UNIVERSITY OF SKÖVDE

COURSE SYLLABUS

Production System Design G2F

6 credits

Course code: PR501G
Version number: 6
Valid from: 1 July 2022
Ratified by: Curriculum Committee for Engineering Science
Date of ratification: 6 December 2021

1. General information about the course

The course is provided by the University of Skövde and is named Production System Design G2F (Produktionsystemdesign G2F). It comprises 6 credits and is a first-cycle course. The level of progression is G2F.

The course is a part of the main field of study in Industrial Engineering. The disciplinary domain of the course is Technology.

2. Entry requirements

The course has the following entry requirements: passed PR312G Manufacturing Engineering and Materials Science G1F and passed BV315G Sustainable Development for Engineers II G1F and attended PR505G Applied Operations Research G2F (or the equivalent).

3. Course content

The course is about development and implementation of production systems based on different production strategies. The student will learn about different production strategies and factors which affects the selection of production strategy. The student will learn to specify a production system and generate, analyse and evaluate alternative production solutions where sustainability is one crucial parameter. One part of the course is methods and tools for generation of alternative solutions and their evaluation including management of uncertain requirements. The process for procurement and validation of an installed production system is treated based on a case study and applicable standards.

4. Objectives

After completed course the student should be able to:

- argue for different production strategies and motivate the selection of one,
- argue for how the production system affects sustainability from the three perspectives of economic, social, and ecological sustainability,
- create alternative production strategies and evaluate them based on given and estimated conditions,
- demonstrate ability for creative and critical thinking,
- compare different methods and tools for the design of a production system.

5. Examination

The course is graded A (Excellent), B (Very good), C (Good), D (Satisfactory), E (Sufficient) or F (Fail).

The examinations of the course consist of the following modes of assessment:

- **Written report**
  4 credits, grades: A/B/C/D/E/F (determines the final grade)
- **Oral presentation**
  2 credits, grades: G/U

Students with a permanent disability who have been approved for directed educational support may be offered adapted or alternative modes of assessment.

6. Types of instruction and language of instruction

The teaching is comprised of lectures and group assignments.

Depending on the study period, the language of instruction may be Swedish or English. Even if the teaching is conducted in Swedish, some English may still occur.

7. Course literature and other educational materials

Bellgran, M. & Säfsten, K. (2005). Produktionsutveckling: Utveckling och drift av produktionssystem. (1:a uppl.) Lund: Studentlitteratur AB. ISBN 9144033605.

or

Bellgran, M., Säfsten, E. K. (2014). *Design and Operation of Production Systems. Production Development*. (1) London: Springer-Verlag. ISBN 9781447157496.

ebook
Bellgran, M., Säfsten, E. K. (2010). *Design and Operation of Production Systems. Production Development*. (1) London: Springer-Verlag. URL: DOI 10.1007/9781848824959 ebook ISBN 9781848824959.

Material provided digitally.

8. Student influence

Student influence in the course is ensured by means of course evaluation. The students are informed about the results of the evaluation and potential measures that have been taken or are planned, based on the course evaluation.

9. Additional information

Further information about the course, as well as national and local governing documents for higher education, is available on the website of the University of Skövde.