

SYLLABUS

Manufacturing Technology

6.5 credits B0007T

Tillverkningssteknik

Course syllabus admitted: Autumn 2012 Sp 1 - Spring 2013 Sp 4

DECISION DATE
2012-04-03

Manufacturing Technology 6.5 credits B0007T

Tillverkningssteknik

First cycle, B0007T

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	G U 3 4 5	Maskinteknik	Mechanical Engineering

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Materials testing, 3 ECTS-credits

Selection

The selection is based on 1-165 credits.

Examiner

Lennart Wallström

Course Aim

After completed course the student should be able to:

- Have basic understanding of different manufacturing methods for making details in metallic materials;
- Account for selection of manufacturing method concerning casting, plastic and chipless machining cutting working;
- Account for the advantages of extrusion
- Account for plastic forming and non-cutting working of sheet details
- Account for production-units and methods for cast details;
- Account for the influence on the environment of the casting technology.

Contents

Basic theories for plastic working particularly with emphasis on extrusion. The construction of the extrusion press and its parts. The shape of the matrix and different lubricants at cold respective hot extrusion.

Basic theories for plastic forming and non-cutting working of sheet details

Survey of different methods for casting. Manufacture of models and moulds. The characteristics of cast metal during melting, casting and solidifying. Solidification at different casting methods. Foundations for shape and dimensioning of ingate and feeder. Directions for construction of castings. The characteristics of cast material. The construction of the foundry and the environmental aspect.

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

Lectures and calculation exercises.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Written examination and approved assignments.

Remarks

The number of opportunities to be examined in order to obtain approval is limited to five. The course is included in the University certificate education 120 HEC and in the Bachelors education 180 HEC

Literature. Valid from Autumn 2012 Sp 1

Fredriksson, Hasse. (1986) Metallers gjutning. Stockholm: (KTH Institutionen för metallers gjutning)..
Formningshandboken, utgåva 2 1998
Compendium: Sprutning.

Course offered by

Department of Engineering Sciences and Mathematics

Items/credits

No items/credits available

Syllabus established

by Dept TVM Mats Näsström 2012-04-03