

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
COLLEGE OF ENGINEERING
DEPARTMENT OF MECHANICAL AND METALLURGICAL ENGINEERING
ABET COURSE SYLLABI

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
Textbook:	Pahl, Gerhard, Wolfgang Beitz, Jörg Feldhusen & Karl-Heinrich Grote Engineering Design-A Systematic Approach. 3 ^a Ed. Springer, 2007.
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:	<ol style="list-style-type: none">1. To develop techniques and methodology to elaborate a mechanical design project. Specific learning outcomes: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:	<ol style="list-style-type: none">b. Design and conduct experiments: analyze and interpret datac. Design a system, component, or processd. Multidisciplinary teamse. Identify, formulate, and solve engineering problemsf. Professional and ethical responsibilityi. Recognition of the need for, and an ability to engage in life-long learningj. 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.
6. Cost and feature analysis.

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