

**SYLLABUS**

# **Philosophy of Science and Research Methodology 7.5 credits F0014P**

**Vetenskapsteori, forskningsmetodik och statistik**

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

**DECISION DATE  
2022-02-11**

# Philosophy of Science and Research Methodology 7.5 credits F0014P

## Vetenskapsteori, forskningsmetodik och statistik

### First cycle, F0014P

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G VG *	Filosofi	Philosophy

## 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

## Selection

The selection is based on 1-165 credits.

## Course Aim

By the end of this course, the student shall be able to:

- a. apply basic concepts of philosophy of science and give an outline of the conditions of science from different perspectives of philosophy of science,
- b. in general terms give accounts of research ethical principles and the ethical considerations that are linked to scientific practice,
- c. give an account of differences and similarities between qualitative and quantitative approaches to research, as well as the relation between scientific foundation and tested experience and its significance for the exercise of the profession,
- d. concretize and exemplify connections between research in the educational sciences and the practice of the teacher, as well as between subject matter didactics and methods of working within the corresponding field of research,
- e. describe within educational science commonly used methods for data collecting, data processing and data analysis, as well as identify methodological issues within each phase of the research,
- f. interpret and use information from databases, and from a statistical perspective examine reports and scientific texts that are relevant for school and education,
- g. perform a secondary data analysis with data from the databases of the National Agency for Education and international surveys in the area of education (TIMSS and PISA).

## Contents

- Concepts of and distinctions within philosophy of science
- The research process
- Methods for data collecting, data processing and data analysis
- Qualitative and quantitative approaches to research
- The methods of science in relation to subject matter didactics
- The practice of the teacher in relation to scientific foundation / tested experience
- Research ethics
- Elementary statistics

## Realization

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

## 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.

## 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.

## Transition terms

## Course offered by

Department of Health, Education and Technology

## Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0005	Methodology, Assignment report	U G#	1.5	Mandatory	S13	
0006	Statistics, Assignment report	U G#	1.5	Mandatory	S13	
0007	Theory of Science/Take-home examination	U G VG *	4.5	Mandatory	A21	

## Last revised

by Anna Öqvist, Director of Undergraduate Studies at the Department of Health, Education and Technology 2022-02-11

## Syllabus established

by Christer Wiklund, Head of the Department of Arts, Communication and Education 2011-04-08