UNIVERSITY OF BORÅS

Trends in Informatics
Trender inom informatik
7.5 credits

Ladok Code: 22TR1D
Version: 7.1
Established by: Committee for Education in Librarianship, Information, and IT 2021-05-25
Valid from: Autumn 2021

Education Cycle: Second cycle
Main Field of Study (Progressive Specialisation): Informatics (A1N)
Disciplinary Domain: Natural sciences
Prerequisites: Bachelor's degree in Informatics or equivalent.
Subject Area: Informatics/Computer and Systems Sciences
Grading Scale: ECTS-credits

Content
The course presents elements of research and practice in the field of informatics. Students study selected scientific publications in the field of informatics. In order to gain experience about informatics from researchers and practitioners in the field, students participate in a number of research seminars. In addition, students gain a broad overview of IT applications and their development within different segments of society, future trends in the development of IT applications, as well as the role of informatics in sustainable development including ethics. The course covers:

- Research areas in Informatics
- Evolution of IT applications within different segments of society
- Emerging IT applications within different segments of society
- Future trends of IT applications within different segments of society
- The role of informatics in sustainable development including ethics

Learning Outcomes
Upon completion of the course the student is expected to:

Knowledge and understanding
1.1 explain various key areas of research in informatics
1.2 discuss informatics research environment and nature
1.3 participate in discussions concerning informatics research in practice and in relation to sustainable development and ethics
1.4 explain patterns in the evolution of IT applications within different segments of society
1.5 explain major emerging IT applications within different segments of society
1.6 explain future trends of IT applications within different segments of society

Competence and skills
2.1 independently accomplish a comparative academic study, related to the connection between research, practice, and sustainable development,
2.2 report their own limited study
2.3 critically examine and evaluate scientific articles within the field of Informatics, as well as
2.4 assess the connection between the evolution of IT applications in society, major emerging IT applications and future trends of IT applications.

Judgment and approach
3.1 demonstrate a critical approach to both own and others' research results, as well as to the impact of research in the field of informatics and sustainable development,
3.2 reflect and critically analyze how sustainable development and sustainability work in society is affecting both research and practice in the field of IT from different perspectives (social, economic, environmental)

3.3 reflect and critically analyze how research and practice in Information Technology can contribute to sustainable development and sustainability from different perspectives (social, economic, environmental).
3.4 demonstrate the ability to critically assess developments and trends in IT applications from different perspectives

Forms of Teaching

The teaching consists of seminars and lectures on research and professional issues and sustainability. The teaching includes a project in which students independently seek empirical material to be analyzed and set against the research presented during the course, including related material on sustainability. The result of the project is presented in the form of a qualified research report on the last seminar, which is in the form of a scientific conference

The language of instruction is English.

Forms of Examination

The course is examined through:

- Submission 1: Written report of the project
Learning outcomes 1.1-1.6; 2.1-2.4; 3.1-3.4
Credits: 4.0
Grading scale: A/B/C/D/E/Fx/F

- Submission 2: assessment of scientific articles
Learning outcomes 2.3., 3.1.
Credits: 2.5
Grading scale: UG

- Oral examination: Presentation and discussion
Learning outcomes 2.2, 3.1, 3.4
Credits: 1.0
Grading scale: UG

For a passing grade (A-E) on the entire course, the grade Pass (G) is required on *Submission 2* and *Oral examination* together with at least grade E on *Submission 1*. A higher grade on the entire course is thereafter determined by the grade on *Submission 1*.

The Oral examination can be replaced with another form of examination if a student fail to get a passed mark in the oral presentation or if the student fail to participate in the presentation during the course delivery schedule.

If the student has received a decision/recommendation regarding special pedagogical support from the University of Borås due to disability or special needs, the examiner has the right to make accommodations when it comes to examination. The examiner must, based on the objectives of the course syllabus, determine whether the examination can be adapted in accordance with the decision/recommendation.

Student rights and obligations at examination are in accordance with guidelines and rules for
the University of Borås.

Literature and Other Teaching Materials

The course literature is in English.

Zander, J., & Mosterman, P. J. (Eds.). (2014 or the most recent version). Computation for humanity: Information technology to advance society. CRC Press. (Approximately 510 pages)

Relevant scientific articles about current research, practice and sustainability, searched by the student as part of the examination (Approximately 50 pages)

Student Influence and Evaluation

The course is evaluated in accordance with the current guidelines for course evaluations at the University of Borås, where students' views should be sought. The course evaluation report will be published and disseminated to participating and prospective students in accordance with the current guidelines, and forms the basis for future development of courses and training programs. The course coordinator is responsible for that the evaluation is performed according to current guidelines.

Miscellaneous

The course is given at the Master Programme (One Year) in Informatics - Data-driven IT Management