Linnæus University

Jnr: 2019/4029-3.1.2.2

Course syllabus

Faculty of Technology
Department of Mechanical Engineering

4MT323 Vetenskapsmetodik II, 5 högskolepoäng
Scientific Methodology II, 5 credits

Main field of study
Mechanical Engineering

Subject Group
Mechanical Engineering

Level of classification
Second Level

Progression
A1N

Date of Ratification
Approved by Faculty of Technology 2019-12-06
The course syllabus is valid from autumn semester 2020

Prerequisites
General entry requirements for secondcycle studies and specific entry requirements:

- Bachelor of Science in Technology, Engineering or Mathematics
- 7.5 credits Solid Mechanics, Structural Mechanics or equivalent and 15 credits Mathematics (Calculus, 7.5 credits/Vector Geometry 7.5 credits) or equivalent
- English B/6 or equivalent.

Objectives
After the course the student is expected to:

- comprehensively explain the purpose of basic scientific concepts
- identify, formulate and describe scientific problem
- comprehensively describe, compare and reflect on the pros and cons of different scientific methods to collect quantitative and qualitative data
- explain different frameworks for theory building

Content
The course covers the following topics:

- Investigation of epistemological and methodological approaches in engineering science
- Structuring and writing a scientific text according to an international standard for scientific publishing
- Presentation and discussion of relevant scientific problems in engineering science

Type of Instruction
The course consists of lectures and seminars.

Examination
The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Examination is done through oral seminar (2 credit P/F) and written report (3 credits A-F). Grade P is required at the seminar and at least grade E on the report. The final grade is determined from the report.

Repeat examination is offered in accordance with Local regulations for courses and examination at the first and second-cycle level at Linnaeus University.

If the university has decided that a student is entitled to special pedagogical support due to a disability, the examiner has the right to give a customised exam or to have the student conduct the exam in an alternative way.

Course Evaluation
During the implementation of the course or in close conjunction with the course, a course evaluation is to be carried out. Results and analysis of the course evaluation are to be promptly presented as feedback to the students who have completed the course. Students who participate during the next course instance receive feedback at the start of the course. The course evaluation is to be carried out anonymously.

Credit Overlap
The course cannot be included in a degree along with the following courses of which the content fully, or partly, corresponds to the content of this course: 4TS011, 5 credits and 4BY363, 5 credits.

Other
Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material

Björklund, Maria & Paulsson, Ulf (2014). Academic papers and theses to write and present and to act as an opponent. Studentlitteratur. Latest edition. 152 pages

Chalmers, Alan F. (2013). What is This Thing Called Science?, Maidenhead: Open University Press/McGraw-Hill Education. Latest edition. 316 pages

Hoffman, Angela. (2011). Thinking and Writing in Academic Contexts. Studentlitteratur latest edition. 160 pages

Literature provided by the department.