



Faculty of Arts and Social Sciences  
Information Systems

# Syllabus

## Scientific Theory and Methodology

<b>Course Code:</b>	ISAD12
<b>Course Title:</b>	Scientific Theory and Methodology <i>Vetenskapsteori och vetenskapsmetodologi</i>
<b>Credits:</b>	7.5
<b>Degree Level:</b>	Master's level
<b>Progressive Specialisation:</b>	Second cycle, has only first-cycle course/s as entry requirements (A1N)

**Major Field of Study:**  
IKA (Information Systems)

### Course Approval

The syllabus was approved by the Faculty of Arts and Social Sciences 2022-02-11, and is valid from the Autumn semester 2022 at Karlstad University.

### Prerequisites

90 ECTS credits in Information Systems, with at least 30 ECTS credits at the G2F level or higher, and upper secondary level English B, or equivalent

### Learning Outcomes

Upon completion of the course students should be able to:

1. give an account of and discuss basic theoretical assumptions and issues in terms of ontology and epistemology,
2. use basic theory of science concepts,
3. carry out and justify a research project based on qualitative as well as quantitative methods,
4. design, carry out, and report the result of a questionnaire, and
5. design, carry out, and report the result of an interview study.

**Content**

Basic theory of science and different research traditions:

- Basic theory of science, that is, principles of legitimating knowledge about different information systems problems
- Quantitative methods
- Qualitative methods

The aim of the course is for students to grasp theory of science basics and key theoretical concepts such as empiricism, phenomenology, hermeneutics, paradigm, systems theory and positivism, and acquire a fundamental understanding of different research methods. The overall objective is to promote an understanding of the place and role of science in society, and to provide students with the basics that they need for further studies of the scientific knowledge development in the information systems field.

Instruction is mainly in the form of seminars and supervision.

The examination comprises a written plan (at least 2500 words) for a research project which involves both quantitative and qualitative methods. The report should refer to the student's own pilot studies in terms of one quantitative and one qualitative data collection method for the research project.

**Reading List**

See separate document.

**Examination**

Assessment is based on an individual written report which is also presented orally in a seminar.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

**Grades**

One of the grades Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course.

**Quality Assurance**

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

**Course Certificate**

A course certificate will be provided upon request.

**Additional information**

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.