



# ME1316 Quantitative Business and Operations Analytics 6.0 credits

Kvantitativ affärs- och verksamhetsanalys

This is a translation of the Swedish, legally binding, course syllabus.

## Establishment

On 2024-03-15, the Dean of the ITM School has decided to establish this official course syllabus to apply from autumn semester 2024 (registration number M-2024-0543).

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

45 first cycle higher education credits,

6 higher education credits in basic industrial engineering and management or in business administration,

Knowledge in probability theory and statistics equivalent to at least 6 higher education credits, for example by having participated in SF1918 Probability Theory and Statistics.

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

To provide the course participants applied knowledge of quantitative data analysis in different types of industrial activities. The aim is that the course participants should be prepared on completion of the course to both carry out analyses, interpret the results of these analyses and to critically review analyses completed by others.

After passing the course, the students should be able to:

1. Give an account of why and in what ways quantitative analyses are used in business operations.
2. Apply quantitative analytical methods on operational data such as production data, customer data and product data.
3. Interpret result of statistical analysis in an business context.
4. Give an account of assumptions and limitations in a completed analysis. This includes both analysis of data quality and the assumptions and limitations of the methods.

## Course contents

This course intends to give the students an understanding of how quantitative analyses can be used in business. In an increasingly digitalised world, it is predicted that the importance of these skills will increase. The course focuses on the application of statistical methods to carry out business and operations analyses based on large datasets. The course consists of two parts. Firstly, the students' ability to analyse and present data in an industrial context is developed. Secondly, the students' ability to critically review, both their own analyses and those of others, through discussions of limitations and assumptions, both in methods and in data.

The course is examined through attendance in seminars, group projects where the students carry out different forms of analyses and an individual examination.

## Examination

- SEM1 - Seminar assignment, 1.0 credits, grading scale: P, F
- INL1 - Assignment, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Exam, 2.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

## **Ethical approach**

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.