



LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Produktionsteknik Production Technology

MMTN25, 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

Main field: Production and Materials Engineering.

Compulsory for: MPRR1

Elective for: I4-pr, M4-prr, MD4

Language of instruction: The course will be given in English

Aim

The manufacturing industry today is characterized by a demand for rapid technology transformation, at the same time as the manufacturing processes becomes more and more knowledge based. After the course, the student should be able to manage manufacturing work, communicate with machine tool suppliers, material suppliers and tool suppliers at an advanced level, in order to be able to integrate key information and to control technology transformation, primarily directed towards machining operations.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- individually and in writing, be able to describe how a cutting tool should be designed, regarding tool geometry, tool material and functionality.
- individually be able to evaluate causes for process disturbances and tool degradation, and be able to suggest changes in choice of tools and process data, and changes of tool material.
- be able to integrate knowledge of work material, tool material, machine tools and process data, in order to, in one's own words; suggest changes due to process disturbances.

- be able to relate and combine information on the work materials analysis and structure, to various calculations and analyses of the process results, in writing and in group.

Competences and skills

For a passing grade the student must

- in group, be able to perform a technology setup for a given part to be machined, regarding choice of tooling from tool suppliers, and design of the process.

Contents

The course contains, except from special knowledge, also useful general knowledge about for example tool and workpiece material, measurement techniques and programming.

The course contains one experimental exercise per week, where a lot of laboratory work is performed by the students in order to gain valuable practical knowledge.

Main course content: Machining principles and equipment with focus on the metal cutting process. Choice of tools, tool material and cutting data for processes like turning, milling, drilling and grinding. Machine tool design and control.

Examination details

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

Assessment: Written examination, home exam, written assignments and compulsory experimental exercises.

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

Assumed prior knowledge: MMT012/MMTF20 Production and Manufacturing Methods or MMTA05 Production Systems and FKM015/FKMA01 Materials Engineering, Basic Course.

The number of participants is limited to: No

Reading list

- Course material compiled by the department.

Contact and other information

Course coordinator: Universitetslektor Mats Andersson, mats.andersson@iprod.lth.se

Course homepage: <http://www.iprod.lth.se>