



## COURSE SYLLABUS

# Research Methods, 6 credits

*Research Methods, 6 högskolepoäng*

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<b>Course Code:</b> TRMR28	<b>Education Cycle:</b> Second-cycle level
<b>Confirmed by:</b> Dean Feb 1, 2017	<b>Disciplinary domain:</b> Technology (95%) and social sciences (5%)
<b>Revised by:</b> Director of Education Oct 27, 2021	<b>Subject group:</b> TE9
<b>Valid From:</b> Jan 1, 2022	<b>Specialised in:</b> A1N
<b>Version:</b> 2	<b>Main field of study:</b> Product Development

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### Intended Learning Outcomes (ILO)

After a successful course, the student shall

Knowledge and understanding

- Display deepened methodological knowledge of the main field of study
- Display knowledge of key concepts in philosophy science
- Display knowledge of key concepts in research methodology

Skills and abilities

- Demonstrate good skills of independently formulating relevant research designs in the main field of study
- Demonstrate the ability to participate in research and development

Judgement and approach

- Demonstrate the ability to make judgments with regard to relevant scientific aspects and show awareness of ethical aspects of research and development in the major field of study
- Demonstrate an understanding of the possibilities and limitations of science, its role in society and people's responsibility for how it is used
- Demonstrate the ability to identify the own need of further knowledge and to take responsibility for the own knowledge development

### Contents

The course covers the basic concepts in philosophy of science as well as different research perspectives / approaches. The course also includes a specialization in research methodology in the main field of studies including various methodological approaches, the role of theory, data collection approaches, primary and secondary data, and literature search. The course also includes methods for the analysis of quantitative and qualitative data, the concepts of validity and reliability, critical review of own and others' work and ethical aspects of research including the implementation of anti-plagiarism guide. The knowledge developed during the course will also be applied on own work.

### Type of instruction

Lectures, exercises and assignments/project work.

The teaching is conducted in English.

### **Prerequisites**

The applicant must hold the minimum of a bachelor's degree (i.e the equivalent of 180 ECTS credits at an accredited university) with at least 90 credits in construction engineering or civil engineering, or equivalent. The bachelor's degree should comprise a minimum of 15 credits in mathematics. Proof of English proficiency is required.

### **Examination and grades**

The course is graded 5,4,3 or Fail.

Registration of examination:

<b>Name of the Test</b>	<b>Value</b>	<b>Grading</b>
Examination <sup>1</sup>	3 credits	5/4/3/U
Assignments/Project work	3 credits	U/G

<sup>1</sup> Determines the final grade of the course, which is issued only when all course units have been passed.

### **Course literature**

The literature list for the course will be provided 8 weeks before the course starts.

Preliminary:

Title: Research methods for students and professionals, 2nd ed.

Author: Williamson, K. (2002)

Publisher: Centre for Information Studies, Wagga wagga, NSW