

SYLLABUS

Project in Engineering Physics and Electrical Engineering - Computational Methods and Physics 15 credits F7050T

**Projekt teknisk fysik och elektroteknik, inriktning beräkningsteknik
och fysik**

Course syllabus admitted: Autumn 2023 Sp 1 - Present

**DECISION DATE
2021-02-17**

Project in Engineering Physics and Electrical Engineering - Computational Methods and Physics 15 credits F7050T

Projekt teknisk fysik och elektroteknik, inriktning beräkningsteknik och fysik

Second cycle, F7050T

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	U G#	Fysik	Physics

Entry requirements

At least 210 hp completed of the degree requirements as well as the following specialisation courses, M7018M Applied Mathematics, C7005M Numerics for Optimisation and PDE, F7024T Multiphysics, simulation and computation, and F7035T Statistical Physics and Thermodynamics.

Selection

The selection is based on 30-285 credits

Course Aim

In the course, the student solves an unstructured problem of a research and development nature by e.g. modelling, programming and use scripting tools. The student learns to use basic principles from previous courses to solve a practical problem within the specialization computational physics and technology. The course includes practical training in terms of presentation techniques and the ability to collaborate in groups.

After completing the course, the student should be able to perform:

- Practical application of simulation tools.
- Present their results orally and in a report.
- Assessment of the possibilities and limitations of technology, its role in society and people's responsibility for how it is used, including social and economic aspects as well as environmental, work environment and gender equality aspects.
- Give constructive criticism of others' work and presentations.
- Orally present technical report and reflect on one's own and others' presentation techniques.

Contents

Course content is specified, by the examiner, at the relevant course opportunity in a detailed course description that contains a problem formulation within the technology area for each project. Exact content is dependent on the current project.

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

Execution of projects within technical physics and electrical engineering with the aim that participants with complementary competencies will collaborate and acquire the basic knowledge and skills required to work in research and development projects.

The project work is carried out with the help of supervisors whose work is focused on providing support and structure in the students' own acquisition of knowledge and skills. It is normal to have regular meetings with supervisors at which the student group presents their progress and discusses the project. Lectures related to work in the project may occur.

Within the framework of the course, oral presentations take place normally on two occasions in front of everyone who attends the course. These occasions are at half-term when peer assessment of the students is also done, and another in connection with the end when the project presents orally and the project report is completed. Deviations may occur.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.

The completed project work is presented in the form of written reports, oral lectures and a final report at LTU and in the event of industrial participation at the participating industrial company. The participants conduct a peer review of each other's presentations. In addition, the teacher group will conduct oral review meetings as well as individual conversations which can be grade-based. Final grades are given based on the participant's participation and contribution to the project.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Overlap

The course F7050T is equal to F7042T

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Project Work	U G#	15	Mandatory	A18	Yes

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Head Faculty Programme Director Niklas Lehto 2021-02-17

Syllabus established

by Mats Näsström 2018-02-15