UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# SYLLABUS DEL CORSO

# Innovation Management

**2627-2-F7603Q004-F7603Q00401**

## Aims

In today's fast-evolving business environment, the ability to innovate and seize opportunities to create new products, services and businesses is a cornerstone of firm success and longevity. The Innovation Management module provides students with the strategic and analytical skills needed to navigate the management of innovation, both within established organizations and as prospective founders of new ventures. The course is designed to provide students with:
• A structured framework for analyzing the industry dynamics that characterize innovation, including the sources, types, and patterns of innovation, and the strategic, organizational, and operational dimensions of technological innovation management.
• A systematic approach to decision-making under uncertainty in innovation and entrepreneurship settings.
• The ability to design and critically evaluate business models using established frameworks.
• The ability to validate innovation opportunities through data-driven techniques and iterative experimentation, linking business modelling choices to evidence gathered through market research and controlled experiments.
• The communication skills needed to present and pitch innovative business ideas effectively to corporate stakeholders, investors, and customers.
Lectures are complemented by discussions of real business cases, guided exercises, and practical sessions, in order to connect theoretical frameworks to managerial decisions in real-world contexts.

The detailed learning objectives of this module include:
**Knowledge and understanding**
By the end of the course, students will know the fundamental concepts, models, and terminology of innovation management, including the sources and atterns of innovation, the logic of decision-making under uncertainty in innovation contexts, the main business modelling frameworks, and the principles of business experimentation. This objective is pursued through lectures and assessed through the written exam.

***Applied knowledge and understanding***
By the end of the course, students will be able to apply innovation strategy and business modelling frameworks to real firms, startups, and innovation projects, to design new business models, and to plan a validation process based on data-driven techniques and iterative experimentation. This objective is pursued through case discussions

and practical sessions, and assessed both through the written exam and through the evaluation of practical session assignments.

***Making judgements***
Students develop the ability to critically evaluate the innovation and business model choices made by firms and startups, to assess the validity of evidence gathered through market research and experimentation, and to support their evaluation with evidence drawn from case material and assigned readings. This transversal competence is developed through case discussions and in-class practical sessions, in which students must defend their analysis before the instructor and the class.

***Communication skills***
Students develop the ability to present and pitch an innovative business model clearly and persuasively, both in written and oral form, using appropriate innovation management and entrepreneurship terminology. This transversal competence is developed through the written exam and through group discussions and presentations carried out during the practical sessions.

***Learning skills***
Students develop the ability to independently identify, select, and critically read academic and professional literature on innovation management, through exposure to a curated set of academic readings, and to keep their knowledge up to date after the course ends. This outcome is achieved by providing students with the analytical tools and conceptual frameworks of innovation management, together with guided application, so that students can transfer this approach to new business situations after the course is completed.

## Contents

• Sources, types, and patterns of technological innovation.
• Decision-making and innovation.
• Opportunity validation and business experimentation.
• Innovation and business modelling.
• Collaboration strategies and innovation protection.
• Organizing for innovation and managing the new product development process.
• Presenting and pitching innovations.

## Detailed program

• Course introduction; defining innovation and creativity;
• Why innovation matters for firm strategy;
• Benefits, risks and challenges of innovation-driven strategy;
• Decision-making and innovation: addressing uncertainty and risk in entrepreneurial settings;
• Sources, types, and patterns of innovation;
• Incremental and radical innovation;
• Technology cycles and the S-curve;
• Thinking like an innovation designer;
• A systematic approach to innovation decisions; evidence-based decision-making; experimentation tools and techniques;
• Business modelling for innovation;
• Guided discussion of a business modelling and innovation case, selected by the instructor;
• Timing of entry and diffusion of innovation; competitive dynamics and imitation;
• Collaboration strategies, including alliances, joint ventures, and open innovation;

• Protecting innovation through patents, trade secrets, and other appropriability mechanisms;
• Organizing for innovation and ambidextrous organizations; managing the new product development process and development teams
• Corporate innovation;
• Presenting and pitching innovations; using strategic storytelling to propose innovative ideas; communicating with and persuading stakeholders, investors, and customers

## Prerequisites

All mandatory first-year courses are prerequisites; therefore, students must pass all mandatory exams before they can take exams for elective courses.

## Teaching form

The course consists of 32 hours of lectures (4 ECTS).
The language of delivery and examinations is English and combines lecture-based teaching (DE) with interactive learning activities (DI). Sessions are delivered both in person and online. 30% of the course sessions are delivered synchronously online.
• Lectures (DE): used to present theoretical and methodological frameworks.
• Case discussions (DI): interactive sessions in which students analyze real innovation and entrepreneurship cases under the instructor's guidance, applying the frameworks presented in the lectures.
• Practical sessions and group presentations (DI): supervised activities in which student groups discuss a case analysis or propose a business model as a group; at the end of these sessions, students may be asked to present their work to the class and their peers.

## Textbook and teaching resource

• Textbook: Melissa A. Schilling, Strategic Management of Technological Innovation, 7th edition, International Student Edition, McGraw-Hill. ISBN 9781265073350.
The textbook provides the conceptual backbone of the course, covering the industry dynamics of innovation, the formulation of technological innovation strategy, and its implementation within organizations.

• Supplementary reading: Stefan H. Thomke, Experimentation Works: The Surprising Power of Business Experiments, Harvard Business Review Press, ISBN 9781633697102. Used as an applied complement on data- and experiment-driven innovation management.
A selection of academic articles and book chapters is assigned alongside specific sessions to deepen particular topics. The full list of required and optional readings is made available on the e-learning platform at the start of the course.

• Case studies.
• Lecture slides.
• Any additional teaching material will be made available on the e-learning platform throughout the course. Students are expected to check this material on a weekly basis, as some readings constitute mandatory preparation for the case discussions held during the practical sessions.

## Semester

I semester (October - January)

## Assessment method

The final grade is composed of a written exam, worth 80% of the final grade, and the practical session assignments, worth 20% of the final grade.

**Written exam (80% of the final grade)**
The written exam is mandatory for all students. It may include questions designed to:
• Assess knowledge and understanding of the theoretical frameworks and concepts covered in the course.
• Assess students' ability to connect knowledge from different parts of the course and communicate it in writing.
• Assess students' ability to apply innovation management frameworks to a given business situation.
The maximum score (30/30, with honors where applicable) requires correct, complete, and well-organized answers to all questions; partial scores (below 30/30) are awarded based on the extent to which answers meet the required standards of content, application, and clarity. The exam grade accounts for 80% of the final course grade.

**Practical session assignments (20% of the final grade)**
During the practical sessions held over the course of the semester, student groups analyze cases provided by the instructor, applying the concepts and frameworks acquired in class. At the end of each practical session, students submit their assignments to the instructor and receive feedback and a grade for each assignment. Depending on the time available for each session, students may be asked to present their work in class. The combined outcome of all practical sessions accounts for 20% of the final course grade. Each practical session assignment must be submitted to the instructor by email by the end of the session.

**Assessment criteria**
The instructor evaluates the written exam and the practical session assignments against the four Dublin Descriptors relevant to this course, according to the following scheme:

*Grade below 18 (insufficient)*
• Knowledge and understanding: the student only partially identifies the features of the theoretical frameworks covered in the course. Connections between concepts are fragmented and poorly supported by theoretical knowledge.
• Applying knowledge and understanding: the student identifies only some relevant elements of a business situation or case, without integrating them into a coherent application of the relevant framework.
• Communication and argumentation skills: in written assignments and practical session presentations, the student develops a basic argument, lacking logical structure and marked by numerous inaccuracies in the use of innovation management terminology.
• Making judgements: the student is able to defend only some aspects of the analysis presented and struggles to justify the choices made when questioned by the instructor or peers.

*Grade 18-22 (sufficient)*
• Knowledge and understanding: the student recognizes and explains a good part of the conceptual features of the frameworks covered in the course and is able to provide a relatively coherent explanation, albeit with some inaccuracies. Theoretical references are present but not always used rigorously.
• Applying knowledge and understanding: the student is able to recognize a significant number of relevant elements in a business situation or case and provides a partial application of the relevant framework, though the analysis shows some gaps.
• Communication and argumentation skills: in written assignments and practical session presentations (where applicable), the student builds a basic argument, with minimal structure and some inaccuracies.
• Making judgements: the student demonstrates a basic ability to justify the analysis presented, providing essential

answers when questioned, albeit with some inaccuracies.

*Grade 23-27 (good)*
• Knowledge and understanding: the student demonstrates a very good understanding of the conceptual features of the frameworks covered in the course. Explanations are well articulated and supported by appropriate use of theoretical references.
• Applying knowledge and understanding: the student accurately identifies the essential elements of a business situation or case. The relevant framework is applied with methodological rigor that is not entirely solid.
• Communication and argumentation skills: in written assignments and practical session presentations (where applicable), the student develops a coherent and well-organized argument, demonstrating good command of terminology and a solid logical structure. Communication is clear and effective.
• Making judgements: the student defends the analysis clearly and in a structured manner, highlighting meaningful connections between evidence and conclusions and demonstrating good critical reflection when questioned.

*Grade 28-30 (excellent, with honors where applicable)*
• Knowledge and understanding: the student demonstrates full command of the frameworks covered in the course, articulating complex connections and providing thorough explanations. Theoretical references are used with relevance and rigor.
• Applying knowledge and understanding: the student demonstrates an advanced ability to analyze a business situation or case, fully identifying and interpreting all salient elements. Knowledge is applied with methodological rigor, supported by a solid and detailed argument.
• Communication and argumentation skills: in written assignments and practical session presentations, the student develops a solid and detailed argument, with rigorous logical structure and a high level of coherence. The presentation is fluent and well organized.
• Making judgements: the student demonstrates an advanced capacity for critical reflection, defending the analysis and choices made with a detailed and convincing argument. Connections between evidence, theoretical frameworks, and conclusions are clear, coherent, and rigorous.

## Office hours

By appointment; students may email the instructor to arrange individual or group office hours.

## Sustainable Development Goals

QUALITY EDUCATION | DECENT WORK AND ECONOMIC GROWTH | INDUSTRY, INNOVATION AND INFRASTRUCTURE