

320135 - DB - Basic Design

Coordinating unit: 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 717 - EGE - Department of Engineering Presentation
Academic year: 2019
Degree: BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2010). (Teaching unit Compulsory)
ECTS credits: 6 Teaching languages: Catalan

Teaching staff

Coordinator: JORDI VOLTAS AGUILAR
Others: Martinez Malo, Jose Carlos

Degree competences to which the subject contributes

Specific:

1. DES: A good command of the tools related to the design process.
2. DES: Knowledge of design tools for their use in design projects and product redesign.
3. DES: Capability to interface design
4. DES: Ability to analyse and describe two- and three-dimensional shapes.

Transversal:

5. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
6. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
7. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.

Teaching methodology

The methodology will cover the following aspects:

- Lectures
- Practical individual and group work in class
- Individual and group course projects

Learning objectives of the subject

Become familiar with the fundamentals of design.
Analyse and describe basic two-dimensional and three-dimensional shapes.

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Study load

Total learning time: 150h	Hours large group:	15h	10.00%
	Hours medium group:	0h	0.00%
	Hours small group:	45h	30.00%
	Guided activities:	6h	4.00%
	Self study:	84h	56.00%

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Content

<p>Basic principles of design (1)</p>	<p>Learning time: 20h Theory classes: 2h Laboratory classes: 6h Self study : 12h</p>
<p>Description: iconicity Interpretation of maps accessibility Hotspots design Organization of information</p>	
<p>Psychology of shapes</p>	<p>Learning time: 10h Theory classes: 6h Laboratory classes: 1h Self study : 3h</p>
<p>Description: 1.1 Visual perception 1.2 Gestalt's laws</p> <p>Related activities: The interpretation and analysis of sample materials.</p> <p>Specific objectives: For students to analyse the fundamentals of visual perception.</p>	

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<p>Design components</p>	<p>Learning time: 20h Theory classes: 2h Laboratory classes: 6h Self study : 12h</p>
<p>Description: 2.1. Basic components of two-dimensional design 2.2. Repetitions. The module 2.3. Design structure. Grids 2.4. Gradation and radiation 2.5. Contrast and concentration 2.6. Texture and space</p> <p>Related activities: The interpretation and analysis of sample materials. Modelling of student proposals.</p> <p>Specific objectives: For students to learn to identify the general components that make up all compositions and structured designs.</p>	
<p>Colour</p>	<p>Learning time: 10h Theory classes: 1h Laboratory classes: 3h Self study : 6h</p>
<p>Description: 3.1. Colour in graphic design 3.2. Colour and message 3.3. Colour charts</p> <p>Related activities: The interpretation and analysis of sample materials. Modelling of student proposals.</p> <p>Specific objectives: For students to understand the role of colour in compositions.</p>	

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<p>Graphical design basis. Composition</p>	<p>Learning time: 10h Theory classes: 1h Laboratory classes: 3h Self study : 6h</p>
<p>Description: 4.1. Aspects of shape 4.2. Design of geometrical shapes 4.3. Design of organic shapes 4.4. Types of compositions 4.5. Analysis of the directrix curves of bodies</p> <p>Related activities: The interpretation and analysis of sample materials. Modelling of student proposals.</p> <p>Specific objectives: For students to understand two-dimensional compositions and their applications in the world of design.</p>	
<p>Basic principles of design (2)</p>	<p>Learning time: 20h Theory classes: 2h Laboratory classes: 6h Self study : 12h</p>
<p>Description: Shape and function Affordance Flexibility and effectiveness Structural forms Modularidad</p>	

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<p>Three-dimensional design</p>	<p>Learning time: 20h Theory classes: 2h Laboratory classes: 6h Self study : 12h</p>
<p>Description: 5.1. Introduction 5.2. Sequencing plans 5.3. Wall structures 5.4. Prisms and polyhedrons 5.5. Networks 5.6. The creation of bodies from directrix curves</p> <p>Related activities: The interpretation and analysis of sample materials. Modelling of student proposals.</p> <p>Specific objectives: For students to understand three-dimensional compositions and their applications in the world of design.</p>	
<p>Basic principles of design (3)</p>	<p>Learning time: 20h Theory classes: 2h Practical classes: 6h Self study : 12h</p>
<p>Description: Need's pyramid consistencies Errors Limitations</p>	
<p>(ENG) Introducción al proceso de diseño de producto</p>	<p>Learning time: 20h Theory classes: 2h Practical classes: 6h Self study : 12h</p>
<p>Description: The creative process. The ideas in product development The product description</p>	

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Qualification system

The course will qualify in the following areas:

- 60% Deliverables along course.
- 40% Exams.
 - 20% Exam 1
 - 20% Exam 2

For those students who meet the requirements and submit to the reevaluation examination, the grade of the reevaluation exam will replace the grades of all the on-site written evaluation acts (tests, midterm and final exams) and the grades obtained during the course for lab practices, works, projects and presentations will be kept.

If the final grade after reevaluation is lower than 5.0, it will replace the initial one only if it is higher. If the final grade after reevaluation is greater or equal to 5.0, the final grade of the subject will be pass 5.0.

Regulations for carrying out activities

The non-delivery of work within the required would involved penalty of 20% in qualifying this.

The assessment methodology will

- Questionnaires
- Evaluations of all deliveries by the teacher
- Corrections and participation in the process of cross-correction by students
- Exams

Bibliography

Basic:

- Dondis, Donis A. La Sintaxis de la imagen : introducción al alfabeto visual. Barcelona: G. Gili, 1976. ISBN 842520609X.
- Wong, Wucius. Fundamentos del diseño. Barcelona: Gustavo Gili, cop. 1995. ISBN 8425216435.
- Munari, Bruno. Diseño y comunicación visual : contribución a una metodología didáctica. Barcelona [etc.]: Gili, 1985. ISBN 8425212030.

Complementary:

- Arnheim, Rudolf. Arte y percepción visual : psicología del ojo creador : nueva versión. 2ª ed. Madrid: Alianza, 2002. ISBN 8420678740.
- Panero, Julius; Castán, Santiago; Zelnik, Martin. Las dimensiones humanas en los espacios interiores. Barcelona [etc.]: Gustavo Gili, 1983. ISBN 9788425221743.
- Phillips, Peter; Bunce, Gillian. Diseños de repetición. México D.F.: G. Gili, 1996. ISBN 9688873160.
- Stevens, Peter S. Patrones y pautas en la naturaleza. Barcelona: Salvat, cop. 1986. ISBN 8434582465.
- Williams, Christopher. Los orígenes de la forma. Barcelona: Gustavo Gili, 1984. ISBN 8425211689.
- Ghyka, Matila C. Estética de las proporciones en la naturaleza y en las artes. 3ª ed. Barcelona: Poseidón, cop. 1983. ISBN 8485083067.
- Cruz G., J. Alberto; Garnica G., G. Andrés. Ergonomía aplicada. Madrid: Starbook, 2011. ISBN 9788492650873.
- Thompson, D'Arcy Wentworth; Bonner, John Tyler. Sobre el crecimiento y la forma. 1ª reimpr. en Akal. Madrid: Akal, 2011. ISBN 9788446033394.