemann, 2008 [Consultation: 30/09/2022]. Available on: https://www-sciencedirect-com.recursos.biblioteca.upc.edu/book/9780750684774/project-benefits-management. ISBN 9780750684774.
- Larburu, Nicolás. Máquinas: prontuario: técnicas, máquinas, herramientas. 4ª ed. Madrid: Paraninfo, 1992. ISBN 8428319685.
- Norton, Robert L. Design of machinery: an introduction to the synthesis and analysis of mechanisms and machines. 5th ed. New York: McGraw-Hill, 2012. ISBN 9780073529356.

Complementary:
- Félez, J.; Martínez, M.L. Ingeniería gráfica y diseño. Madrid: Síntesis, 2008. ISBN 9788497564991.

RESOURCES

Other resources:
Material of the subject at the virtual campus UPC.