

Economics of Innovation 1

Level: Master – first year - M1

Track: Data Science and Management of Innovation / Economics Data and Decision Science / Regions and Transitions

Semester: 1

Teaching hours: 12h in class (lectures - CM)

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Abstract:

The course provides an introduction to economics of innovation, putting special emphasize on empirical measures, stylized facts, and institutional dimensions. The course covers sectoral patterns of innovation and heterogeneity of innovation activities (including non-technological innovation and innovation in services). The lectures discuss the role of firms, institutions of higher education, research institutes, households, and individuals, as well as inter-actor linkages.

Learning objectives:

At the end of the class, students are expected to:

- identify the main issues in the economics of innovation,
- mobilise appropriate measures to report on innovation,
- identify the main actors of the innovation systems,
- reflect on topical issues related to innovation.

Course contents:

The course is organized in 1.5 hours of lectures (8 sessions), most of them based on flipped classroom.

1. Introduction

1.1/ The economists of innovation

1.2/ The different conceptions of the innovation process

2. Innovation output

2.1/ Indicators of innovation output

2.2/ Stylized facts and actors of innovation

2.3/ Main theoretical issues on innovation output



3. Innovation inputs

- 3.1/ Indicators of innovation inputs
- 3.2/ Stylized facts and actors of knowledge investment
- 3.3/ Main theoretical issues on knowledge investment

4. Adoption / diffusion

- 4.1/ Indicators of innovation adoption and diffusion
- 4.2/ Stylized facts and actors of innovation adoption and diffusion
- 4.3/ Main theoretical issues on innovation adoption and diffusion

5. Collaboration

- 5.1/ Indicators of collaboration for innovation
- 5.2/ Stylized facts and actors of collaborative innovation
- 5.3/ Main theoretical issues on collaborative innovation

Assessment Elements: quizzes + written exam (last session)

Bibliography:

Rosenberg, N., & Hall, B. H. (2010). *Handbook of the Economics of Innovation*. Amsterdam: North Holland.
 P. Swann (2014), *Economics of Innovation: An introduction*, Edward Elgar.

Data on innovation:

OECD Science, Technology and Innovation Outlook (2025)
 OECD Science, Technology and Industry scoreboard platform
 OECD data dissemination platform : <https://data.oecd.org/>
 European Innovation Scoreboard (2026) EUROSTAT report.
 Regional Innovation Scoreboard (2025) EUROSTAT report.
 L'État de l'Enseignement supérieur et de la Recherche et de l'Innovation en France (2026) French Research Ministry report.