School of Economics and Management

# INFN25, Informatics: IT, Innovation and Sustainability, 7.5 credits

*Informatik: IT, innovation och hållbar utveckling, 7,5 högskolepoäng*

**Second Cycle / Avancerad nivå**

## Details of approval

The syllabus was approved by The Board of the Department of Informatics on 2013-09-20 and was last revised on 2024-09-18. The revised syllabus comes into effect 2025-03-15 and is valid from the autumn semester 2025.

## General information

The course is compulsory within the Master's Programme in Information Systems.

*Language of instruction:* English

| *Main field of study* | *Specialisation* |
|---|---|
| Informatics | A1N, Second cycle, has only first-cycle course/s as entry requirements |
| Information Systems | A1N, Second cycle, has only first-cycle course/s as entry requirements |

## Learning outcomes

The objective of this course is for the student to achieve a profound understanding of the relationship between Information Technology (IT), innovation and sustainability. The student will acquire theoretical knowledge about each of these areas, with specific relation to Information Systems (IS) research. The student will also, on completing this course, be able to employ this knowledge for designing, planning and evaluating artefacts and guidelines of Green IT. Moreover, the student will be introduced to a wide range of empirical examples and real world cases, where sustainability and IT are important.

### Knowledge and understanding

To pass the course, the student must demonstrate knowledge of and understanding of

- essential perspectives on technology, information technology, innovation, sustainability, corporate social responsibility, user innovation, and open source
- the social, economical and political nature of defining sustainability and innovation
- the social, economical and political aspects of shaping, developing and implementing IT
- the relationship between ISD (Information Systems Development), sustainability and innovation
- key IS/IT drivers for sustainability
- how IS/IT is used to accommodate sustainability (such as Green IT, telematics, and logistics)
- how Green IT is planned, designed and developed

## Competence and skills

To pass the course, the student must demonstrate competence and skills individually or in groups to

- develop and evaluate guidelines for sustainable IS/IT
- plan and critically assess organisational initiatives to become more sustainable
- argue, both orally and in writing, for different positions on sustainability and innovation based on theoretical perspectives and current debates
- develop concrete and executable plans for the implementation of IT innovation
- evaluate existing guidelines and artefacts of Green IT
- plan and evaluate new models and methods for design of Green IT

## Judgement and approach

To pass the course, the student must demonstrate the ability to

- analyse and discuss the relationship between IS/IT, sustainability and innovations
- critically assess particular IT-artefacts (and cases) with regard to their environmental and social impact
- assess critically and constructively various arguments for and against sustainability and innovation
- creatively collaborate with 'real world' cases
- reflect on their individual progress
- critically relate to 'cutting edge' research and development in the field of IS/IT and sustainability
- discuss and analyse different positions on business ethics and corporate social responsibility
- critically address the way in which corporations relate to and integrate questions of sustainability

## Course content

The course will address central themes related to IT, innovation and sustainability. It will do so by studying and analysing literature, news articles and empirical examples. In addition, the student will be introduced to a number of central theoretical perspectives, including accounts on corporate social responsibility and business ethics.

The following topics will be covered:

- theories of technology and IT
- perspectives dealing with technology, economy and innovation
- historical and current debates on sustainability
- business ethics, Green IT, Corporate Social Responsibility
- design perspectives on innovation and Green IT
- development, planning and evaluation of existing examples of Green IT
- 'real world' cases and examples where Green IT and sustainable solutions have either succeeded or failed
- the complex network of interest groups and how these influence the development and distribution of Green IT

## Course design

The teaching consists of seminars, workshops, lectures and guest lectures.

## Assessment

The assessment is based on assignments, essay and seminars.

Re-examinations are offered in close conjunction with the first examination.

The test and course grades are determined by the course examiner. The examiner is entitled to change the grades given by the teachers on the course if this does not violate Chapter 6, Section 24 of the Higher Education Ordinance (1993:100).

*Academic misconduct* such as cheating, plagiarism, fabrication and falsification is considered a serious offence in higher education (see Chapter 10 of the Higher Education Ordinance). The disciplinary measures that may be taken as a result of such offences are caution or suspension for a limited period of time from the university (and all the faculties of the university).

*Examinations*

- Assignments and Presentations, 2.5 cr, grading scale: U-G, group examination
- Essay, 4.0 cr, grading scale: U-A, individual examination
- Seminars, 1.0 cr, grading scale: U-G, individual examination

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

## Grades

Grading scale includes the grades: U=Fail, E=Sufficient, D=Satisfactory, C=Good, B=Very Good, A=Excellent

**Grade** (Definition) Points or percentage out of maximum points. Characteristic.

**A** (Excellent) 85-100. A distinguished result that is excellent with regard to theoretical depth, practical relevance, analytical ability and independent thought.

**B** (Very good) 75-84. A very good result with regard to theoretical depth, practical relevance, analytical ability and independent thought.

**C** (Good) 65-74. The result is of a good standard with regard to theoretical depth, practical relevance, analytical ability and independent thought and lives up to expectations.

**D** (Satisfactory) 55-64. The result is of a satisfactory standard with regard to theoretical depth, practical relevance, analytical ability and independent thought.

**E** (Sufficient) 50-54. The result satisfies the minimum requirements with regard to theoretical depth, practical relevance, analytical ability and independent thought, but not more.

**U** (Fail) 0-49. The result does not meet the minimum requirements with regard to theoretical depth, practical relevance, analytical ability and independent thought.

To pass the course, the student must have been awarded the grade of E or higher.

### Grading rules and definitions

*Examination grades*

Examinations are graded according to the grading scale U-A or the grading scale U-G (Fail-Pass).

*Course grade*

A passing grade on all examinations is required to pass the course.

1. For each examination with the grading scale U-A, the obtained points are multiplied by the number of credits for the examination. Grades without points are converted as follows: A = 92, B = 80, C = 70, D = 60, E = 52.
2. The products of the included examinations are summed up and divided by the total number of credits of the included examinations.
3. This results in a weighted average which determines the course grade. 85–100 gives the grade A, 75-84 gives the grade B, 65-74 gives the grade C, 55–64 gives the grade D, 50–54 gives the grade E.

Examinations with the grading scale U-G are not included in the calculation of the course grade.

## Entry requirements

Admission to the course requires English 6 as well as the courses: ”Informatics: Introduction to Information Systems, 1-30 cr”, ”Informatics: Information Systems and Business Development, 31-60 cr” and "Informatics: Bachelor Degree Project, 15 cr" and further 15 cr informatics/information systems at Bachelor level or the equivalent.

## Further information

It is compulsory to attend the introduction meeting, where a roll call will be taken. Absence without notification means that the admitted student will lose their seat on the course.

For transitional provisions with regard to previous courses, please contact the study advisor for an individual assessment.

If the course is discontinued, there may be limited opportunities for re-examination. Please contact the study advisor for information.