## Syllabus

### Course description

<table>
<thead>
<tr>
<th>Course title</th>
<th>INNOVATION MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course code</td>
<td>27238</td>
</tr>
<tr>
<td>Scientific sector</td>
<td>SECS-P/08</td>
</tr>
<tr>
<td>Degree</td>
<td>Master Entrepreneurship and Innovation</td>
</tr>
<tr>
<td>Semester and academic year</td>
<td>2nd semester, ay 2020-21</td>
</tr>
<tr>
<td>Year</td>
<td>1st study year</td>
</tr>
<tr>
<td>Credits</td>
<td>9</td>
</tr>
<tr>
<td>Modular</td>
<td>No</td>
</tr>
<tr>
<td>Total lecturing hours</td>
<td>54</td>
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<tr>
<td>Total lab hours</td>
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<tr>
<td>Total exercise hours</td>
<td></td>
</tr>
<tr>
<td>Attendance</td>
<td>suggested, but not required</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>not foreseen</td>
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### Specific educational objectives

The course refers to the typical educational activities and belongs to the scientific area of Business Administration.

To learn models, tools, methods to manage innovation within organizations. To develop critical and analytical reasoning about firms innovation management. To analyze and solve problems that arise in organizations that work on innovative projects. To learn how read, summarize and present scientific papers on innovation management.

### Lecturer

Alessandro Narduzzo, E508, anarduzzo@unibz.it; lecturer’s page https://www.unibz.it/en/faculties/economics-management/academic-staff/person/5125-alessandro-narduzzo

### Scientific sector of the lecturer

SECS-P/08

### Teaching language

English

### Office hours

please refer to the lecturer’s web page

### Lecturing assistant

Not foreseen

### Teaching assistant

Not foreseen

### Office hours

27

### List of topics covered

Innovation in a systemic view - Sources of innovation – Types of innovation – Patterns and models of innovation – Technological cycles – Technological speciation – Managing innovation with power laws distributions – Design and decision attitudes to innovation - Management innovation – Innovation management tools - Design Thinking for Strategic Innovation - Managing
open innovation - Innovation management in complex systems - Managing innovation through experimentation - Managing innovation through improvisation - Championing innovation - Building innovative organizations – Managing complex innovative projects – Chief innovation officers: present and future perspectives.

Teaching format
The course is based on both theoretical lectures and the discussion of case-studies and other empirical materials, and it requires the active participation of students in class discussions.

Learning outcomes
Knowledge and understanding of innovation as a systemic phenomenon involving the creation and the development of novel organizational knowledge that is commercialized into innovative products and services. Applying knowledge and understanding to confront and analyse different models, to suggest the proper tools for specific situations, to understand how new products, organizational knowledge and managerial approach to innovation may create new value for the customers and new opportunities for the firm. Making critical and autonomous judgments in the analysis of empirical cases of innovation and in the comparison of theoretical models and perspectives. Communication skills to describe concepts and models and to present in a persuasive and proper way the results of critical analyses of innovation cases. Learning skills to deepen in an autonomous way a critical understanding of theoretical models on innovation and of the complex interaction between entrepreneurship and innovation.

Assessment
Attending students are expected to join the team of experts on one of the topics (from 4 on) within March 26.

<table>
<thead>
<tr>
<th>WORKLOAD FOR ATTENDING STUDENTS</th>
<th>WORKLOAD FOR NON-ATTENDING STUDENTS</th>
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</thead>
<tbody>
<tr>
<td><strong>Hours</strong></td>
<td><strong>#</strong></td>
</tr>
<tr>
<td>Lectures</td>
<td>3</td>
</tr>
<tr>
<td>Readings</td>
<td>3</td>
</tr>
<tr>
<td>Presentation and Workshop</td>
<td>9</td>
</tr>
<tr>
<td>Wrap-up report</td>
<td>10</td>
</tr>
<tr>
<td>Exam preparation</td>
<td>2</td>
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<tr>
<td><strong>TOTAL (hours)</strong></td>
<td>174</td>
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<tr>
<td>Standard effort (hours)</td>
<td>175</td>
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Assessment language: English

Evaluation criteria and criteria for awarding marks:
**Attending students’ evaluation.**
The program covers the required readings ONLY:
- Final exam (evaluated at least 18/30): 50%
- Class Workshop Practicing Theory: 20%
- Wrap-up paper: 30%
**Workshop Practicing Theory.** Groups (max 3 students) choose among the topics listed in the syllabus the one they want to become experts. We want to practice these concepts, to understand their analytic power, their impact on decision making. Any type of exercise/simulation/discussion, that allow to understand how the key-concepts can be used, is appropriate. Workshops are meant to stimulate interactions among the students and are expected to last 30-40 minutes. To design the exercises/workshops you are invited to consult prof. Narduzzo in advance, during the office hours. To evaluate this task the following criteria are used:

1. Relevance of the topic selected for the exercise/workshop.
2. Ability to provide and stimulate insightful reasoning and reflections on the selected topic and on connections with other related topics.
3. Ability to involve the class.
4. Time management.

**Wrap-up report:** The paper (about 2,000 words) summarizes:

a) the main issues (e.g. concepts, problems, phenomena) presented and discussed,

b) explains in what sense this topic changes the way we think about innovation management;

c) describes the workshop designed and used in class to practice with that topic.

The report is a stand-alone document: please include all the relevant references and (in Harvard format) and other details that make the document complete. Think about these reports as documents that you upload on MEI Linked-in group to provide a state of the art on the topic you are covering.

Deadline to uploading the report on the Teams platform: June 14

**Non-attending students’ evaluation.**
Non-attending students do not have to write any report or assignment. Final exam: 100%. The program covers both required AND Supplementary readings listed in this syllabus. To evaluate non-attending students’ preparation, final exams for attending and non-attending students do not have exactly the same questions.

Final exam is an **open-book written exam** (90 minutes) and consists of open questions to assess the acquisition of both knowledge and analytical competencies. A case will be made available on the Reserve Collection before the exam. Students are expected to read the case in advance. Some questions assess the students’ ability to use the acquired knowledge to analyze the case.

In case the written exam provides contradictory elements about the level of learning outcomes achieved by a student, the lecturer can decide to schedule an **integrative oral exam** within 15 days from the written exam date.
Required and supplementary readings

Schilling M. 2013. Strategic management of technological innovation. 4th ed. McGraw-Hill. **ONLY the Selected Chapters** indicated for each topic of this course. List of readings for each topic of the course is provided below. **For each topic, readings are listed in the suggested order of reading.**

**For each topic readings are listed in the suggested order of reading.**

### 1. Innovation, innovative firms, innovation management – An introduction

Why does innovation matter? How practitioners and scholar think about innovation? Why and how do organizations want to manage the innovation journey.

This first session introduces the framework adopted in this course to approach innovation and select the topics.


**Supplementary readings:**
- Schilling 2013, Chapter 2.

**Suggested readings:**

### 2. Innovation management: problems, myths, traps

This class offers a problematic perspective to frame the management of innovation management both as a phenomenon and as a domain of expertise; any further theorizing can be reconnected to this ground.


**Supplementary readings:**

**Suggested readings:**
3. Innovation: models and conceptualizations

In this class we review and discuss well-known definitions, conceptualizations and models. Concepts and models provide complementary perspectives to understand innovation phenomena through multiple lenses.

- Schilling 2013. Chapter 3.

Supplementary readings:

Suggested readings:

4. Managing innovation in open systems

To innovate, firms often need to draw from various outside sources of knowledge. At the same time, they also need to be focused on capturing returns to their innovative ideas. This gives rise to a paradox of openness - the creation of innovations often requires openness and commercialization of innovations requires appropriability.


Supplementary readings:

Suggested readings:
• Adner R. 2006. Match your innovation strategy to your innovation ecosystem. Harvard business review, 84(4), 98.

5. Managing Innovation in a Pareto World
We discuss how managing innovation changes when firms make decisions in a world where most of the phenomena follow "power-law" distributions. How does this affect business and management decisions on innovation?

Supplementary readings:

Suggested readings:
• Cirillo, P. & Taleb N.M. 2020. Tail Risk of Contagious Diseases. WP. URL: https://www.academia.edu/42307438/Tail_Risk_of_Contagious_Diseases

Practicing theory: http://scaledinnovation.com/analytics/simulations/bagrow-simulator.html

6. Managing innovation as designing
How can ideas from design inform and improve management? And, how can designing complement analyzing and deciding as core managerial skills?
7. Managing innovation as exaptation
Innovation management through an evolutionary perspective. Innovation management consists of managing a system of interdependent and evolving components. Innovation as exaptation will be discussed.

Supplementary readings:

Suggested readings:

8. Management innovation
Management innovation is the invention and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals.

Supplementary readings:

Suggested readings:

9. Innovation management: techniques and tools
We review a repertoire of tools traditionally adopted by firms to manage innovation. We discuss to what extent they cope with the problems introduced in Class 3. In particular, we wish to focus on those tools that deal with complexity and...
uncertainty.


**Supplementary readings:**


**Suggested readings:**


Practicing the exam I
Students are asked to read in advance the case Netflix (available on Teams)

10. **Innovation management: innovation measurements**
Measuring innovation is a tricky issue. On the one hand, there is a need to assess the impact of innovation; on the other hand, the complexity of the phenomenon suggests avoiding simplistic solutions. The most common measures of innovation look at inputs (e.g. intensity of R&D investment) or outputs (e.g. number of patents). The approach proposed for this class proposes to extend this repertoire by including the assessment of the innovation as a process.

- Gamal D. 2011. How to measure organizational innovativeness? An overview of Innovation framework and Innovation audit. TIEC.

**Supplementary readings:**


**Suggested readings:**


15. **Managing innovative complex projects**
After having explored specific aspects of the management of innovation, is now time to step back and widen up our understanding of innovation as a collective and organized achievement. Innovation is often institutionalized and developed within a project-based framework, characterized by clear goals and high uncertainty.


**Supplementary readings:**

- DeFries, R. and Nagendra, H., 2017. Ecosystem management as a wicked
11. Building innovative organizations: ambidexterity and improvisation

Firms may adopt organizational forms that are more suitable to support innovation. Through the concepts of organizational ambidexterity and organizational bricolage we discuss how firms may combine exploration and exploitation.


Supplementary readings
- Schilling 2013, Chapter 10.

Suggested readings:

12. Building innovative organizations: knowledge and learning (to learn)

Build the habits and routines that lead to growth to break down the barrier to innovation.

Institutional leadership through coaching. Essentially, we define firms as organization of resources to create value: hierarchy, control, division of labour are traditionally the cornerstones of our way of thinking about firms. To what extent this approach fits with innovation?


Supplementary readings:
**Suggested readings:**

**13. Building innovative organizations: psychological safety**
Organizational culture may inhibit organization. Building a psychologically safe environment is regarded a contextual condition to nurture innovation.

**Supplementary readings:**

**Practicing Theory:**
Task: Identify empirically tested solutions (i.e. processes, rules, devices) that organizations can adopt to create or enhance a psychologically safe environment. See Google’s Project Aristotle
- https://www.forbes.com/sites/zackfriedman/2019/01/28/google-says-the-best-teams-have-these-5-things/#1dacac175a30

**14. Managing innovation through experimentation**
Innovation is conceived as a process of experimentation that is grounded on a trial-and-error logic. Its effectiveness depends on the organizations’ ability to consistently adopt and adapt to this mindset.

**Supplementary readings:**

**Suggested readings:**

**Practicing the exam II**
Students are asked to read in advance the case Tesla (available on Teams)

**16. Design Thinking for Strategy**
This approach to innovation combines creative and analytical approaches, and requires collaboration across disciplines. This process—which has been called design thinking—draws on methods from engineering and design, and combines them with ideas from the arts, tools from the social sciences, and insights from the business world.

**Supplementary readings:**

**Suggested readings:**

17. Innovation Management in SMEs
To what extent the management of innovation changes because of the size of the firm? To what extent successful innovative SMEs define innovation goals and processes that differ from those set by large corporation?

**Supplementary readings:**
• Bigliardi, B. and Galati, F., 2016. Which factors hinder the adoption of open innovation in SMEs?. Technology Analysis & Strategic Management, 28(8), pp.869-885.

**Suggested readings:**

18 Reinventing innovation management in a digital world
Models and practices for the management of innovation have been developed before the digital. How digital transformation is changing innovation management and strategic innovation management?


Supplementary readings:

Suggested readings:

19. Chief Innovation Officers. What we know. What they do
We review and discuss the European framework of capabilities for innovation manager.

Supplementary readings:

Suggested readings:
- https://www.worth.com/10-questions-for-your-chief-innovation-officer/

Laboratory on Complexity and Innovation Dynamics (12 hours)
We introduce Agent-based modeling (ABM) to explore and reflect on the complex dynamics that characterizes the management of innovation. We start analyzing the interdependencies, then we discuss the diffusion processes.
<to be confirmed by the lecturer>
**Supplementary readings:**


**Suggested readings:**


**Review session**

We use this class to review and reflect on the distance between theory and practice in the field of Innovation Management. If IM is a complex, in a context dominated by uncertainty, why practitioners continuously produce easy recipes for success?