In the 21\textsuperscript{st} Century the competitive advantage of individuals, organizations, firms, regions, societies and nations to a large degree depends on their ability to innovate.

The purpose of this course is to help managers understand, describe and explain phenomena pertaining to technological innovation and to give them a toolkit to successfully navigate the complex landscape that surrounds the innovation process. The course covers economical, cultural, psychological, social and technical aspects of innovation from the descriptive as well as the normative point of view. The course typically addresses the following topics.

Researching Innovation
- The academic research process
- Choosing a lens in the study of innovation
- Links between the scientific method and technology development
- The social science perspective
  - Market pull versus technology push; structurationism
  - Land, labor and capital (financial, intellectual, social)
  - Geography and innovation
  - Make-or-buy decisions: markets, hierarchies or networks

Managing creativity; the concept of “flow”

Cultural attitudes towards innovation

Technological Evolution
- Technological pioneering
- The evolution of industries
- Dominant designs; product innovation versus process innovation
- Morphogenesis
- Complementary technologies
- Technology drivers
- Architectural innovation
- Technology platforms

Resistance to innovation, diffusion and the flow of technology

Scientific and technological revolution
- Punctuated equilibrium
- Disruptive technologies
- Change management

Innovation in the value chain
- User innovation, supplier innovation
- User toolkits for innovation
Technology integration
Open source
Managing design
   Self-conscious versus unselfconscious cultures
   Axiomatic design
   Modularity versus integrality
   Modularity and value destruction
   Mass customization
Market innovation – e-commerce

All graduate students are eligible to take the course. There are no technical prerequisites.

Students’ grade will be determined by three factors:

- A paper on a topic pertaining to innovation management (50%). This is an individual project.
- An in-depth analysis of a topic that pertains to innovation management and is approved by the instructor (25%). This is a team project.
- Participation in class discussion (25%), which is strongly encouraged.

Course Materials:
Text: *Innovation: Driving Product, Process and Market Change*  
Two course packs will be available at the PSU bookstore.