25833 - Light and colour in industrial design

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	5.0
Course	
Period	First Four-month period
Subject Type	Optional
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

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

5.2.Learning activities

5.3.Program

I Optics and physiological optics.

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I.1. Optical radiation. Basic properties

I.2. Fundamental laws of reflection, refraction, absorption and diffusion.

I.3. Basic optical materials and optical properties of matter.

I.4. Geometrical optics.

I.5. Optical instruments.

I.6. The human vision.

II.-Radiometry and photometry.

II.1. Radiometry.

II.2. Photometry.

II.3. Photometric measurements

II.4. Geometrical magnitudes of the optical appearance.

III. Fundamentals of Colorimetry.

III.1. Light and color.

III.2. Fundamental mechanisms of color vision. Spectral sensitivity of the visual system.

III.3. CIE illuminants.

III.4. The visual trichromacy. Trichromatic equations.

III.5. Linear spaces of representation of the color.

III.6. The color appearance.

III.7. Chromatic discrimination and color differences.

III.8. Color spaces.

III.9. Measurement of color.

III.10. Principles of color reproduction.

5.4.Planning and scheduling

5.5.Bibliography and recomended resources