SYLLABUS

Project in Manufacturing Engineering, B 7.5 credits T0015T

Projektkurs B

Course syllabus admitted: Autumn 2023 Sp 1 - Present

DECISION DATE
2021-02-17

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LULEÅ TEKNISKA UNIVERSITET

Project in Manufacturing Engineering, B 7.5 credits T0015T

Projektkurs B

First cycle, T0015T

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	G U 3 4 5	Maskinelement	Mechanical Engineering

Main field of study

Energy Engineering

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Fundamental knowledge of physics, mathematics and machine elements.

Selection

The selection is based on 1-165 credits.

Course Aim

After finishing the course, the student should:

Knowledge and understanding

- Show knowledge and ability to participate in different parts of a development project; Idea, design, manufacturing and testing.
- Have developed knowledge in making mechanical drawings with computer aided design tools

Show ability to:

- Have trained in planning and implementing qualified tasks within given frameworks in project form
- Have developed skills and the ability to identify their need for additional knowledge in problem solving in project form
- Have practiced making simple dimensioning calculations
- Have insight into the planning and implementation of the manufacturing of machine components
- Have practiced in using previously acquired knowledge to achieve practical results.
- Be able to reflect on sustainability aspects (gender equality included) during the development of mechanical engineering systems.
- Have trained their ability to orally and in writing clearly present their conclusions in national contexts in the form of high-quality technical reports and oral presentations, as well as to be able to sell their ideas and results to managers, colleagues and others.

Judgement and approach

- Show insight into and ability for teamwork and collaboration in groups with different composition.
- Demonstrate the ability to evaluate which sustainability aspects (gender equality included) need to be taken into account when developing mechanical engineering systems

Contents

The course deals with the development of a mechanical engineering product and covers all stages from idea to manufacture. The work is carried out in a project group and all steps are supported by a supervisor in collaboration with the examiner. The project task ends with testing of a manufactured prototype based on the project group's developed design. The work is reported in a technical report.

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
Within the course, a larger project is carried out with 7-9 participants in each project group. 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 within the project. The teaching consists of recorded lectures on how a piston engine works, which is strongly linked to the project task, as well as on the production of mechanical drawings. Lessons are given in the handling of machines for cutting processing (lathe and milling) as well as lessons in support of the initial brainstorming when developing concepts. Skills trained during the course via lectures, lessons and project work are solution of complex and open problems, brainstorming, project work / collaboration, oral / written presentation, modeling in CAD, strength calculations, drawing production, and laboratory activities in the form of manufacturing and assembly / test run of mechanical components.

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 course is examined through a weighted grade based on all the components of the course. Course components that are graded are project presentations, technical report incl. mechanical engineering drawings, opposition to other groups' technical reports and final results on projects. Grading takes place according to grade scale U 3 4 5 and all included examination course components, as above, must be completed for the final grade on the course ".
Mandatory attendance at the two presentation occasions is a requirement for a final grade.

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 T0015T is equal to T0022T, MPR044, MTM061

Course offered by

Department of Engineering Sciences and Mathematics

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0005	Project work/assignmnets	G U 3 4 5	7.5	Mandatory	A16	

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

The syllabus was established by the Department of Applied Physics and Mechanical Engineering 2007-02-28, and remains valid from autumn 2007.