



APPLIES TO ACADEMIC YEAR 2012/2013

## DRE 5012 Foundations of Innovation and Industrial Dynamics

### Programme

Innovation and Entrepreneurship

### Responsible for the course

Per Ingvar Olsen

### Department

Department of Innovation and Economic Organisation

### Term

According to study plan

### ECTS Credits

6

### Language of instruction

English

### Introduction

**Please note that this course will be revised before it is offered again.**

This course presents and discusses foundational theories of innovation and industrial dynamics. It also presents a variety of analytical frameworks for analyzing the dynamics of industrial and institutional conditions associated with innovation processes in particular industries or regions. Industrial conditions include the technologies, markets and competitive patterns that prevail in particular industrial sectors. Institutional conditions include the governance, employment and financial regulatory and structural environments within which business enterprise operate. This includes the regulatory entities that are there to foster and to balance the effectiveness, growth and stability of the overall economy.

Within this overall framing and drawing on comparative economic, sociological and historical industrial research, the course explores theoretical approaches to analyzing the role of and characteristics of innovation processes in generating and shaping economic development in different industries.

### Learning outcome

#### Learning outcomes:

The course will give the participants an overview as well as in depth understanding of major theories, research areas and issues within innovation research at analytical levels ranging from the firm level to the industrial and the macro economic levels. Through a combination of lectures, seminars and paper writing exercises the students will be trained to position their work and to frame their research in relation to the various schools of thought. From there the course aims at clarifying and reflecting upon what constitutes a theoretical contribution at the frontier of innovation research, and what research designs are likely to be the more productive at the levels of analysis addressed by the course.

### Prerequisites

Admission to a PhD Programme is a general requirement for participation in PhD courses at BI Norwegian Business School.

External candidates are kindly asked to attach confirmation of admission to a PhD programme when signing up for a course with the doctoral administration. Other candidates may be allowed to sit in on courses by approval of the courseleader. Sitting in on courses does not permit registration for courses, handing in exams or gaining credits for the course. Course certificates or conformation letters will not be issued for sitting in on courses

### Compulsory reading

#### Collection of articles:

Compendium of articles and book chapters

### Recommended reading

#### Course outline

Topics covered:

Innovation and economic development  
Theories of innovative enterprise  
Innovation and industrial dynamics  
Clusters and knowledge hubs  
Innovation systems and -networks  
Innovation within industrial networks  
Innovation, regulations and financial cycles  
Institutional innovations and industrial dynamics  
Innovation studies and theory development

### **Computer-based tools**

Not applicable

### **Learning process and workload**

The spring 2009 course will be organized into three modules each covering three sections as follows:

Module 1: March 2009 (2 days): Innovation, innovative enterprise and economic development

Innovation and economic development  
Innovative enterprise  
Industrial and corporate dynamics

Module 2: April 2009 (2 days): Innovation systems, clusters and networks

Innovation, clusters and knowledge hubs  
Innovation systems and business networks  
Innovation and industrial networks

Module 3: May 2009 (2 days): Institutions and financial- and industrial dynamics

Innovation, regulations and financial dynamics  
Institutional innovations and industrial dynamics  
Innovation studies and theory development

Each module contains approximately 9 hours lecturing and 6 hours phd student seminar where students present ideas, outlines and drafts for the course paper, which should be focused on discussing elements from the course in relation to their individual doctoral research projects. The course will also examine and discuss relevant cases based on other phd dissertation thesis, to help students clarify their understanding of the research process as well as of particular challenges associated with innovation studies.

Literature:

Module 1:

Chandler, Alfred (1992): "Organizational Capabilities and the Economic History of the Industrial Enterprise," *Journal of Economic Perspective*, 6, 3 : 79-100

Christensen, Sverre (2006): "Switching Relations: The rise and fall of the Norwegian telecom industry", Norwegian School of Management, Dissertation series, no 2

Kirzner, Israel (1997), "Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach", *Journal of Economic Literature*, 35, 1:60-85

Lazonick, William (2002): "The Theory of Innovative Enterprise", in Lazonick, *IEBM Handbook of Economics*, pp 640-664

Lazonick, William (2003), "The Theory of the Market Economy and the Social Foundations of Innovative Enterprise", *Economic and Industrial Democracy*, 24, 1 : 9-44

Malerba, Franco and Luigi Orsenigo (1997), "Schumpeterian Patterns of Innovation", in Daniele Archibugi and Jonathan Micie, eds, *Technology, Globalization and Economic Performance*, Cambridge University Press : 241-267

Nelson, Richard R. (2004), "Capitalism as an Engine of Progress", in Nelson, *Sources of Economic Growth*: 52-86

Reich, Robert B. (2007): *Supercapitalism. The Transformation of Business, Democracy and Everyday Life*, chs. 2-3 : 50 – 130

Schumpeter, Joseph A. (1983), "The Fundamental Phenomenon in Economic Development", in Schumpeter, *The Theory of Economic Development*, ch. 2: 57-94

Sogner, Knut (2007): "The Fall and Rise of the Norwegian IT Industry in the Global Age, 1970-2005", *Business History Review* 81:709-734

#### Module 2:

Christensen, Clayton M. (1997): "The Innovators Dilemma", chs. 6-7: 125-163

Edquist, Charles (2005): "Systems of innovation: Perspectives and Challenges" in Fagerberg, Mowery and Nelson (eds.), *The Oxford handbook of Innovation*, ch 7 : 181 – 208

Haakansson, Håkan and Alexandra Waluszewski (eds) (2007): *Knowledge and Innovation in Business and Industry. The importance of using others*. London Routledge, chapters 1, 2, 4 and 7.

Lundvall, Bent-Åke (2007): "National Innovation Systems: Analytical Concept and Development Tool", *Industry and Innovation*, vol. 14, no 1, pp 95-119

Malerba, Franco (2005): "Sectoral Systems: How and Why Innovation Differs across Sectors" in Fagerberg, Mowery and Nelson (eds), *The Oxford Handbook of Innovation*, ch. 14 : 380 - 406

Powell, Walter W. and Stine Grodal (2005): "Networks of Innovators", in Fagerberg, Mowery and Nelson (eds), *The Oxford Handbook of Innovation*, ch. 3 : 56 – 85

Sogner, Knut (1993): "Nations, clusters and culture: Nycomed and world leadership in the field of x-ray contrast media", *Scandinavian Economic History Review*, Vol 3

Sogner, Knut (1995): "An innovative culture: Nygaard & Co, Norway and the environments of business", University of Oslo, doctoral dissertation (unpublished)

Sogner, Knut (1996): "A Pharmaceutical Innovation. Business Environment and Scientific Endeavour in Nygaard & Co", *History and Technology*, Vol. 13, pp 115-131

#### Module 3:

Freeman, Chris and Luc Soete (1997), *The Economics of Industrial Innovation*", 3rd edition, part two: 191-287

Nelson, Richard R. (1998): "The Co-Evolution of Technology, Industrial Structure and Supporting Institutions", in Giovanni Dosi, David J. Teece and Joseph Chytry, (eds.), *Technology, Organization and Competitiveness*, : 319-335

North, Douglas C. (1998), "Institutions, Organizations and Market Competition" in Gunnar Eliasson and Christopher Green, (eds.), *Microfoundations of Economic Growth: A Schumpeterian Perspective*, University of Michigan Press, : 15-25

Olsen, Per Ingvar (2000): "Transforming Economies. The Case of the Norwegian Electricity Market Reform", *Norwegian School of management, Series of Dissertations*, no. 1

Olsen, Per Ingvar (2005): "The re-formatting of electricity, and the making of a market", in Barbara Charniawska and Tor Hernes (eds) *Actor-Network Theory and Organizing*, Liber & Copenhagen Business School Press, pp 230-251

O'Sullivan, Mary (2003): "The Political Economy of Comparative Corporate Governance", *Review of International Political Economy*, 10, 3 : 23-73

Perez, Carlota (2002): *Technological Revolutions and Financial Capital. The Dynamics of Bubbles and Golden Ages*. Cheltenham: Edward Elgar, Chapters.....?

Reinhart, C. and K. Rogoff (2008) : "Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison", Working Paper 13761, National Bureau of Economic Research (NBER), Cambridge, MA

Reinhart, C. and K. Rogoff (2009): "The Aftermath of Financial Crisis", NBER: Working Paper 14656

Shiller, R.J. (2005): "Behavioral economics and institutional innovation", *Cowles Foundation Discussion Paper NO. 1499*

Whetten, David A., (1989): "What Constitutes a Theoretical Contribution?", *Academy of Management Review*, Vol. 14, No 4, pp. 490-495

Weick, Karl E., (1989): "Theory Construction as Disciplined Imagination", Academy of Management Review, Vol. 14, pp 516-531

**Examination**

A paper of about 20 pages is required in addition to active participation in the seminars. Each student will be asked to give a presentation based on his or her thesis work and the seminar literature. The evaluation will be based on the student's participation in the seminar as well as his/her paper.

.The paper should be original work, and be written specifically for this course.

The grade is pass/fail

**Examination code(s)**

DRE 50121 accounts for 100% of the grade

**Examination support materials**

Not applicable

**Re-sit examination**

Next time the course is offered.

**Additional information**

**Honour Code**

Academic honesty and trust are important to all of us as individuals, and represent values that are encouraged and promoted by the honour code system. This is a most significant university tradition. Students are responsible for familiarizing themselves with the ideals of the honour code system, to which the faculty are also deeply committed.

Any violation of the honour code will be dealt with in accordance with BI's procedures for cheating. These issues are a serious matter to everyone associated with the programs at BI and are at the heart of the honor code and academic integrity. If you have any questions about your responsibilities under the honour code, please ask.