



Faculty of Health, Science and Technology  
Nursing Science

# Syllabus

## Scientific method in prehospital care

**Course Code:**

OMA412

**Course Title:**

Scientific method in prehospital care  
*Vetenskaplig metodik inom ambulanssjukvård*

**Credits:**

7.5

**Degree Level:**

Master's level

**Progressive  
Specialisation:**

Second cycle, has only first-cycle course/s as entry requirements (A1N)

**Major Field of Study:**

OMA (Nursing Science)

### Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2025-06-16, and is valid from the Spring semester 2026 at Karlstad University.

### Prerequisites

A Nursing degree of at least 180 ECTS credits, including a degree project of 15 ECTS credits, or a Bachelor degree in Nursing, plus upper secondary level Swedish 3 or Swedish as a second language 3 and English 6 or A, or upper secondary level Swedish level 3 or Swedish as a second language level 3 and English level 2, or equivalent

### Learning Outcomes

Upon completion of the course, students should be able to:

1. explain the relation of different science paradigms to research questions and problems, and their significance for selecting methods for research in nursing,
2. identify and apply various qualitative methods for research in nursing and assess their credibility,
3. identify and apply selected quantitative methods for research in nursing and assess their

validity and reliability,

4. identify different methods for literature study in nursing research and assess their credibility,
5. identify and reflect upon ethical issues and considerations in nursing research, and
6. identify possibilities for implementing research and development efforts in the field of nursing.

## **Content**

Instruction is in the form of lectures, assignments, and seminars.

This is a distance learning course using different forms of ICT, plus on-campus meetings.

The course covers the following:

- Theory of science, including science paradigms and methodology
- Research questions, research problems, and research design in relation to different science paradigms
- The most common qualitative methods (for instance qualitative content analysis, phenomenography, phenomenology, hermeneutics, and grounded theory), including similarities and differences, strengths and weaknesses
- In-depth study of data collection methods in qualitative research, including aspects such as selection, interviews, focus groups, and observations
- Examination of the credibility of qualitative research in terms of reliability, transferability, dependability, and confirmability
- Collection of qualitative data, plus analysis and report of result
- In-depth study of quantitative research design, experiment and other, intervention and implementation research in relation to selection, data collection, and analysis
- Assessment instruments used in research and in clinical practice
- Reliability and validity, and the most common risks that may result in decreased reliability and validity.
- Exercises in descriptive and analytical statistics (parametric and non-parametric statistical methods) (training in statistics software such as SPSS), and interpretation of the results
- The most common methods for literature study (such as systematic, integrative, and scoping), analysis and compilation of results
- Literature searches and search strategies in connection with a research project
- Assessment of the results of a literature search in terms of credibility
- Research ethical problems and considerations discussed in terms of legislation and regulations relevant to research in nursing
- Critical review of the relevance of research results for use in clinical practice, improvement efforts, and national guidelines

## **Reading List**

See separate document.

## **Examination**

Assessment is based on an individual written take-home exam discussed in a follow-up seminar.

The examiner may decide that a student who is very close to a passing grade can complete a supplementary assignment to receive a passing grade for a specific examination.

Additional examination material must be submitted within six days of notification. The supplementary assignment only is then assessed in accordance with the assessment criteria, and if it is insufficient, a grade of fail (U) will be given.

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.

As stipulated in the Higher Education Act Chapter 4, Sect. 6, SFS 1992: 1434, and Regulations of Student Expulsion from Higher Education SFS 2007: 989, a student who suffers from mental disorder, abuses alcohol or drugs, or has been guilty of a serious offence endangering others or valuable property can be expelled until further notice. In such a case, the Rector files a complaint to the Expulsion Board of Higher Education, which investigates the matter and makes a decision. A decision of expulsion shall always entail that the student must discontinue the education until further notice. The Expulsion Board of Higher Education is responsible for all Swedish higher education institutions.