

SYLLABUS

Metallic Materials and Forming, introduction course 7.5 credits T0002T

Metallbearbetning och formgivning, grundkurs

Course syllabus admitted: Autumn 2007 Sp 1 - Spring 2010 Sp 4

DECISION

The syllabus was established by the Department of Applied Physics and Mechanical Engineering 2007-02-28, and remains valid from autumn 2007.

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First cycle, T0002T

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G#	Materialteknik	Materials Technology

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 MPB025.

Selection

The selection is based on final school grades or Swedish Scholastic Aptitude Test.

Course Aim

After completion of the course the student will have:

- a good view over the theory for plastic deformation/forming
- knowledge about the relationship between structure and materials properties
- knowledge about the use of the different metallic materials
- the ability to understand handbooks and standards

Contents

Repetition: Basic materials science; The periodical system; The formability of precious metals and their alloys; Crystallography. Simple dislocation theory. Melting, casting, rolling, forging, wire drawing; Joining: Welding and soldering. Different solder alloys; Mechanical manufacturing; Surface modifications. Grinding and polishing. Electrochemistry; Electrolysis, electroplating. Laser technology; Cutting, drilling, welding and engraving of precious metals by laser.

Realization

The education will be INTERNET-based lectures (distance education), laborations, case studies and practical exercises. Participation in the laboratory work and case studies is compulsory.

The laboratory work will explain the relationship between structure and properties of precious metals as a function of the amount of alloying elements.

Examination

Several small, written examinations after every part. For "pass" the completion of laboratory work and case studies is required.

Remarks

Those, who have not participated at the first two lectures, will lose their places.

Overlap

The course T0002T is equal to MPB026

Literature. Valid from Autumn 2007 Sp 1

Erhard Brepohl: Theory and Practice of Gold and Silver Smithwork
Compendium Ltu with hand-out notes, etc.

Course offered by

Department of Engineering Sciences and Mathematics

Items/credits

Number	Type	Credits	Grade
0001	Kontrollskrivning	3	U G#
0002	Assignment	4.5	U G#

Syllabus established

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