



COURSE SYLLABUS

Ekonomisk analys av teknologi och innovation **Economic Analysis of Technology and Innovation** **7.5 credits (7,5 högskolepoäng)**

Course code: IY2611

Main field of study: Industrial Economics and Management

Disciplinary domain: Technology

Education level: Second cycle

Specialization: AIF - Second cycle, has second cycle course/s as entry requirements

Language of instruction: English

Applies from: 2021-08-23

Approved: 2021-03-01

1. Decision

This course is established by Dean 2019-06-03. The course syllabus is approved by Head of Department of Industrial Economics 2021-03-01 and applies from 2021-08-23.

2. Entry requirements

Admission to the course requires Bachelor degree in science in engineering including a degree project of 7.5 hp, 15 hp mathematics on basic/advanced level, 5 credits industrial economics and organization, business administration or the equivalent, English B and 2 years of work experience.

3. Objective and content

3.1 Objective

The purpose of the course is to provide students with knowledge of the drivers of innovation and technological change in addition to how new technology and technological change influences the conditions of competition and strategy.

3.2 Content

- Company specific and contextual determinants of innovation and new technology
- Product and process innovation
- Technological change –causes and economic consequences, such as switching costs, first mover advantage and price setting
- Network effects and standards for technology
- The diffusion of innovation and technology
- Patents, intellectual property rights and strategy
- Markets for technology

4. Learning outcomes

The following learning outcomes are examined in the course:

4.1 Knowledge and understanding

On completion of the course, the student will be able to:

- Explain and discuss different types of innovation and their origin as well as how they are spread in the economy
- Understand, explain and analyse the relationships between innovation, technical development and market structure
- Understand, explain and analyse how the characteristics of modern technology affects the conditions of competition in different markets
- Understand and explain the significance of intellectual property rights, such as patents, markets for technology in today's economy

4.2 Competence and skills

On completion of the course, the student will be able to:

- Apply analytical models in the economics of innovation to identify the effects of market structure for new products and technologies
- Apply analytical models, such as game theory and price theory, to develop strategy for price setting, product

differentiation and management in response to changing market conditions through innovation and new technology

- Apply methods for the diffusion of technology to model and predict the technology's diffusion and impact

4.3 Judgement and approach

On completion of the course, the student will be able to:

- Demonstrate the ability to use analytical models to analyse the conditions for and consequences of innovation and new technology for firms and markets
- Apply economic theory and concepts for strategic thinking and decision making

5. Learning activities

Teaching in this course will comprise lectures and seminars.

6. Assessment and grading

Modes of examinations of the course

Code	Module	Credits	Grade
2110	Written assignment	3 credits	GU
2120	Take-home examination	4.5 credits	AF

The course will be graded A Excellent, B Very good, C Good, D Satisfactory, E Sufficient, FX Fail, supplementation required, F Fail.

The information before a course occasion states the assessment criteria and make explicit in which modes of examination that the learning outcomes are assessed.

An examiner can, after consulting the Disability Advisor at BTH, decide on a customized examination form for a student with a long-term disability to be provided with an examination equivalent to one given to a student who is not disabled.

7. Course evaluation

The course evaluation should be carried out in line with BTH:s course evaluation template and process.

8. Restrictions regarding degree

The course can form part of a degree but not together with another course the content of which completely or partly corresponds with the contents of this course.

9. Course literature and other materials of instruction

Jan Fagerberg; David Mowery; Richard R. Nelson. (Latest edition) The Oxford Handbook of Innovation. Oxford University Press.

Peter Swann, The economics of innovation. (Latest edition) Edward Elgar Publishing

2-3 business cases from Harvard Business Publishing (students are required to purchase access to these cases)

A list of articles will be added to the course as course compendium