JÖNKÖPING UNIVERSITY
School of Engineering

COURSE SYLLABUS

Innovative Production Systems Development, 7.5 credits

Utveckling av innovativa produktionssystem, 7.5 högskolepoäng

Course Code:	TUIN18	Education Cycle:	First-cycle level
Confirmed:	Feb 18, 2025	Disciplinary domain:	Technology
Valid From:	Sep 01, 2025	Subject group:	Industrial Engineering and Management
		Specialised in:	G2F First cycle, has at least 60 credits in first-cycle course/s as entry requirements
		Main field of study:	Industrial Engineering and Management

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and understanding

- display knowledge of operations strategy formation
- display knowledge of intraorganisational strategic alignment as well as strategic consensus within operations
- display knowledge of content of a production system
- display knowledge of the production system development process and its relation to the innovation process
- display knowledge of innovations management
- display knowledge of what impact digitalisation has on a strategic as well as operative level in production systems

Skills and abilities

- demonstrate skills of describing, defining and comparing production processes
- demonstrate skills of assessing production systems from an innovations perspective
- demonstrate the ability to present and discuss information, problems and solutions for production systems in speech and in writing

Judgment and approach

- demonstrate the ability to account for a system perspective on production system and its relevance for the competitiveness of manufacturing companies.

Content

The course provides insights and understanding about the production system, its development and abilities suitable for various production situations in a global and volatile environment.

The course includes the following elements:

- Introduction to operations strategy and the need for and relevance of different production solutions
- Structure and contents of the production system
- Design of sustainable production systems including systems and process perspective, production philosophies and layout
- Innovation management and its relation to production systems design and management
- Different technological choices' effect on the production system
- Production system development in a global perspective

Type of instruction

Lectures, seminars, exercises and project work.

Language of instruction is in English.

Entry requirements

General entry requirements and completed courses 100 credits in first cycle and at least 15 credits in Mathematics and completed course Principles of Sustainable Supply Chain Management, 6 credits. Proof of English proficiency is required (or the equivalent).

Examination and grades

The course is graded 5, 4, 3 or U.

Registration of examination:

Name of the Test	Value	Grading
Examination [1]	3.5 credits	5/4/3/U
Project	3 credits	G/U
Seminar	1 credit	G/U

[1]Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

Please note that changes may be made to the reading list up until eight weeks before the start of the course.

Bellgran, M. and Säfsten, K. (2010), Production Development - design and operation of production systems, Springer-Verlag, London. Available online.