



LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Global produktrealisering International Product Realisation

MMTN10, 7,5 credits, A (Second Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED M

Date of Decision: 2023-04-11

General Information

Elective for: I5-pr, M5-prr, MD5, MPRR2

Language of instruction: The course will be given in English on demand

Aim

The course will enhance the understanding of running production under different cultural, economic and technological conditions. The knowledge will be strengthened in terms of technical analysis and economic evaluation in conjunction with offers and pricing for the manufacture of products with high tolerance requirements. Furthermore, the knowledge and understanding of location decisions of production will be strengthened. The course will include industrial challenges connected to sustainability, competitiveness, recycling, relation between OEM and suppliers, automation levels and monitoring and control.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- master and apply the basic production economy principles to assess the cost of production of a given component.
- be able identify critical manufacturing operations for the manufacture of a component with respect to the shape, dimension tolerances including measure chains, surfaces and properties.
- be able to assess the technical and economic conditions in order to manufacture a product or component under specified conditions including different cultures, technical level, level of education and recruitment opportunities.

- be able to compare and evaluate production conditions.

Competences and skills

For a passing grade the student must

- be able to assess the feasibility of an offer regarding given technological and economic conditions.
- be able to identify production risks that may be associated with delivery and set quality standards.
- from a technical and economic perspective be able to compare the conditions of production in different industrial regions in an international perspective.
- be able to assess the conditions and give recommendations on the location of production to a region under given conditions.
- in group be able to cooperate with persons with different competence and education.
- be able to analyse and summarize texts within relevant subject areas.

Judgement and approach

For a passing grade the student must

- be able to give advice on decisions in offering and procurement issues regarding the own production conditions.
- be able to give advice on decisions in strategic issues of an organization's development.

Contents

The course is modular and includes:

- Structural analysis for manufacturability based on industrial case studies. Assessment and analysis of technical procurement including tender work.
- Manufacturability and tolerance costs based on industrial case studies.
- Calculation of cost - performance index for tools, workpiece materials etc.
- Strategies and principles for production location.
- International and domestic production cultures, conditions and opportunities. The module is performed in collaboration with representatives from different countries.
- Industrial visits and case studies, including pre-studies.
- Report and presentation of findings from industrial visits within a focus area
- Home examination, which shall be regarded as an important part of learning.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: Written home examination with possible oral supplementation, assignments and reports (written, in some cases including oral presentations). Presence at guest lectures and national and/or international field trips is part of the 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.

Admission

Admission requirements:

- MMTN05 Flexible manufacturing systems, advanced course or MMTN06 Sustainable manufacturing systems, advanced course or MMT045/MMTN30 Flexible manufacturing systems and MMT031/MMTN25 Production technology or MMTN31 Sustainable manufacturing systems and MMT031/MMTN25 Production technology or MMT045/MMTN30 Flexible manufacturing systems and MMT220/MMTN40 Metal cutting, advanced course or MMTN31 Sustainable manufacturing systems and MMT220/MMTN40 Metal cutting, advanced course
- MMTN05 Flexible Manufacturing Systems, Advanced Course
- MMTN06 Sustainable Manufacturing Systems, Advanced Course

The number of participants is limited to: No

Reading list

- Jan-Eric Ståhl and Christina Windmark: Sustainable Production Systems - the link between technology and economy with a global perspective. Studentlitteratur, 2022.
- Supplementary course material compiled by the department.

Contact and other information

Course coordinator: Christina Windmark, christina.windmark@iprod.lth.se

Further information: The course includes a number of study visits. Mandatory attendance at the majority of study visits. The study visits can be both national and international and take place during day time during the course and continuously for several days. Travel and housing expenses are covered and not paid by the students.