UNIVERSITY OF BORÅS

# System Analysis and Design
## Systemanalys och design
7.5 credits

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**Ladok Code:** 21SD1A
**Version:** 2.0
**Established by:** The Teaching Committee 2015-09-29
**Valid from:** Autumn 2015

**Education Cycle:** First cycle
**Main Field of Study (Progressive Specialisation):** Informatics (G1N)
**Disciplinary Domain:** Natural sciences
**Prerequisites:** Basic eligibility.
**Subject Area:** Informatics/Computer and Systems Sciences
**Grading Scale:** Seven-degree grading scale (A-F)

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### Content

- Foundations of systems development
- Systems Development Processes
- Management of systems development projects
- Structured analysis
- Structured design of data
- Object-Oriented Analysis and Design
- Design of user interfaces
- Implementation and Maintenance

The course starts with lectures on the principles, methods and techniques of systems development. These are followed by lectures on the steps and phases in systems development in which students in parallel with the lectures is implementing a project. The project work is documented, presented and discussed by an opponent group at a seminar.

### Learning Outcomes
The course's overall objective is that the students should acquire an overview of principles, methods and techniques of systems development, and gather experience from a development project in which a specific development method is used.
After completing the course the student is expected to be able to:

*Knowledge and understanding*
1. explain the principles, methods and techniques of systems development
2. elaborate on the application areas for different types of methods
3. explain the problems relating to systems development
4. describe the differences between turn-key systems and systems developed by the organisation
5. describe the various stages of a phased systems analysis method
6. explain, from a system theoretical viewpoint, how systems development is perceived
7. discuss principles, methods and techniques for systems development with persons without specialized knowledge in this area

*Skills and abilities*
8. use a phased system development methodology to implement a systems development project
9. collaborate with other students to jointly implement a systems development project
10. analyse and model organizational work
11. identify and describe different types of objectives for businesses and organisations
12. analyse and describe processes

13. describe a complete, new system in terms of processes and data structures

*Values and perspectives*
14. show an understanding of how the values a system development methodology is based on can affect the resulting system
15. demonstrate an understanding of the uncertainties that different users may have when it comes to introducing a new information system in an organisation
16. critically reflect on the completed system development project

## Forms of Teaching

Lectures, seminars, tutorials and group work in project form. The course is taught in Swedish, except for international students and students taking the Business Informatics with specialisation in International Marketing and IT programme, for whom it is taught in English. The literature is in English.

## Forms of Examination

The examination for the course consists of the following mandatory parts:

- Group assignment: A systems development project, to be examined as a written report (goals 9-13) as well as a written reflection (learning outcomes 8 -16). Ponts: 3.0. Grading Scale: UG
- Examination of group assignment: Presentation and defense of own work and oral and written opposition of another group's work at the final seminar (learning outcomes 7, 9, 13, 15-16). Points: 1.0. Grading Scale: UG
- Written exam (learning outcomes 1-7, 14-15). Points: 3.5. Grading Scale: AF

  For the grade Passed on the course as a whole, Passed is required on all parts. The final grade is set according to the grade on the exam, which is set according to the ECTS (A-F).

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

## Literature and Other Teaching Materials

Hoffer, Jeffrey A., George, Joey & Valacich, Joseph (2013) *Modern Systems Analysis and Design*
ISBN: 9780273787099 (paperback).

Lecture Notes and compendia.

## Student Influence and Evaluation

The course is evaluated in accordance with the school's guidelines, in which students' views will be obtained. The results of the evaluation will be published and fed back to participating and prospective students in accordance with the school's guidelines, and will provide the basis for future course and program development.

## Miscellaneous

The course is for the Business Informatics with specialisation in International Marketing and IT, Systems Science, Business Informatics and Computer and Systems Science as well as for the Master programmes in Informatics. The course is also provided as a stand-alone course.