

**SYLLABUS**

# **Engineering Psychology 1**

## **7.5 credits P0054A**

**Teknisk psykologi 1**

**Course syllabus admitted: Autumn 2023 Sp 1 - Present**

**DECISION DATE**  
**2021-10-27**

# Engineering Psychology 1 7.5 credits P0054A

## Teknisk psykologi 1

### First cycle, P0054A

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G VG *	Psykologi	Psychology

### Main field of study

Psychology

## 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 30 credits completed courses with at least a passing grade in the subject psychology.

## Selection

The selection is based on 1-165 credits.

## Course Aim

Knowledge and understanding

*After completing the course, the student should be able to show knowledge and understanding:*

- For how theories in the subject of psychology can be applied to the interaction between human and technology
- For the interaction between human and technology based on human's cognitive abilities and limitations

Skills and abilities

*After completing the course, the student should be able to show the ability to:*

- Gather information in a problem concerning the interaction between human and technology through applicable methods and studies
- Evaluate and critically review information collected from studies
- Critically discuss phenomena and situations related to the interaction between human and technology
- Identify, describe, and solve problems related to the interaction between human and technology
- Orally and in writing present and discuss results from studies

Judgement and attitude

*After completing the course, the student should be able to show the ability to:*

- Make assessments of studies with regard to scientific and ethical aspects
- Make assessments of technology with regard to human and societal aspects
- Show insight into the role of technological development in society from a sustainable perspective

## Contents

The course is an application of the subject psychology, mainly cognitive psychology. The course deals with how the interaction between human and technology can be understood and developed from a psychological perspective, and how the interaction between human and technology is affected by and can be adapted to human abilities and limitations. More specifically, the course touches on how human information processing, perception, attention, memory, thinking, decision-making and stress levels affect the interaction between human and technology. The course also touches on current technological development in society, including automation, from a sustainable perspective for people and society.

The course introduces different methods for analyzing the usefulness of technical systems (eg SUS, cognitive walkthrough) as well as methods for examining human abilities and limitations in interaction with a technical product or in an environment with technical elements (eg cognition experiments, NASA-TLX).

## Realization

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

The teaching is based on self-study, lectures and laboratory assignments with oral and written presentation.

In order to achieve the course's goals regarding *knowledge and understanding*, the student should independently study the specified course literature and other literature provided during the course, as well as take part in lectures, recommended exercises and lecture materials.

In order to achieve the course's goals regarding *skill and ability*, the student should participate actively during laboratory assignments and in written and oral presentations. Laboratory tasks are performed both in groups and individually. Through laboratory assignments, the ability to collect and evaluate information is trained by using different methods and studies. Through laboratory assignments, the ability to identify, describe, solve and critically discuss problems and phenomena related to the interaction between human and technology is also trained.

In order to achieve the course's goals regarding *judgment and attitudes*, the student should actively participate in laboratory assignments, discussions and reflections and actively study the course literature. During laboratory assignments, the ability to assess studies based on scientific and ethical aspects is trained, as well as the ability to assess technology based on human and societal aspects. The ability to see the role of technological development in society from a sustainable perspective is trained through discussions and reflection.

Teaching resources are provided and some communication and submissions take place via the internet-based course platform Canvas. This means specific requirements for technical equipment and competence.

Some parts of the course may be given in English. Literature that is expected to be read in the course can be written in English.

## 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. *Knowledge and understanding* are examined through individual written examinations (5.0 credits, grading scale: U G VG). *Skills and abilities* as well as *judgement and attitudes* are examined through laboratory assignments with oral and written presentation (2.5 credits, grading scale: U G). Oral presentation takes place through presentations and discussions. Written presentation takes place through laboratory reports and reflections. Laboratory assignments are examined both in groups and individually. Some laboratory tasks and examinations have compulsory attendance. In the event of impediment, the mandatory attendance can be replaced by an equivalent assignment. All components of the examination must be completed for the final grade in the course.

## 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.

## Remarks

Students must register for the courses themselves, or contact HLT:s educational administration [eduhlt@ltu.se](mailto:eduhlt@ltu.se), not later than three days after the quarter commences. Failure to do so can result in the place being lost. This rule also applies to students with a guaranteed place.

Study guidance is available in the learning platform Canvas before the start of the course. You who are a new student will find all the information you need at [www.ltu.se/ny-student](http://www.ltu.se/ny-student). You who are already studying at Luleå University of Technology will find information about course start in the schedule on the student web or through the course room in the learning platform which you can reach at "Mitt LTU".

## Course offered by

Department of Health, Education and Technology

## Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0002	Written exam	U G VG *	5	Mandatory	A21	
0003	Laboratory assignments	U G#	2.5	Mandatory	A21	

## 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 Anna Öqvist, Director of Undergraduate Studies at the Department of Health, Education and Technology 2021-

10-27

## **Syllabus established**

Established by the Department of Human Work Sciences 2008-12-04.