

BACHELOR'S DEGREE IN DESIGN AND INNOVATION

SUBJECT TEACHING PLAN CROSSOVER II

ACADEMIC YEAR: 2026-27
GRADE: 4th
CHARACTER: Compulsory
SEMESTER: 1st
ECTS: 12
TEACHING HOURS: 90
HOURS OF SELF-EMPLOYMENT: 210
TOTAL HOURS: 300
LANGUAGE/S: Spanish/Catalan
CODE: 17019

TEACHING TEAM: María Charneco mcharneco@elisava.net

PRESENTATION OF SUBJECT / OBJECTIVES

- Design of projects with companies and institutions that require teamwork, transdisciplinary, collaborative, international, delocalized.
- Development of our own research processes in design, decision-making, recording and communication of the process.
- Project design from its initial formulation: introduction to project proposal definition techniques, contemplating an area of impact of the design discipline and personal identity as a designer; Indications on sustainability, ethics and gender in projects.
- Development of transversal projects: work with teams from other specialties and interpretation of knowledge from different fields.
- Time management and teamwork methods and tools.
- Communication strategies using different media.

SUSTAINABLE DEVELOPMENT GOALS (SDGS)

This subject does not specifically incorporate any SDGs.

CONTENTS

Block-I: Format and regulations.

- 1.1. Formats: Units, scales and technical documentation.
- 1.2. Views: Elevation, plan and profile, section and section.
- 1.3. Measuring tools.
- 1.4. Dimension.

Block-II: Industrial criteria.

- 2.1. Plastic parts: Injection, rotational moulding, thermoforming.
- 2.2. Principle of interchangeability.
- 2.3. 3D Printing Parts: Basic Concepts.
- 2.4. Sheet metal parts and representation in drawings and operations in CAD software.

TEACHING METHODOLOGIES

- Work sessions with the whole group, class with the teacher. (PA)
- Work sessions in small groups with the teacher. (PB)
- Individual tutoring sessions with the teacher (PC)
- Group tutoring sessions with the teacher. (PD)

COMPETENCIES

- G2 - Configure new realities based on the interpretation of the historical, social, cultural, economic and technological context.
- G3 - Integrate formal sensitivity as a fundamental part of the project process.
- CB2 - Students must know how to apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defence of arguments and the resolution of problems within their area of study
- CB3 - Students must have the ability to gather and interpret relevant data (usually within their area of study) in order to make judgments that include reflection on relevant social, scientific or ethical issues
- CB4 - Students are able to transmit information, ideas, problems and solutions to both a specialised and non-specialised audience

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- T2 - Project the values of entrepreneurship and innovation in the exercise of the personal, academic and professional trajectory, through contact with different realities of practice and with motivation towards professional development.
- T3 - Interact in global and international contexts to identify needs and new realities that allow knowledge to be transferred to current or emerging areas of professional development, with the capacity for adaptation and self-direction in professional and research processes.
- T4 - Show skills for professional practice in multidisciplinary and complex environments, in coordination with networking teams, either in face-to-face or virtual environments, through the computer and informational use of ICT.
- T6 - Use different forms of communication, both oral and written or audiovisual, in their own language and in foreign languages, with a high degree of correctness in use, form and content.
- E1 - Define a personal positioning of the design based on a political, social, environmental, ethical and aesthetic vision of the context.
- E4 - Design scenarios with the will to anticipate the needs of the future.
- E6 - Dialogue with professionals from other fields (technical, artistic, scientific, etc.) managing knowledge from other disciplines in a decisive way.
- E7 - Apply knowledge of the different fields of design to adapt to the evolution and needs of the professional context.
- E9 - Use and generate research tools appropriate to the needs of each project.
- E10 - Develop the appropriate material to communicate and make decisions effectively in each of the phases of the design project.
- E12 - Elaborate and argue the design project properly in visual and discursive terms, both in theoretical and professional environments.
- E13 - Acquire skills in the detection of design opportunities and in the resolution of problems in the development of projects.

LEARNING OUTCOMES

- It develops in complex situations or situations that require the development of new solutions.
- Collects and interprets data and information on which to base their conclusions, including reflections on social, scientific or ethical issues in the field of design.
- It communicates knowledge, methodology, ideas, problems and solutions to all types of audiences (specialized or not) in a clear and precise way.
- Solves problems and situations typical of professional performance with entrepreneurial and innovative attitudes.
- It analyses one's personal and professional capacities in relation to different areas of professional practice.
- It analyses knowledge specific to the field and its contextualisation in national and international environments.
- Assumes different responsibilities in the collaborative individual work and evaluates the results obtained.
- It designs interventions that meet the needs of the field in a multidisciplinary way.
- Appropriately uses oral language (verbal and non-verbal) in personal and professional interaction in Catalan, Spanish and English.
- Prepares reports and written documents (mainly of a technical nature) with spelling and grammatical correction in Catalan, Spanish and English. Integrates the cultural, social and technological context into their personal vision of design.
- Consult and cite appropriate cultural and technological references for design research. Gather and evaluate relevant data for the formulation of future scenarios.
- Clearly explain the project through the choice and use of the appropriate representation tools.
- Evaluate and use the appropriate research tools according to the needs of the context.
- Recognize and analyse the existing conditioning factors and opportunities to solve complex challenges.
- Makes relevant contributions in multidisciplinary work teams. Interprets information from other disciplines to elaborate their own discourse.
- Demonstrates a proactive attitude in the workplace and in teamwork.
- Explain and justify project decisions in a coherent way.
- Present and defend an individual project.
- Critically analyse and interpret information to draw personal conclusions.
- Design solutions that consider social and environmental impact.
- It considers formal criteria in the different elements that make up the project.

TRAINING ACTIVITIES

Each subject will present at the beginning of the course its WORK PLAN where the didactic activities per week / session / autonomous work are recorded.

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EVALUATION

EVALUATION SYSTEMS

The evaluation of the subject will be based on continuous monitoring of the student's academic work throughout the course.

EVALUATION SYSTEM	MINIMUM WEIGHTING	MAXIMUM WEIGHTING	FINAL WEIGHTING
P1-Observation of participation	10	20	10
P2-Follow-up of the work done	20	30	20
P5-Completion of required work or projects	20	40	50
P6-Public defence of projects	15	30	20

EVALUATION CRITERIA

The final grade of the subject will be the weighted average of the grades of the assessable activities according to the following table:

ASSESSABLE ACTIVITY	WEIGHT	RETRIEVABLE (up to 50%)	EVALUATION SYSTEM
Activity-1 Attendance, attitude and participation in class	10%	NO	P-1
Activity-2 Submissions and follow-up of classes	20%	NO	P-2
Activity-3 Individual Project	20%	YES*	P-5
Activity-4 Team Projects	30%	YES*	P-5
Activity-5 Public Presentation	20%	NO	P-6

Students will have the option of retaking the retake tests. The retake tests will be carried out in the period of the semester allocated to this function, not being able to recover more than 50% of the subject.

* If the Recoverable Assessable Activities exceed 50%, the student body may choose, up to a limit of 50%. The unjustified non-submission of any assessable activity implies a grade of 0, even if the activity has been classified as Recoverable.

Recoverable Activities can only be recovered when they have been submitted by the student body on the indicated date and with a grade equal to or greater than 3.

If access to the retake test is waived, the grade achieved in the first instance will be maintained.

In case of taking the recovery, the grade obtained will be the last, even if it is lower than the first.

Plagiarism or copying of other people's work is penalised in all universities and, according to the Rules of Coexistence of the University of Vic-Central University of Catalonia, they constitute serious or very serious offences. That is why in the course of this subject any indication of plagiarism or misappropriation of texts or ideas other people ([¿What is considered plagiarism?](#)) as well as the improper or undeclared use of Artificial Intelligence in an activity, automatically results in a suspension and/or other disciplinary measures ([Coexistence Standards of the University of Vic-Central University of Catalonia](#)).

For any doubt or query, see the ([Undergraduate Academic Regulations of the Elisava UVic-UCC Faculty of Design and Engineering](#)).

BIBLIOGRAPHY AND TEACHING RESOURCES

- Brent Maxfield. 2006. *Engineering with Mathcad*. London: Butterworth-Heinemann.
- Morris, Carla C, and Robert M. Stark 2015. *Fundamentals of Calculus*. New York: John Wiley & Sons.
- Penney, Richard C. 2015. *Linear Algebra: Ideas and Applications*. New York: John Wiley & Sons.
- Steven J. Janke. 2014. *Mathematical Structures for Computer Graphics*. New York: John Wiley & Sons.
- Vince. 2010. *Mathematics for computer graphics*. Suiza: Springer.

The teaching staff will provide a specific bibliography at the beginning of the subject, if applicable.

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