

Università di Roma "Tor Vergata"

Master of Science in Business Administration

Academic Year 2013-14

Program of the course:

INNOVATION AND COGNITIVE ECONOMICS

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Technological and scientific progress has been the most important factor of the economic and social change during the last two centuries. The knowledge economy indicates a new development phase where scientific and technical knowledge and human resources represent the strategic factors of growth and of international competitive advantage. In a knowledge economy there is a tight link between learning processes, innovation and economic competitiveness of the firms.

However, economic development is not only determined by the discovery of new technological ideas. Innovation processes have different characteristics in high tech, medium tech and low tech sectors and are based on various forms of codified and tacit knowledge. Crucial forms of innovation are also new business models within the firms and new forms of organization of the relationships between the firms, the adaptation of the public and collective institutions and the changes in the needs and demand by the consumers and the citizens. It is crucial to develop innovation and knowledge networks or to build national/sectorial/regional innovation systems, based on the interdependence and collaboration of different actors, such as industrial and service private firms, universities, media, the world of liberal professions, trade unions, entrepreneurial associations, banks, other specialized financial intermediaries, local, national and international public institutions and various intermediate institutions, communities of users and associations of citizens.

The course offers an in depth and wide treatment of the role of knowledge and innovation in the modern economies and aims to provide to the students the instruments needed for developing an innovation strategy within a private firm and/or a public institution.

The course examines the characteristics of the knowledge and information economy, the various definitions of the concepts of technology, innovation, knowledge and learning, the development of the cognitive economics since the original contributions of important economists (Smith, Marshall and Hayek), the recent neurological and psychological theories of knowledge creation, receptivity, identity and creativity, the learning processes and the evolutionary approaches in natural and economic sciences, the territorial factors of the creation of knowledge, the structure of national innovation systems, the innovation in industrial clusters and the regional innovation systems, the changes in the global value chains and the factors and the forms of global alliances between large firms, the innovation within modern knowledge intensive business services, the concepts of open innovation, communities of practice, user innovation, relational goods, the process of knowledge creation and innovation within modern international cities. A special attention will be devoted to the analysis of the process of definition of priorities and strategies, implementation and monitoring of innovation and industrial policies at the regional, national and European level for a differentiation of the economy and a balanced and sustainable development, such as strategies of smart specialization, centres of excellence, competence centres, territorial knowledge management and innovative financial instruments for small and medium size firms.

The analysis of theories and methodologies is integrated with the analysis of the recent statistical indicators of technology and science, aiming to indicate to the students how to monitor the innovation activity and to identify the fields of most rapid growth and with greater opportunities.

The students will be required to elaborate a short paper based on a critical assessment of the most recent scientific literature published on the on line reviews and technical reports on a specific topic to be chosen within the general theme of: “Innovation and knowledge networks in consumer and business services and the quality of life in modern cities”.

Program

1. The concepts of information society, knowledge and learning economy
2. An international comparison of the knowledge and innovation indicators
3. Technological regimes and sectorial patterns of knowledge and innovation
4. The concepts of technology, innovation, knowledge, creativity, learning and competencies
5. Knowledge as public good, a private good and a localized collective good
6. The contributions of great economists: Smith, Marshall and Hayek
7. The development of cognitive economics and neurological and psychological theories
8. Cognitive economics and the evolutionary approach in social and natural sciences
9. Alternative network models of organization of modern firms and the innovation process in medium tech sectors
10. The structure of national innovation systems in various developed economies
11. The models of industrial clusters and regional innovation systems and the territorial factors of knowledge creation
12. The international innovation alliances between large firms
13. Innovation and the development of modern knowledge intensive business services
14. The process of knowledge creation and innovation within modern international cities
15. The governance of innovation networks and the territorial knowledge management
16. The role of institutions and recent approaches in innovation, industrial and regional policies

Course material

The topics of the course are illustrated in the book:

Cappellin, R. and Wink, R. (2009), *International Knowledge and Innovation Networks: Knowledge Creation and Innovation in Medium Technology Clusters*, Edward Elgar Publishing, Cheltenham.

and in the lectures of the teacher which will be published on the web site of the course during the course.

Students should register to the web site in order to receive regularly indications on the organization of the course. The participation to the classes is highly suggested and it will be taken into account in the final evaluation.

Final evaluation

The final evaluation is the result of a written exam and of a paper written by a group of 2-4 students on a theme to be agreed with the teacher and between those suggested on the course web side. The paper is required and it has a weight of one third in the final evaluation.