



Course syllabus

Faculty of Technology

Department of Mechanical Engineering

1MT002 Tillverkningssteknik, 7,5 högskolepoäng

1MT002 Manufacturing Techniques, 7.5 credits

Main field of study

Mechanical Engineering

Subject Group

Mechanical Engineering

Level of classification

First Level

Progression

G1F

Date of Ratification

Approved 2013-01-28

Revised 2020-09-23 by Faculty of Technology. Literature list is revised.

The course syllabus is valid from spring semester 2021

Prerequisites

General entry requirements and Mathematics 3c, Physics 2 or Mathematics D, Physics B (Field-specific entry requirements 8/A8). Introduction to Machine engineering, 7,5 hp or equivalent.

Objectives

After completing the course the student shall be able to:

- explain the product manufacturing by plastic processing, plastic workability of materials, and process impacts on product properties
- explain the product manufacturing by machining, by casting, and other available engineering methods
- describe the principles of machines and tools
- perform, analyze and interpret engineering measurements
- conduct theoretical and practical manufacturing based on numerical control of manufacturing machine.

Content

The course includes the following elements:

- forming of solid substances, rolling, tensioning, forging and pressing
- forming and cutting of plates
- methods of cutt machining
- grinding and polishing methods
- non-mechanical processing methods, machines and tools
- industrial measuring systems like gauge blocks, sine rulers etc.
- numerically controlled machines, their systems principles, programming, and their area of applications.

Type of Instruction

The course consists of lectures, laboratories, and exercises. Some parts of the course requires compulsory attendance. Information about the compulsory parts will be given at the beginning of the course.

Examination

The course is assessed with the grades U, 3, 4 or 5.

Assessment of student performance takes place during special exam periods and is usually written. In order to receive a passing grade the student must pass the laboratory work.

Repeat examination is offered in accordance with Local regulations for courses and examination at the first and second-cycle level at Linnaeus University.

If the university has decided that a student is entitled to special pedagogical support due to a disability, the examiner has the right to give a customised exam or to have the student conduct the exam in an alternative way.

Course Evaluation

During the implementation of the course or in close conjunction with the course, a course evaluation is to be carried out. Results and analysis of the course evaluation are to be promptly presented as feedback to the students who have completed the course. Students who participate during the next course instance receive feedback at the start of the course. The course evaluation is to be carried out anonymously.

Required Reading and Additional Study Material

Required reading

Hågeryd, Lennart, m. fl. Modern Produktionsteknik del I, Liber, 2018, ISBN 978-91-47-11343-9. 495 pages

Jarfors, A. E. W. m. fl. Tillverkningssteknologi, Studentlitteratur, 2010, ISBN 978-91-44-07039-1. 637 pages

Reference Literature

Eriksson Nils-Olof, m.fl. Verkstadshandboken, Liber, 2014, ISBN 978-91-47-11541-9