

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

ICC2234 INNOVATION AND ENTREPRENEURSHIP IN CONSTRUCTION

Credits and contact hours: 10 credits / 10 hours (3 hours in lectures; 7 h. individual work hours per week)

Instructor's name: Alfredo Serpell / Ximena Ferrada

Course coordinator's name Alfredo Serpell

Textbook:

- Bessant, J. y Tidd, J. Innovation and Entrepreneurship, 2nd Ed., John Wiley & Sons, Inc., 2011. (BT)
- Clarysse, B. y Kiefer, S. The Smart Entrepreneur: How to Build for a Successful Business, Elliot & Thompson, 2011. (CK)

Course Catalog Description:

Today it is important and necessary to form professionals who apply their creativity, initiative and effort in developing and executing new business ideas, both in the construction sector as beyond it. A successful entrepreneurship benefits the businessman as well as the society and the country. In this context, this course addresses the following key questions:

- What is entrepreneurship, what types of entrepreneurships exist and how do they relate with innovation?
- What is the importance of innovation for the creation of new businesses and the development and/or modernization of existing ones?
- Which are the main activities that are needed to create and maintain a sustainable business?
- What is the potential of the construction industry as one of many entrepreneurship spheres?
- One of the premises of this course is that there are many professionals who are interested in exploring the path of entrepreneurship, but they do not know how. This course gives a set of competences that may help them considerably to travel through this path, and additionally, it seeks to inspire those who have business ambitions.

Prerequisite Courses: None

Co-requisite Courses: None

Status in the Curriculum: Required course

Course Learning Outcomes: At the end of this course, students are expected to be competent in the following key aspects of innovation and entrepreneurship:

- Explain and analyze the importance of innovation for the businesses'

success and development and for the creation of new businesses.

- Prepare, present y defend a business plan for an innovating and sustainable business idea.
- Understand and describe the characteristics of business management and actively participate in it.
- Describe and analyze the main competences required for business administration.
- Explain the main characteristics and opportunities of the construction industry, as a business area.

**Relation of Course to ABET
Criteria:**

- b. Designing and conducting experiments: to analyze and interpret data.
- c. Designing a system, component, or process.
- e. Identify, formulate, and solve engineering problems.

Topics covered:

1. Creation of a new entrepreneurship:
Search for and evaluation of opportunities. Creation and evaluation of ideas. Business proposal. Concept test. Obtaining and mobilizing financial resources. Business plan development.
2. Business administration:
Taking advantage of knowledge. Creating value. Strategic aspects. Management areas.
3. The construction industry:
Characteristics of the construction industry. Relevant actors of the sector. Clients, constructors and competition. Business opportunity spheres in the construction sector. Innovation in the construction field. Innovation risk management.
4. Innovation and entrepreneurship:
What is innovation? Types of innovation. Innovation management. Innovation sources. Innovation and entrepreneurship. Creativity. Entrepreneurship. Social entrepreneurship. Globalization, development and sustainability. Individual and organizational characteristics.
5. Innovation tools: Techniques and support tools for the different stages of innovation.