



## COURSE SYLLABUS

# Research Methods and Communication, 6 credits

*Vetenskapligt arbetssätt och kommunikation, 6 högskolepoäng*

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| <b>Course Code:</b> TMC616             | <b>Education Cycle:</b> First-cycle level                             |
| <b>Confirmed by:</b> Dean Jun 21, 2017 | <b>Disciplinary domain:</b> Technology (95%) and social sciences (5%) |
| <b>Valid From:</b> Aug 1, 2017         | <b>Subject group:</b> TE9   |
| <b>Version:</b> 2                      | <b>Specialised in:</b> G1N  |
| <b>Reg number:</b> JTH 2017/2761-313   | <b>Main field of study:</b> Industrial Engineering and Management     |

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### Intended Learning Outcomes (ILO)

After a successful course, the student shall

Knowledge and understanding

- show familiarity of basic concepts and perspectives concerning the scientific method.
- display knowledge of how to conduct a scientific work containing problem definition, methodology, data collection, analysis of results and reference management.
- demonstrate comprehension of a scientific approach including critical review, transparent reporting, argumentative and referential basis of science.

Skills and abilities

- demonstrate the ability to critically assess scientific work results and relevance from stated objectives and used methods.
- demonstrate the ability to write a scientific report.
- demonstrate the ability to plan and conduct an oral and graphic presentation.

Judgement and approach

- demonstrate the ability to evaluate relevant scientific aspects.
- demonstrate an understanding of the importance to reproduce and use other people's material in a correct way.

### Contents

The course provides basic knowledge of the scientific method. In addition, the course provides the ability to critically examine scientific reports, and the skill to present reports and projects in writing as well as orally using appropriate computer tools.

The course contains the following elements:

- Scientific approach
- Problem definition
- Methods of data collection, processing, analysis and interpretation of data
- Reference management

- Critical review of scientific work
- Report structure
- Oral presentation skills
- Programs for word processing and graphic presentation
- Styles to create consistent documents

### Type of instruction

The course is conducted through lectures, assignments and seminars.

The teaching is conducted in English.

### Prerequisites

General entry requirements and Physics 1, Chemistry 1, Mathematics 3c or Physics A, Chemistry A, Mathematics D and English 6 or English B in the Swedish upper secondary school system or international equivalent (or the equivalent).

### Examination and grades

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

Registration of examination:

| Name of the Test                 | Value     | Grading |
|----------------------------------|-----------|---------|
| Written examination <sup>†</sup> | 3 credits | 5/4/3/U |
| Assignments and Seminars         | 3 credits | U/G     |

<sup>†</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 one month before the course starts.

Title: Doing your research project, a guide for first-time researchers, Ed: 6th

Author: Bell, J. & Waters, S. (2014)

The Interactive Anti-Plagiarism Guide, accessible via learning platform, PING PONG

Additional texts (maximum 150 pages) in the form of free internet resources may be added.

### Reference literature:

Title: Research Methods for Students and Professionals, Ed: 2nd

Author: Williamson, K (2002).

Publisher: Centre for Information Studies, Wagga wagga.

Title: Case Study Research, Design and Methods Ed: 5th

Author: Yin, Robert K (2014).

Publisher: SAGE Publications, Inc.

Title: Method for engineering students, Degree projects using the 4-phase Model

Author: Blomkvist, P. & Hallin, A. (2014)

Publisher: Lund, Studentlitteratur.

Titel: Business Research Methods 4th ed.

Author: Bryman, A och Bell, E (2015)

Publisher: Oxford University Press

ISBN: 9780199668649