Linnæus University

Jnr: 2017/7921-3.1.2.2

Course syllabus

Faculty of Technology
Department of Built Environment and Energy Technology

4BT012 Spridning av innovationer för en hållbar byggd miljö, 7,5 högskolepoäng

Diffusion of Innovations for a Sustainable Built Environment, 7.5 credits

Main field of study
Civil Engineering, Energy Technology

Subject Group
Building Technology

Level of classification
Second Level

Progression
A1N

Date of Ratification
Approved by Faculty of Technology 2017-12-18
The course syllabus is valid from autumn semester 2018

Prerequisites
General entry requirement for second-level studies.

Objectives

On completion of the course the students should be able to:

- Describe and reflect on the causes of climate change according to the Intergovernmental Panel on Climate Change (IPCC),
- Explain the sociotechnical change process and the concept of innovation system, and be able to describe and reflect on the various factors that influence the diffusion of innovations,
- Analyze potential adopters' decision-making process, identify different categories of "adopters", identify and critically evaluate different attributes that can affect diffusion of an innovation,
- Critically evaluate the intervention strategies that can be applied to support the diffusion of resource-efficient innovations.

Content

The course deals with factors influencing diffusion of innovations and how they can be promoted for a sustainable built environment. Specific aspects include:

- Overview of climate change, and energy use in the world in comparison with Europe
- Systems of innovation and sociotechnical change processes

- Innovativeness of the construction industry
- Theories of environmental behaviour
- Adopter categories, attributes of innovation, and rate of adoption
- Intervention strategies

Type of Instruction
The teaching consists of lectures, seminars and project work.

Examination
The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail.

Evaluation of the student's performance is carried out in the form of an individual written examination, presentations and a project work in a group. In the final grade equal weight is given to written examination (50%) and project work (50%).

Course Evaluation
During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Credit Overlap
The course cannot be included in a degree along with the following courses of which the content fully, or partly, corresponds to the content of this course: 4BT011, 7.5 credits

Other
Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

The course is offered in English.

Required Reading and Additional Study Material
Required reading

1. Rogers, Everett M., 2003. Diffusion of Innovations, 5th edition, Free Press, New York. 512p. ISBN-13: 978-0743222099.

2. Tidd, Joe, 2010. Gaining Momentum: Managing the Diffusion of Innovations, Series on Technology Management: Volume 15, Ch. 1 and 11, Imperial College Press, London. ISBN-13 978-1-84816-354-6.

3. Fagerberg, Jan, Mowery, David.C. and Nelson, R.R. (eds.), 2006. The Oxford Handbook of Innovation, Oxford University Press, pp. 1-27 and pp. 181-208. ISBN-13: 978-0199286805.

4. Steg, Linda, Van Den Berg, A.E., and De Groot, J.I.M., 2013. Environmental Psychology: an introduction, British Psychological Society and John Wiley & Sons, Ltd, Ch. 18, 21, 22, 23. ISBN-13: 978-0470976388.

5. Geels, F.W., 2002. Technological transitions as evolutionary reconfiguration process: a multi-level perspective and a case study, Research Policy, 31, 1257-1274.

The literature list is supplemented with recent articles and other relevant material.