MF2045 Engineering Research Methodology 9.0 credits

Ingenjörsvetenskaplig forskningsmetodik

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for MF2045 valid from Spring 2010

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

CDEPR4, CFAST4, CFATE4, CDATE4, CINEK4, TIPUM, TIPDM, TAEEM

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The course gives an overview of contemporary scientific and industrial development trends within the areas of engineering design and industrial design. Scientific methods of working including both research ethics and research methodology are treated both on a general level and on the level of specific research directions. Scientific writing, reviewing and presentation are highlighted and trained. Making use of research for the benefit of industry and soceity, in particular innovation aspects and entrepreneurial activity are introduced.

After graduation from the course the student should be capable to:

1. Summarize and on an overview level discuss important issues and trends within the actual research area.

2. Write a scientific artcile within a limited topic but with a quality such that the article could be accepted for presentation on an engineering research workshop.

3. Review and give constructive critisism and feedback on a scientific article written by a fellow student.

4. Create a scientifically sound and from an egineering point of view reasonable and well documented plan for a Master thesis project of excellent quality.

Course contents

The course is given in the form of seminars presented by internal and external research staff and by industrial professionals, as well as of course by all the students. The seminars mirror the course goals as stated above. Each student writes and presents a scientific arcticle, reviews and gives constructive feedback on one or more of his/her colleague's articles.

Course literature

To be decided

Examination

- PRO2 - Project Work 2, 3.0 credits, grading scale: P, F
- PRO1 - Project Work 1, 3.0 credits, grading scale: P, F
- PRO3 - Project Work 3, 3.0 credits, grading scale: P, F

Based on recommendation from KTH’s coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

1. 80% presence

2. Written and presented scientific article

3. Review and feedback on article(s) written by fellow students

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.