



Faculty of Arts and Social Sciences
Statistics

Syllabus

Multivariate methods I

Course Code:	STGB24
Course Title:	Multivariate methods I <i>Multivariata metoder I</i>
Credits:	7.5
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has less than 60 credits in first-cycle course/s as entry requirements (G1F)

Major Field of Study:
STA (Statistics)

Course Approval

The syllabus was approved by the Faculty of Arts and Social Sciences 2017-02-07, and is valid from the Autumn semester 2017 at Karlstad University.

Prerequisites

Statistics 30 ECTS cr

Learning Outcomes

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

- explain concepts and apply objects such as vectors, matrices, determinant, eigenvector and eigenvalue,
- give an account of basic theory on multivariate normal distribution, multivariate variance analysis, and multivariate regression,
- apply classification and discrimination methods such as cluster analysis and discriminant analysis, and
- carry out component analysis in the form of principal component analysis and factor analysis, and canonical correlation.

Content

The following components are treated:

- matrix algebra and multivariate normal distribution
- multivariate variance analysis and multivariate regression,
- cluster analysis and discriminant analysis,
- principal component analysis, factor analysis, and canonical correlation.

Applications are computer illustrated.

Reading List

See separate document.

Examination

Assessment is based on a written exam and individual hand-in assignments.

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.