

Innovation Systems and Risk Management

- **Objectives**

This course is designed to introduce students to concepts and methods at the centre of contemporary studies of technological change and innovation including technological systems, industrial clusters and sectoral, regional, technological and national innovation systems. The focus will be on the relationship amongst actors, institutions and linkages for innovation in different industrial sectors, and in different regions and nations.

- **Outcomes**

CLO 1. Explain the key components of an innovation system - its enablers and constraints.

CLO 2. Discuss innovation systems in the context of competing theoretical approaches.

CLO 3. Analyze the key factors determining system behaviour in different technology and industry sectors.

CLO 4. Develop and effectively present ideas in a coherent and structured manner.

CLO 5. Compose an independent report that examines an innovation problem using appropriate language.

- **Course Code MGT-814**

- **Credit hours: 3CHrs**

- **Contents with proposed contact hours**

- Innovation Systems Theory Overview.
- National and Regional Systems of Innovation and Innovation Ecosystems
- Regional Innovation Systems
- Sectoral and Technological Systems of Innovations
- Role of Institutions and Innovation Policy
- Innovation Systems for Energy and the Environment
- Innovation systems in Low Resource Settings
- Research Paper Topic Discussion
- Introduction to Foresight and Scenario Analysis

- Introduction to Concepts of Risk and Risk Assessment for Emerging Technologies
- The Evolution of Risk Management and Culture for Innovation
- Sectoral Risk and New Technologies
- Managing Risk and Technology Solutions
- The challenges of managing emerging innovative technologies and emerging risks

- **Recommended reading, including textbooks, reference books with dates**

- Lundvall B-Å (2007) National Innovation Systems: analytical concept and development tool. *Industry & Innovation* 14(1):95-119.
- Cooke P., (2001) Regional innovation systems, clusters, and the knowledge economy, *Industrial and Corporate Change*. 10, 945-974.
- Malerba (2002). Sectoral System of Innovation and production.
- Fagerberg, J., Mowery, D.C. and Nelson, R.R. eds., 2005. *The Oxford handbook of innovation*. Oxford university press

- **Nature of Assessments**

- Class lectures, Projects, Guest speaker sessions, Case studies