

Información del Plan Docente

Academic Year 2016/17

Academic center 110 - Escuela de Ingeniería y Arquitectura

Degree 562 - Master's in Product Development Engineering

ECTS 6.0
Course 1

Period First semester

Subject Type Compulsory

Module ---

1.Basic info

1.1.Recommendations to take this course

The student must have academic knowledge in graphic matters related to the product development, graphic design, layout or graphic mockups, recreation, conceptualization and marketing of industrial or consumer products. It is also desirable to have basic training in matters related to the corporate identity and techniques related to the launch of new products. It is recommended to bachelors degrees such as engineering in product development, other Engineering, Architecture or graduates in other creative fields oriented business world.

The course is designed for students to develop a continuous work throughout the course, structured tasks that make a real case of presentation of a product. In this sense, class attendance and monitoring of the proposed practical exercises are aspects that will help make better use of the subject and as a result to the achievement of the objectives. It is interesting that the student has personal attitudes such as initiative and creativity.

1.2. Activities and key dates for the course

In the official academic calendar they are reflected class periods and dates Deadline for submission of assignments. The theoretical and practical classes, as well as places to teach them are reflected in the schedules of the website of the School of Engineering and Architecture (EINA.unizar.es).

Relevant information will be communicated to students through the platform MOODLE teaching assistance that will support organizational and teamwork environment.

2.Initiation

2.1.Learning outcomes that define the subject

The student, for passing this subject, should demonstrate the following results ...



1. Knowledge of techniques for manipulating digital graphics heterogeneous resources and create complex visual compositions and information diagrams or graphic results. Ability to manipulate graphics information and results visualization (computer graphics) optimal to understand any of the characteristics of a product or its functions and use.
2. Ability to producing digital models that integrate virtual prototypes in real scenarios recreating outline certain parameters, conditions of use or state of the materials.
3. Capacity to produce professional, effective, innovative and audience consistent electronic presentations.
4. Ability to adapt a visual exposure to various communication platforms or choose the optimum.
5. Capacity to coordinate projects that integrate more complex form the previous results.
2.2.Introduction
This course provides insights into the professional resources and innovative methodologies work to develop presentations efficient and competitive product.
The general contents of the subject are eminently practical. The student must integrate them into a systematic work by subtasks on a real project. You must use the software learned in practice to make various visual elements of the presentation, and make this in various media.
Learning outcomes allow you to select the best exhibition solution to a specific need. The knowledge gained are essential for the final product cycle activities and help improve the professional qualification of the designer, engineer or technician and improve their ability to transmit knowledge or analyze data on R & D work.
3.Context and competences
3.1.Goals
The subject and its expected results meet the following approaches and objectives:
- Complement the training of bachelors, especially Engineering Product Development and Design, with learning specialized and innovative visual techniques, not included in their previous training.



- Provide the student resources for immediate implementation in their working environment, professional or researcher.
- Strengthen its ability to use a visual language in the exposure of product characteristics and technical documentation derived from it.
- Promote the creative use of ICT, the new media exposure and communication.

3.2. Context and meaning of the subject in the degree

This is a subject ECTs 06 compulsory credits of the first half of the Masters in Product Development Engineering. Its contents are practical and reviewing technologies complement other subject of the Master as "Diseño avanzado de producto" (62943), enhancing the latter stages of the production cycle or aftermarket unrevised in it.

Acquired knowledge and skills can be useful in research or application of materials of the Master as "Dirección de la creatividad en el entorno profesional" (62941) and "Diseño de servicios" (62940) . Given its strong visual character and understanding that Internet is the core platform for the dissemination and product promotion and expansion of "apps" is recommended that students complement their training with electives "3D Modeling with smart geometry" (62952) and "Internet of things" (62949)

3.3.Competences

To pass the course, students will be more competent to ...

- * Ability to recognize the structure and methods involved in the presentation of a product and implement the best to be convincing depending on the receiving of information resources.
- * Capacity to use digital techniques to product render under realistic physical conditions (optical, environmental, ...).
- * Ability to build digital models and virtual prototypes that allow data visualization using various unconventional presentation environments and cross platform.
- * Capacity to use different tools for the documentary offline support and leverage resources collectivization and dissemination of products on the Web.
- * Ability to harness synergies and sustainable digital technologies for expanding their capacity for product development or complex product maintenance.

3.4.Importance of learning outcomes

1. Learning outcomes of this course are essential for the exhibition and distribution of products in advertising campaigns, project presentations advanced R & D + i or in the aftermarket stages of a product.



2. The revised by matter techniques accelerate the launch cycle stages, reducing production costs.
3. Its contents can be critical for product development engineer when competing in a project proposal aims to promote an idea
4.Evaluation
The student must demonstrate that it has achieved the intended learning outcomes through the following evaluation activities:
1 OPTION A: Continuous Assessment
REVIEW CASE STUDY RESOLVED BY TASK: Students must perform ten tasks are integrated in a particular case. These tasks determine the understanding of the subject and ability to apply learning and a subject chosen by him and supervised by teachers. They are individual. Account for 75% of the total score.
EXHIBITION of project or CASE RESOLVED: Collects and adapts the above tasks for public exhibition in digital platform support on selected education (MOODLE). This phase allows pooling of individual initiative of each student. It is 25% of the grade.
The total score is evaluated on 10 points. To approve it must obtain more than 5 note.
2 OPTION B: Review
For those students who want this option or not exceeding the minimum qualification in the form of continuous assessment (5/10), a written test that consign 100% of the qualification to hold within the established exam schedule will be made by the Center .

5. Activities and resources

5.1.General methodological presentation

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5.2.Learning activities

- LECTURE: The fundamental contents of the subject are presented. This activity will take place in the classroom by
classroom using electronic filing, offline and online creative applications via Internet or through lectures by company
specialists.

- PRACTICAL SESIONS (CASE STUDY EXAMPLE): Practical sessions in which similar to those required of the student to be evaluated tasks are presented. specific visual so ware platform installed on the student's personal computer (laptop) in classrooms conditioned for it with WiFi and under the guidance of Professor used. This include computer practices.
- TUTORIALS: The tutorials will be carried out throughout the course in person at the scheduled time or via e-mail or direct coordination through MOODLE.
- GROUP WORK EXPOSITION . It is done on digital media in a means of public access.
- NO CLASSROOM WORK Student.
- REVIEW. If applicable. It will consist written test to celebrate in the exam schedule established by the Center.

5.3.Program

The following eight thematic blocks are set:

- BLOCK-01: Projective aspects of the presentation. Presentation Graphic Design and development of script. The audience and stage. Control and time management and presentation events.
- BLOCK-02: Supports and multi-platform visual resources. Catalogs, manuals and eBooks on interactive media. Technologies for online support.
- BLOCK-03: Performances and physical planning scenarios. Virtual instructors.
- BLOCK-04: Non-photorealistic render techniques for digital sketching. Filters and image processing systems by logical procedures.



- BLOCK-05: Hiper-display. Photorealism and virtual product.
- BLOCK-06: Augmented Reality for product presentation.
- BLOCK-07: Dynamic digital models for functional or operational conceptualization.
- BLOCK-08 Advanced Data Visualization and spelling information. exhibition graphics. Real-time computer graphics Visual information networks. Collectivization.
COMPUTER PRACTICES:
- Prac-01: Apps for eBooks geneeration.
- Prac-02: Performing an advanced electronic presentation.
- Prac-03: Virtual Performances Set and instructor / presenter.
- Prac-04: Unrealistic render technics.
- Prac-05: Creating a lighting environment using HDR photos.
- Prac-06: Hyper realistic visualization (1). Advanced materials.
- Prac-07: Hyper realistic visualization (2). Cameras. Special lighting conditions.
- Prac-08: Cool Infographics.
5.4.Planning and scheduling
Classroom activities:
- 20 hours lecture.
- 24 hours of computer practices (08 practices 03 hours)
- 16 hours of classes of problems and review of alternatives.



Non-classroom activities:

62944 - Communication and presentation of product

- 10 hours of tutorials, presentation and evaluation of work done on the platform MOODLE academic assistance.
- 80 hours of personal work for the study of the concepts and resolution of proposals over the course tasks.
The timing of the actual classes of theory and problems, as well as computer practice sessions, will the schedule established by the EINA, which will be available on its website. They will also be announced in MOODLE.

The tasks must be submitted according to the schedule on dates decided by the students, more compatible with their other subjects, and there is a deadline of delivery to meet the student in advance.

Each teacher will report its face tutoring hours in the office. MOODLE tutoring adjust to the academic schedules of the Centre.

5.5.Bibliography and recomended resources

The references of the subject are delivered to students during the semester, the necessary links appearing on the MOODLE 2 platform