

PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE
SCHOOL OF ENGINEERING
DEPARTAMENT OF CONSTRUCTION ENGINEERING AND MANAGEMENT
ABET COURSE SYLLABI

ICC3214 PROJECT MANAGMENT

Credits and contact hours:	10 credits / 10 hours (3 hours in lectures; 7 h. individual work hours per week)
Instructor's name:	Luis Fernando Alarcón / Alfonso Bastias / Oscar Rojo
Course coordinator's name	Luis Fernando Alarcón
Textbook:	<ul style="list-style-type: none">- Campero, M.; Alarcón L.F. (2008) Administración de proyectos civiles. 3a edición. Ediciones Universidad Católica.- PMI Standards Committee (2007) Project management body of knowledge. PMI.
Course Catalog Description:	The course covers the concepts and techniques of project management, through examples focused on the management of construction projects. Students will be able to learn about the nature of the activities that distinguish a project, theories on human behaviour at work and teamwork.
Prerequisite Courses:	ICC2204 Project Planning and Control and ICC2304 Construction Engineering
Co-requisite Courses:	None
Status in the Curriculum:	Required
Course Learning Outcomes:	<ol style="list-style-type: none">1. Identify the nature of the various activities that are distinguished in a project2. Describe how sustainability and environmental considerations are incorporated throughout the various stages of a construction project.3. Handle basic administration concepts and explain their influence on the successful development of a project.4. Use organizational theory concepts and understand their development over time.5. Use organizational theory to design organizational structures applied to projects.6. Use behavioral theory of people individually and in groups to lead project teams.7. Understand the role of the human element in project administration.8. Distinguish the capabilities to be harnessed and developed to manage a project.9. Propose information systems in the planning and control of projects.10. Apply the most common decision making processes to specific cases.

11. Know and apply methodologies for project evaluation from the perspective of life cycle assessment.
12. Be familiarized the knowledge areas and apply the fundamentals of project management
13. Describe the economic and social impacts of construction and its improvement.

**Relation of Course to ABET
Criteria:**

- a. Knowledge of mathematics, science and engineering
- b. Design and conduct experiments: analyze and interpret data
- c. Design a system, component, or process
- e. Identify, formulate, and solve engineering problems
- h. Broad education necessary for global, economic, environmental and societal context
- k. Techniques, skills, and modern tools for engineering practice.

Topics covered:

1. INTRODUCTION TO PROJECT ADMINISTRATION:
Course objectives, project life cycle, the civil engineer as administrator, sustainability management in construction projects.
2. PLANNING: Definitions, planning as the project starting point, planning and programming, development together with the project, aspects to take into account: project costs, financing, time spans, economic evaluation.
3. PROJECT ORGANIZATION: Basic organizational concepts, organization type design theory, project applications
4. ROLE OF MAN IN THE WORK: the importance of the human element, evolution of his role over time, motivational theories, communication, behaviour and group management, personal administration.
5. DIRECTION AND COORDINATION: Objective definitions, what the project director should know, authority, power and influence, leadership, conflict management, negotiation theory, criteria for direction, impulse procedure, new production philosophies.
6. DECISION PROCESSES: Basic concepts, direction decisions, evaluation of decisions that impact the social and environmental sustainability of the projects, risk management, applications.
7. PRODUCTION CONTROL SYSTEMS: The system, last planner, programs at different levels, uncertainty control and causes of noncompliance.