



UNIVERSITÀ  
DEGLI STUDI  
DI FERRARA  
- EX LABORE FRUCTUS -

**E** DEPARTMENT  
OF ECONOMICS  
& MANAGEMENT

# Economics of Innovation

## Course program AA 2018/2019

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# Lectures

- Thursday afternoon:
  - Official: 16:00-18:00
  - Real: 16:15-18.00
  
- Friday morning:
  - Official: 08:00-12:00
  - Real: 08:30-12:00

# Themes

1. Product innovation, Process innovation and basic concepts;
2. Sources, Barriers and Drivers;
3. History of Economics of Innovation;
4. Open Innovation and System of Innovation;
5. Innovation and Competitiveness;
6. Innovation and Employment;
7. Methodology in Economics of Innovation;
8. Economics of Science and Technology Transfer;
9. Intellectual Property
10. Entrepreneurship;
11. Innovation Policies

# Teaching material

Swann, G. M. P. (2009). Chapter 3. Basic concepts in innovation - in Swann, G. M. P. (2009). The economics of innovation: an introduction. Cheltenham: Edward Elgar.

Swann, G. M. P. (2009). Chapter 4. Process innovation - in Swann, G. M. P. (2009). The economics of innovation: an introduction. Cheltenham: Edward Elgar.

Swann, G. M. P. (2009). Chapter 5. Product innovation - in Swann, G. M. P. (2009). The economics of innovation: an introduction. Cheltenham: Edward Elgar.

Swann, G. M. P. (2009). Chapter 7. Network effect and standards - in Swann, G. M. P. (2009). The economics of innovation: an introduction. Cheltenham: Edward Elgar.

Teece, D.J. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy* 15, 285–305.

Leydesdorff, L., and Fritsch, M. (2006). Measuring the knowledge base of regional innovation systems in Germany in terms of a Triple Helix dynamics. *Research Policy* 35, 1538–1553.

# Teaching material (2)

Aghion, P., Bloom, N., Blundell, R., Griffith, R., and Howitt, P. (2005). Competition and Innovation: an Inverted-U Relationship. *The Quarterly Journal of Economics* 120, 701–728.

Alvarez, S.A., and Barney, J.B. (2007). Discovery and creation: alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal* 1, 11–26.

Autor, D.H., Levy, F., and Murnane, R.J. (2003). The Skill Content of Recent Technological Change: An Empirical Exploration. *The Quarterly Journal of Economics* 118, 1279–1333.

David, P. (2003) "Can Open Science be Protected from the Evolving Regime of IPR Protections?", *Journal of Institutional and Theoretical Economics*. Vol. 160, No. 1, pp. 9-34

Edler, J., and Fagerberg, J. (2017). Innovation policy: what, why, and how. *Oxford Review of Economic Policy* 33, 2–23.

Fagerberg, J. (2003). Schumpeter and the revival of evolutionary economics: an appraisal of the literature. *Journal of Evolutionary Economics* 13, 125–159.

Griliches, Z. (1979). Issues in Assessing the Contribution of Research and Development to Productivity Growth. *The Bell Journal of Economics* 10, 92.

# Teaching material (3)

Nelson, R.R. (2003). On the uneven evolution of human know-how. *Research Policy* 32, 909–922.

Nelson, R.R. (2004). Why and how innovations get adopted: a tale of four models. *Industrial and Corporate Change* 13, 679–699.

Rosenberg, N. (1972). Factors affecting the diffusion of technology. *Explorations in Economic History* 10, 3–33.

Sauermann, H., and Stephan, P. (2013). Conflicting Logics? A Multidimensional View of Industrial and Academic Science. *Organization Science* 24, 889–909.

Shane, S., Venkataraman, S. (2000), “The promise of entrepreneurship as a field of research”, *Academy of Management Review*. Vol. 25, No. 1 (Jan., 2000), pp. 217-226

Chesbrough, H. W. (2006). Chapter 1. Open Innovation: a new paradigm for understanding industrial innovation

Jaffe, A. B. (1989). Real Effects of Academic Research. *The American Economic Review*, Vol. 79, pp. 957-970

Griliches, Z. (1998). Chapter 13. Patent Statistics as Economic Indicators: A Survey

# Exam and Evaluation

- Essay and Oral Exam
  - Short essay (2000 words) to be presented to the teacher at least 3 weeks before the oral exam
    - Develop at least one topic covered in the course
  - Oral exam mostly on the contents of the essay, but also regarding the themes covered in the course (especially to get to high marks)

<http://www.unife.it/economia/Im.economia/insegnamenti/economics-of-innovation/materiale-didattico>

# Good things about this course

- Why is this an interesting course to take?
  - Topics can be partly chosen by teachers in according to students preferences
    - More emphasis on students' selected topics
  - Important amount of case studies analysed
  - This course wants mostly to stimulate reasoning and critical thinking, rather than teaching 'lessons'
- It will take both an economics and a management perspective on innovation

# Good things about this course (2)

- What else?
  - Writing an essay help the student to:
    - Familiarise with building and exposing an argument
    - Provide a methodology to ask and answer relevant (research) questions
    - Familiarise with writing
    - Conduct some of the dissertation work within this course
  - A lot of data and ideas can be provided to you by the teachers of the course

# Bad things about this course

- Basically none
  - You may suggest us some at the end of the course

# Example of issues that you can find (only) in this course - economics

- Innovation and employment:
  - Do innovation and technological change increase or reduce employment?
  - Does employment change according to the life cycle stage of technological change?
  - How do computerization impact on the composition of skills and occupation?
  - What rate of skill shift are caused by technological change?

# Example of issues that you can find (only) in this course - management

- Entrepreneurship:
  - What is an entrepreneur?
  - What means entrepreneurship?
  - What types of entrepreneurship do you know?
  - What is the difference between start-up and new-venture, if any?
  - What is the role of entrepreneurs in the economy? And in respect to technological change?

# Other information

- The following was last year, but although no new call for ideas will be uploaded, you can always go have a talk with the teachers
  - Also if you will not follow this course, but you are interested in the topic related to the economics and management of innovation...
  - ... and you are looking for topic on which to do the dissertation
  - I propose you to check on the mini-sito for “call for ideas”, such as this:

<http://www.unife.it/economia/lm.economia/insegnamenti/politiche-dellinnovazione/materiale-didattico/proposte-tesi>

# Some information about myself

- Teachers research interests are:
  - Technical change
  - Entrepreneurship
  - University-industry relationship
  - Innovation policies
  - Environmental economics
  - Econometrics
  - Patents

# That's all folks

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When you need information or you have questions, a good idea is to send an email to the two of us, so we will be able to answer your questions more precisely