



Faculty of Economic Sciences, Communication and IT
Statistics

Syllabus

Course Approval

The syllabus was approved by the Faculty Board of Economic Sciences, Communication and IT on 13 June 2007, and is valid from the Autumn semester of 2007 at Karlstad University.

Course Code: STGA07

Statistics II, 15 ECTS Credits
(Statistik II, 15 Swedish credit points)

Degree Level: Bachelor

Progression Level: A

Language of Instruction

The language of instruction is Swedish.

Prerequisites

15 credits in Statistics plus upper secondary level Mathematics C.

Major Field of Study

Statistics

Learning Outcomes

The aim of the course is for the students to acquire in-depth knowledge of statistics, with an emphasis on statistical inference.

Upon completion of the course, students should have acquired:

- basic knowledge of so-called non-sampling error,
- in-depth knowledge of statistical hypothesis testing,
- skills in statistical techniques for comparing two or more populations (variance analysis),
- skills in statistical techniques for drawing conclusions from interdependent variables (simple and multiple regression),
- a basic understanding of the ways in which so-called inferential information can be used to reach stronger conclusions (stratified and quota sampling),
- a basic knowledge of elementary time-series analysis, quantitative prognosis methods, and index,
- a basic understanding of decision theory, and
- knowledge of a number of so-called non-parametric methods.

Content and Form of Instruction

The course covers the following subject areas:

Basic Statistical Inference

This module covers the way in which conclusions about a population can be drawn based on a random sample, as well as the way in which properties of two different populations can be compared on the basis of two random

samples.

Variance Analysis

This module covers generalisations of hypothesis testing for situations where there are more than two random samples.

Regression Analysis

This module covers methods for assessing and estimating connections between different variables. The emphasis is placed in linear models with one or more explanatory variables, but the module also includes a number of non-linear models.

Non-Parametric Models

This module covers a number of non-parametric methods, which can sometimes be used when the conditions required for applying traditional methods are not present.

Time-Serial Analysis

This module provides an introduction to prognosis methodology and different methods for organising a time series in components such as trend, tendency, season, and chance.

Reading List

See separate document.

Examination

Examination is in the form of written assignments (3 credits) and a final written exam (12 credits).

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 assessment is based on student views and experiences as reported in written course evaluations and/or group discussions. Students will be informed of the result of the evaluation and of the measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional Information

Students who enrolled before 1 July 2007 will complete their studies in accordance with the requirements of the earlier admission. Upon completion students may request degree and course certificates to be issued under the current ordinance if they meet its requirements.

The local regulations for studies at the Bachelor's and Master's levels at Karlstad University, ref. C2007/368, stipulate the obligations and rights of students and staff.