

Course syllabus

Kandidatarbete i numerisk analys Bachelor Project in Numerical Analysis

FMNL01, 15 credits, G2 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: Faculty Board for Education

Date of Decision: 2023-04-27

General Information

Main field: Technology. **Depth of study relative to the degree requirements:** First cycle, has at least 60 credits in first-cycle course/s as entry requirements, contains degree project for Bachelor of Arts/Bachelor of Science.

Elective for: D3, E3, F3, Pi3

Aim

The aim of the degree project is for the student to develop and demonstrate the knowledge and skills required to exploit in an independent manner the knowledge acquired during the course and apply this to a problem in engineering.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- demonstrate a knowledge and understanding of engineering including the scientific bases of engineering and knowledge about appropriate methodologies in the chosen field of the discipline.

Competences and skills

For a passing grade the student must

- demonstrate an ability to critically, independently and creatively identify, formulate and handle relevant issues with a holistic view,
- demonstrate an ability to identify, formulate and solve a problem in the chosen field in an independent and creative manner within a given time period,

- be able to independently identify relevant sources of information, evaluate the relevance of this information and apply the correct conventions of documentation, and
- demonstrate an ability to clearly present and discuss his/her conclusions and arguments behind them, orally and in writing.

Judgement and approach

For a passing grade the student must

- demonstrate an ability to assess his/her own degree project and those of other students with due regard to relevant artistic, scientific, social and ethical aspects.

Contents

The degree project is an independent project. It is to be executed individually or in groups of two.

The degree project comprises:

- a document describing the goals of the degree project
- a written report in either Swedish or English and with a summary in English;
- an oral presentation of the degree project at a public seminar at the Faculty of Engineering; and
- an oral critical review of another student's degree project at the public seminar where it is presented.

The document describing the goals of the degree project is to be written at an early stage and must be approved by all supervisors and the examiner. It is to include a description of the problem to solve. The document is also to include a general description of the approach, choice of method, resource requirements and time needed.

The written report is to describe the degree project and its findings. If the degree project is carried out as a group, the contribution of each student must be clearly discernible.

The report is to be made available in a form suitable for examination at least one week before the seminar, which is to be timetabled at some point between 15 August and the Monday of Midsummer week with the exception of the period 22 December - 6 January.

The oral critical review is to be based on a fellow student's written report when it is presented at a public seminar. The author's degree project should be at the same level or higher. One degree project can be reviewed by more than one student.

Examination details

Grading scale: UG - (U,G) - (Fail, Pass)

Assessment: Written and oral examinations.

The assessed components are to demonstrate that the student has attained the learning outcomes. For a pass on the degree project, the student must have passed all assessed components within 6 months, unless there are valid reasons. The report is a public document. The assessment may not be based on classified information.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

Admission requirements:

The student may commence work on the degree project when he/she has successfully completed at least 120 higher education credits in completed courses from year 1-3, at least one Level 2 course, which can count towards his/her Bachelor degree. In order to commence work on the degree project, the student must demonstrate appropriate knowledge in the field of study covered by the project. It is the responsibility of the examiner to ensure that this requirement is satisfied before work can begin.

Reading list

- The course literature and other teaching material that is to be used is to be approved by the supervisor with due consideration taken of the nature of the degree project assignment.

Contact and other information

Examiner: The examiner must be a member of academic staff at Lund University who holds a Licentiate, and be appointed by the head of department. The examiner should not act as a supervisor.

Course homepage: <http://www.maths.lu.se/utbildning/numerisk-analys/master-bachelor-theses/>

Further information: One or several supervisors shall be appointed for each degree project. At least one of the supervisors (the principal supervisor) must be an employee of Lund University and hold at least a degree of Master of Science or the equivalent. In addition to the principal supervisor, assistant supervisors may be appointed. The supervisors will provide continuous supervision throughout the work on the project and are to ensure that, among other things, it is possible for the student to complete the project within a period of 10 weeks of full-time study. The student can only request supervision for a period of no more than 6 months.

The student is responsible for registering his or her passed degree project in LUP Student Papers. The degree project is then approved in LUP by the department. The department is responsible for filing the report.

More information is available at <https://www.student.lth.se/english/masters-students/degree-project/>.