

Industrial Systems, 5 credits

Industriella system, 5 högskolepoäng

Course code:	FOID006
Third-cycle subject:	Industrial Systems
School:	IDT
Valid from:	240701
Established by:	Dean of School
Decision date:	240628
Last modified:	240628
Level of education:	Third cycle level

Course objective

The aim of the course is to give the doctoral student an introduction to and understanding of the research area Industrial Systems. Furthermore, the course includes an in-depth study where the doctoral student can relate his/her own research to the research area.

Course content

The course concerns the development of sustainable products, production systems, services and associated digital technology in Industrial Systems. The course has an interdisciplinary focus with elements from both computer science and product and production development. Furthermore, the course has an engineering perspective and addresses the investigation of opportunities, challenges and solutions related to both adaptation, integration and introduction of technology as well as organizational and management issues in industrial systems. The course also introduces selected working methods, methods, models, techniques and tools for the development of industrial systems.

Intended learning outcomes

1. Overall insight and understanding of the field of Industrial Systems, its leading challenges, and related technological development.
2. Ability to identify and formulate how the own doctoral project relates to and contributes to research in the field of Industrial Systems.
3. In-depth knowledge in a specific defined area of Industrial Systems and the ability to present this in writing and orally.

The intended qualitative targets in relation to the Higher Education Ordinance, appendix 2.

Knowledge and understanding

For the Degree of Doctor, the doctoral student shall demonstrate:

- A1: broad knowledge and systematic understanding of the research field as well as advanced and up-to-date specialised knowledge in a limited area of this field, and

Competence and skills

For the Degree of Doctor, the doctoral student shall demonstrate:

- B1: the capacity for scholarly analysis and synthesis as well as to review and assess new and complex phenomena, issues, and situations autonomously and critically,
- B5: the ability to identify the need for further knowledge, and

Teaching formats

The course consists of lectures, seminars and literature studies.

Examination

SEM1: Seminar, 2 credits, (examines intended learning outcomes 1-3)

INL1: Assignment, 2 credits, (examines intended learning outcomes 2-3)

OBN: Compulsory attendance, 1 credit, (examines intended learning outcomes 1-3)

In case of absence, OBN is supplemented with a written assignment of 1 credit, (examines intended learning outcomes 1-3)

Grade

Examinations included in the course are assessed according to a two-grade scale, fail or pass.

Grades are to be decided by a teacher specially appointed by the university.

A person who has not passed the regular examination shall be given the opportunity to retake the test.

Requirements

To participate in the course and the examinations included in the course, the applicant must be admitted to doctoral studies at Mälardalen University.

Specific entry requirements

- Research focus relevant in the field of Industrial Systems.

Selection criteria

Doctoral students admitted to other subjects at Mälardalen University may be admitted to the course, subject to availability. The same applies to doctoral students admitted to other higher education institutions. Selection of applicants will be made in accordance with the ranking below

1. Doctoral students in Industrial Systems
2. Doctoral students at Mälardalen University
3. Doctoral students at other universities

Transitional and other provisions

Depending on the language of the doctoral students, the course may be held in Swedish or English.