1 Name, Scope and Level of the Course
The course is provided by the University of Skövde and is named Research Methodology and Communication A1N. It comprises 6 credits and is on advanced level. The level of progression of the course is A1N.

2 Objectives
After completed course the student should be able to:

- evaluate advance level scientific work/articles with regard to research methodology and ethics,
- explain and discuss key positions in the philosophy of science,
- describe and discuss the potential and limitations of science and its role in society,
- present and discuss important concepts, approaches and techniques used for planning, data collection and data analysis in a scientific investigation and
- argue for a relevant research approach for a given research problem within a specific area.

3 Course Content
This course will focus upon the use of methods for research about information and communication technologies. Designing and enquiry, methods for data collection, and dealing with data analysis and reporting will be taught and practiced.

By working with experimental design, surveys, evaluations, case studies, and fieldwork experiments students learn to apply research methodologies and to critically examine existing reports. The focus is on the following parts: read and critically evaluate reports, systematically approach research problems and examine results and understand the basic ideas through some underlying assumptions behind a report.

4 Forms of Teaching
The teaching comprises lectures, supervision, project work and seminars/group discussions.

The teaching is conducted in English.

5 Examination
The course is graded A (Excellent), B (Very good), C (Good), D (Satisfactory), E (Sufficient) or F (Fail).

The final grade is calculated as a weighted arithmetic mean value, where the value is an interpretation of the A-F scale onto a 4-0 scale, i.e. A=4, B=3, C=2, D=1, E=0, and the weighing is equivalent to the credits per course unit. The following formula is used:

\[(x*1.5+y*1.5+z*3)/6.0.\]

Example: Grade A (4) on Presentation (1.5 credits), grade B (3) on Written assignment (3 credits) and grade D (1) on Supervised written examination (3 credits) give the weighted arithmetic mean value of \((4*1.5+3*1.5+1*3)/6.0=2.25\), rounded to 2, results in the final grade C.

Registration of examination results:
<table>
<thead>
<tr>
<th>Name of examination</th>
<th>Credits</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>1.5</td>
<td>A/B/C/D/E/F</td>
</tr>
<tr>
<td>Written assignment</td>
<td>1.5</td>
<td>A/B/C/D/E/F</td>
</tr>
<tr>
<td>Supervised examination</td>
<td>written</td>
<td>3</td>
</tr>
</tbody>
</table>

1 This grade will represent $x$ in the formula for final grade.
2 This grade will represent $y$ in the formula for final grade.
3 This grade will represent $z$ in the formula for final grade.

Students with a permanent disability who have been approved for special educational support may be offered adapted or alternative examinations.

6 Admission Requirements
Prerequisite courses for this course are a Bachelor degree of at least 180 higher education credits (equivalent to 180 ECTS) within the fields of integrated product development or production engineering or automation engineering or mechanical engineering or information technology or similar.

A further requirement is proof of skills in English equivalent of studies at upper secondary level in Sweden, known as English course 6 / English course B. This is normally demonstrated by means of an internationally recognized test, e.g. IELTS, TOEFL or the equivalent.

7 Subject, Main Field of Study and Disciplinary Domain
The course forms a part of the academic subject area of Virtual Product Realization. The course is a part of the main field of study in Virtual Product Realization at the University of Skövde. The disciplinary domain of the course is Technology.

Every course at the University of Skövde belongs to a subject. The division of subjects is used for follow-up and quality assurance. A main field of study is an area in which a degree can be awarded. Disciplinary domain is a division which is used by the government for the allocation of resources for studies at basic level and advanced level.

8 Approval of Course and Course Syllabus
The course was approved by the Curriculum Committee for Engineering Science on 3 June 2019. This course syllabus was approved by the Curriculum Committee for Engineering Science on 3 June 2019. It is valid from 1 July 2019 and replaces the course syllabus approved 3 June 2019.

9 Overlapping with Another Course
This course cannot constitute a part of a degree also containing a course the content of which is totally or partly equivalent to the content of this course.

10 Additional Information
Further information will be available on the university’s website before a course is given.

National and local regulations for higher education are available on the university’s website.

Upon completion of the course there will be a follow-up. The main purpose of this follow-up is to contribute to improvements of the course. The students’ experiences and views constitute one of the criteria for the follow-up and are gathered by means of course evaluations. The students will be informed of the results of the follow-up and any decisions regarding actions that are to be taken.

11 Course Literature and Other Educational Materials

Research papers will be distributed at the lectures and seminars.