ICM 2026 MECHANICAL DESIGN PROJECT

Credits and contact hours: 10 UC credits / 10 hours (3 h. Lectures; 1,5 h. Labs and 5,5 h. Independent learning experiences)

Instructor’s name: Julio Vergara

Course coordinator’s name: To be defined


Course Catalog Description: This course focus on providing students a relevant design experience, based on skills and knowledge from previous courses, adding technical standards and multiple and realistic restrictions.

Prerequisite Courses: ICM2223 Heat Transfer y ICM2022 Mechanical Design

Co-requisite Courses: None

Status in the Curriculum: Minimum course

Course Learning Outcomes:

1. To develop techniques and methodology to elaborate a mechanical design project.
2. To propose innovative solutions to problems from mechanical engineering, from a rigorous revision of the state of the art.
3. To integrate prior knowledge for the development of a mechanical design project.
4. To manufacture and try prototypes that fulfill the requirements outlined in a mechanical engineering project.
5. To communicate effectively the design concepts in every stage of the development of a project.

Relation of Course to ABET Criteria:
b. Design and conduct experiments: analyze and interpret data
c. Design a system, component, or process
d. Multidisciplinary teams
e. Identify, formulate, and solve engineering problems
f. Professional and ethical responsibility
i. Recognition of the need for, and an ability to engage in life-long learning
j. Knowledge of contemporary issues
k. Techniques, skills, and modern tools for engineering practice.

Topics covered:
1. Design specifications.
2. Conceptual and detailed design.
3. Computer supported design.
4. Prototyping and manufacturing.
5. Essays and feature validation.