School of Economics and Management

SYSB23, Informatics: Information Systems and Business Development, 30 credits

Informatik: Informationssystems- och verksamhetsutveckling, 30 högskolepoäng

First Cycle / Grundnivå

Details of approval

The syllabus was approved by The Board of the Department of Informatics on 2023-12-06 and was last revised on 2025-06-05. The revised syllabus comes into effect 2026-03-15 and is valid from the autumn semester 2026.

General information

The course is compulsory within the Bachelor's Programme in Design of Information Systems. It is also given as a freestanding course.

Language of instruction: Swedish and English
The course is given in Swedish but there may also be teaching in English. The course literature is mainly in English.

Main field of study	*Specialisation*
Information Systems	G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements
Informatics	G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements

Learning outcomes

In this course, the student deepens their knowledge, and further develops their skills, in business and information system (IS) development, with a particular emphasis on understanding and applying process and data modelling to capture and manage business requirements. This knowledge and these skills are then used in business development and in the design, development, and realisation of information systems. Enterprise architecture is used as a structure for this development so that the development is in line with the strategies and functions of the business.

In addition, the student learns to identify and manage security threats to businesses and information systems, and to implement protective measures for businesses' data and information. A large part of the work during the course is conducted in project form and in groups. Through this approach, the student develops an in-depth knowledge of project work within IS development and develops skills in this form of work.

Knowledge and understanding

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

- the relational model for data management and its advantages and disadvantages as a basis for relational database management systems for data and information management in businesses
- conceptual and logical data modelling, database design and implementation of relational databases as part of IS as well as tools for these
- tools for the automation and/or support of transaction-intensive activities
- basic concepts and models in economics, strategy, management and their relevance to IS and business development
- enterprise architecture as a structure for business development
- standard frameworks as a manifestation of enterprise architecture
- basic components of process models
- process modelling as part of enterprise architecture
- cyber attacks against organisations, how the attacks work, how they can be avoided, their consequences and how their consequences can be mitigated
- authentication, authorisation, access control and how these can work to improve information security in an organisation
- information security related to privacy in the processing of personal data in organisations

Competence and skills

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

- conduct an analysis of a business with focus on persistent information storage needs
- apply conceptual data modelling to capture business requirements related to persistent information storage
- realise a database design by transforming a conceptual data model
- use techniques for storage retrieval and protection of data
- use techniques to counteract cyber attacks, such as injection attacks, against relational database management systems
- apply and account for the use of artificial intelligence techniques in the development and realisation of IS
- describe and analyse a business's strategy and management, and strategic objectives

- design and present enterprise architecture-related models and plans as a basis for dialogue on change in businesses
- apply process modelling for the development of IS and business
- apply simple decision modelling for the development of IS and business
- create, interpret and analyse process models
- apply risk management techniques to identify and prioritise risk factors for information assets in businesses
- describe security requirements important to the design and development of information systems and business
- communicate problems and solutions both orally and in writing
- write a report, including own reflections, describing a development work in the form of an IS project
- discuss and reason about central areas and issues based on the course literature

Judgement and approach

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

- analyse and evaluate the suitability of a data model to meet an organisation's persistent data storage needs
- analyse and assess a changed process from the perspectives of efficiency, benefits and impact on staff
- analyse and assess plans for a project and the internal process of a working group
- assess information systems from a safety and risk perspective
- evaluate and reflect on the ethical implications of the development and implementation of IS, with a focus on integrity and impact on the individual, organisation, and society
- independently reflect on their own learning process and assess their own change process and outcome attainment

Course content

The course includes:

- database design
- process modelling and decision modelling
- enterprise architecture
- strategy and management control systems
- information systems security
- responsible business development
- information systems project

Modules

- Databases
- Business Process Management
- Enterprise Architecture
- Strategy and Management Control Systems
- Information Systems Security
- Responsible Business Development
- Information Systems Project

Course design

The teaching consists of lectures, lessons, seminars, and laboratory exercises.

Assessment

The assessment is based on on-campus written exams, presentations, an information systems project report and written assignments.

Assessed components including documentation and written reflections are compiled in the student's learning portfolio.

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

- Databases, On-Campus Written Exam, 3.0 cr, grading scale: U-A, individual examination
- Databases, Assignments, 4.0 cr, grading scale: U-A, group examination
- Business Process Management, On-Campus Written Exam, 3.0 cr, grading scale: U-A, individual examination
- Business Process Management, Assignments, 3.0 cr, grading scale: U-A, group examination
- Enterprise Architecture, On-Campus Written Exam, 2.0 cr, grading scale: U-A, individual examination
- Strategy and Management Control Systems, On-Campus Written Exam, 2.0 cr, grading scale: U-A, individual examination
- Information Systems Security, On-Campus Written Exam, 2.0 cr, grading scale: U-A, individual examination
- Information Systems Security, Assignments, 3.0 cr, grading scale: U-A, group examination
- Responsible Business Development, Seminar, 1.0 cr, grading scale: U-G, individual examination

- Information Systems Project, Report, 6.0 cr, grading scale: U-A, group examination
- Mandatory Assignments and Learning Portfolio, 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 general requirements as well as the course "Informatics: Introduction to Information Systems, 1-30 cr" or the equivalent.

Further information

SYSB23 may not be included in a degree together with SYSB13 or the equivalent.

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 adviser for an individual assessment.

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