

# Philosophy of Science and Research Methodology

Programme course

6 credits

Vetenskapsfilosofi och forskningsmetodik

TMQU14

Valid from: 2017 Spring semester

**Determined by**

Board of Studies for Industrial  
Engineering and Logistics

**Date determined**

2017-01-25

**Offered for the last time**

Spring semester 2021

**Replaced by**

TMQU48

## Main field of study

Industrial Engineering and Management

## Course level

Second cycle

## Advancement level

A1X

## Course offered for

- Industrial Engineering and Management, Master's programme

## Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

## Prerequisites

Admission requirements for Master programme.

## Intended learning outcomes

The course will provide the students with a foundation in philosophy of science and research methodology before their master thesis work. After completing the course, the student shall be able to:

- Search for articles in scientific databases
- Handle references and quotes in a correct manner
- Assess and discuss ethical questions in research
- Use central terms for discussing the scientific quality of research
- Assess the relevance of different research methods for different types of research
- Assess the quality of scientific articles within the area relevant for the student
- Write a scientific report

## Course content

Literature search, classification of research methods, case study methodology, survey methodology, mathematical modeling, simulation, scientific writing, referencing technique, philosophy of science, validity, reliability, ethics.

## Teaching and working methods

The course is based on lectures and seminars.

## Examination

UPG2	Written assignments	4 credits	U, G
UPG1	Active participation in seminars	2 credits	U, G

The final grade in the course is Pass/Fail.

## Grades

Two-grade scale, U, G

## Department

Institutionen för ekonomisk och industriell utveckling

## Director of Studies or equivalent

Björn Oskarsson

## Examiner

Martina Berglund

## Education components

Preliminary scheduled hours: 48 h

Recommended self-study hours: 112 h

## Course literature

Utvalda artiklar.

## Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at [http://stydokument.liu.se/Regelsamling/Innehall/Utbildning\\_pa\\_grund-\\_och\\_avancerad\\_niva](http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva).