MODELS AND PROTOTYPES

Degree in Industrial Design

Code: 17113

Main Scientific Area: Industrial Design

Lecturer: Ricardo João Ferreira Simões

Language of Instruction: Portuguese

Regime: S1

Contact Hours: 45h Total Workload: 65h

ECTS: 5,0

Objectives

- Creation of a learning environment, with experimentation and sharing where students can stimulate and develop their technical skills.

- Stimulate proactiveness, willingness and ability to produce quality works.

- Learning and understanding of prototyping techniques and their practicality and applicability appropriate to each type of situation.

- To present the different processes and materials used in the production of models, prototypes and possible applications.

- Demonstrate prototyping techniques and processes, and stimulate technical capability to optimize them.

- Stimulate the ability to create functional models and prototypes with the necessary accuracy for performance evaluation.

Learning Outcomes

-Produce work with an advanced level that integrates thought, creativity and technique.

-Identify and explore the aesthetic and functional possibilities of different materials, processes and technologies.

-Develop and evaluate design ideas through design, modeling, prototyping, and through interaction with users.

-Present their projects in an engaging, clear and appropriate way to your audience, using the appropriate tools, materials, visual, organizational and auditory.

- Assume responsibility for managing resources effectively. -Demonstrate the autonomous learning capacity required for continuous professional development.

Course Contents

The program offers students knowledge and skills in academic environment, to develop their own professional direction.

-This Curricular Unit provides an atmosphere that encourages experimental and innovative work, encouraging a critical approach and a questioning of conventional practices to address real world problems and global challenges.

- Designing of models and prototypes as well as semi-functional and fully functional prototypes.

- Techniques and methods of manufacturing models and prototypes (advantages and disadvantages of techniques and materials).

- Exploration of various materials for prototyping such as paper, modeling paste, foams and some plastics, as well as their finishing techniques.

- Traditional prototyping technologies.

- Surface finishes and treatments.

- Making of models / prototypes with varying degrees of complexity, and realization of a functional prototype.

Recommended Bibliography

-Bjarki Hallgrimsson, Laurence King Publishing (2012). Prototyping and Modelmaking for Product Design

Learning and Teaching Methods

Practical exercises and theoretical supports explored in class are the main focus of the program.

The practical contents will serve to spark the individual curiosity and experimentalism, and in this way all the conditions will be provided for the development of the main prototyping capacities inherent to a good designer

Assessment Methods

The evaluation is continuous, based on the quality of execution and the solutions presented.

Compliance with delivery dates and rules of operation of classes are key factors in the assessment.

In this unit and in view of its objectives there is no provision for access to the final exam assessment period as provided for in article 9 of the RA, that is, the assessment methodology adopted is only continuous and periodic assessment.

The classification for approval, which must be higher than 9.5, will be a weighted average of the following components:

Attendance and participation-10%

Project 01: Low fidelity models on paper / cardboard with presentation in class: 15%

Project 02: Aesthetic / visual prototypes: 25%

Project 03: Functional prototype with presentation in class and report: 35%

Capacity for improvisation, initiative, self-learning and decision-making in complex and unpredictable situations - 15%

. Attendance, punctuality and participation in classes

Attendance and punctuality are key factors for a good performance in the course and preparation for future professional life. Active participation in the classroom will enable students to take full advantage of the teacher and colleagues. For face-to-face classes, registration of class attendance using the student card is mandatory.

. Exams

The Curricular Unit does not include in its evaluation regime the realization of exam since it is of a practical and laboratory nature. The assessment is made by frequency in class and there is a mandatory presence in 2/3 of the classes, who does not meet this requirement will not be evaluated.

. Grade improvement

In Models and Prototypes the grade improvement is done by frequency. Interested students should report it to the teacher at the beginning of the following semester. Failure to comply with the above implies non-access to the grade improvement.

. Examination in special season

In the absence of assessment by exam in the Models and Prototypes curricular unit, in compliance with RA, the evaluation of finalist students with up to 24 ECTs, as well as students with student worker status, will be defined by the disciplinary group of industrial design and duly agreed with the teacher of the course unit at the end of the semester and by analyzing the student’s course in the discipline, namely proposals developed, attendance and participation during the course attendance as a registered student.