



Course syllabus

Faculty Board of Science and Engineering
School of Engineering

1MT016 Produktionsteknik, 7,5 högskolepoäng
Production Technology, 7.5 credits

Main field of study

Mechanical Engineering

Subject Group

Mechanical Engineering

Level of classification

First Level

Progression

G1F

Date of Ratification

Approved by the Board of the School of Engineering 2012-11-12

Revised 2012-06-26. Review of contents, objectives and literature.

The course syllabus is valid from spring semester 2013

Prerequisites

General entry requirements and Physics B, Mathematics D. Materials Science, 7,5 credits and Quality Management, 7,5 credits or similar.

Objectives

After the course students should be able to:

describe the product formation by different fabrication methods such as:

- casting,
- plastic processing,
- cutting processing,
- bonding,
- describe the management system, the mindset and the philosophy is the foundation of Toyota's successes,
- describe various Lean Tools that can be used in all businesses and organizations
- describe how the right combination of philosophy, processes, personnel and problem-solving tools can create a Lean and learning organization,
- describe the management system, the mindset and the philosophy behind the production philosophy LEAN,
- describe different Lean tools that can be used in all businesses and organizations,
- describe how these tools and methods combine to create a Lean and learning organization.

Content

The course covers the following topics:

Casting:

- sand casting,
- shell molding
- die casting
- powder metallurgy
- plastic processing
- methods for metal cutting

Grouting:

- welding
- solder
- sizing

Lean Production:

- introduction to the philosophy of the Toyota Way
- principles of Lean
- the methods and tool box of Lean.

Type of Instruction

The teaching consists of lectures, laboratory work and exercises. Participation in the course laboratory work is compulsory.

Examination

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

On request, students may have their credits translated to ECTSmarks.

Such a request must be sent to the examiner before the grading process starts.

The assessment of student performances is usually written and normally takes place during special examination periods. The assessment may also be based on submitted presentations of laboratory work and assignments.

Course Evaluation

When the course has finished, an evaluation is compiled. The results are reported to the students and then archived according to the rules of the school.

Required Reading and Additional Study Material

Required reading

Jarfors E. W. mfl, *Tillverkningssteknologi*, Studentlitteratur, Lund, ISBN 978-91-44-01581-1, 400 sidor.

Jeffrey K Liker, *The Toyota Way*,

Liber, Upplaga: 1, ISBN13: 9789147089024, Antal sidor: 376

Toyota Way (Valda delar)

Mike Rother & John Shook *Lära sig se Lean* Forum ISBN: 978-91-974-1361-9

Part Media *Lean, gör avvikelser till framgång* ISBN: 978-91-633-2796-4

Lean Forum *Lean Handbok för Service och tjänster* ISBN: 978-91-633-2564-9

Reference Literature

Eriksson Nils-Olof, mfl. *Verkstadshandboken*

Liber AB, Malmö, ISBN 978-91-47-01402-6

Hågeryd, L. m. fl

Modern Produktionsteknik del I

