



Faculty of Arts and Social Sciences  
Statistics

# Syllabus

## Introductory Statistics for Data Analysis

<b>Course Code:</b>	STGA16
<b>Course Title:</b>	Introductory Statistics for Data Analysis <i>Grundläggande statistik för dataanalys</i>
<b>Credits:</b>	7.5
<b>Degree Level:</b>	Undergraduate level
<b>Progressive Specialisation:</b>	First cycle, has only upper-secondary level entry requirements (G1N)

**Major Field of Study:**  
STA (Statistics)

### Course Approval

The syllabus was approved by the Faculty of Arts and Social Sciences 2024-02-22, and is valid from the Autumn semester 2024 at Karlstad University.

### Prerequisites

General admission requirements and upper secondary level Mathematics 3b, 3c, or B, or equivalent

### Learning Outcomes

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

1. compile the content of one or several variables and present it graphically,
2. calculate and interpret summarised statistical measurements,
3. use basic applications of regression and correlation,
4. understand the concept of probability and carry out basic calculations of probability,
5. explain the central limit theorem and apply it in practice,
6. define point estimates and give an account of some of their properties,
7. carry out basic statistical inference,
8. critically apply and evaluate different statistical methods, and
9. use the basic functions of software for statistical purposes.

### Content

The course covers different descriptive methods in statistics, both graphical and numerical, for one or several variables. An introduction to regression is included, as well as theoretical aspects on data collection and the considerations involved when a random selection is required in order to generalise results in relation to a population, and to understand the statistical uncertainty involved. Students also discuss and problematise how the critical application of different statistical methods depends on the context, and how different types of software can be used for statistical purposes.

### Reading List

See separate document.

### Examination

Assessment is based on a written exam and a written hand-in assignment completed in groups and discussed 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.