Linnæus University

Course syllabus

Faculty Board of Science and Engineering
School of Engineering

4MT002 Grundläggande systemutveckling, 7,5 högskolepoäng
Fundamentals of Systems Engineering, 7.5 credits

Main field of study
Mechanical Engineering

Subject Group
Mechanical Engineering

Level of classification
Second Level

Progression
A1N

Date of Ratification
Approved by Organisational Committee 2009-12-07

The course syllabus is valid from autumn semester 2010

Prerequisites
Basic eligibility for postgraduate studies, English B, as well as a successfully completed university education in Civil Engineering , Mechanical Engineering, Total Quality Maintenance or bachelor degree in Systems Development.

Expected learning outcomes

After completing the course the student is expected to:
have gained a deeper understanding of the correlation between the System Definition Phase and improved system robustness.

- understanding of important tools as Requirement Management and trade-off analysis, Conceptual Development, and the creation of Functional, Physical and Operational Architectures.
- knowledge of other non-technological systems.
- understand that the concept "Systems Engineering" is a powerful development aid especially applied on complex products, functionalities and systems.

Content

The course aims to:

- present a general methodology that from all Stakeholders needs will create a balanced System Specification of the

System under construction, i.e. specify the optimal system.

- emphasize that this system not only will have good operational behaviours but will also fulfil stated goals for availability and maintainability over its entire life cycle. It will meet the demands on cost and time to market as well.

Type of Instruction

The teaching consists of lectures, submitted assignments, and exercises.
Information about obligatory course elements will be provided at the beginning of the course.

Examination

The course is assessed with the grades U,3,4 or 5.
On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

The assessment of student performances is based on submitted case studies and written examinations.

Course Evaluation

A written course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The course evaluation will be filed at the department

Other

The course is offered in English if there are international participants. It can also be tailored to fit the needs of students
from corporations.

Required Reading and Additional Study Material

Required reading
Buede, Dennis M., *The Engineering Design of Systems, 2nd edition*, Wiley Inter Science USA, ISBN 0-470-16402-0, 516 pages.

Additional material presented during lectures will be available on the Student Portal for free download.