School of Economics and Management

DABN11, Data Analytics and Business Economics: Programming in R, 3.5 credits
Dataanalys och ekonomi: Programmering i R, 3,5 högskolepoäng
Second Cycle / Avancerad nivå

Details of approval

The syllabus is an old version, approved by The Board of the Department of Economics on 2020-09-15 and was valid from 2020-09-15 , autumn semester 2020.

General Information

This is a single subject master course in data analytics and business economics. The course is mandatory in the master programme Data Analytics and Business Economics. The course is optional within a number of master programmes at Lund University.

(Teaching may be in Swedish if all registered students have a good knowledge of Swedish.)

Main field of studies	*Depth of study relative to the degree requirements*
Data Analytics and Business Economics	A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

Knowledge and understanding
Students shall have an understanding of

- basic programming concepts, data structures, and statements and how to apply them in the R language,
- how to write and read a basic script written in R.

Competence and skills
Students shall have the ability to independently:

- convert basic algorithms into running R-code,

- write code that follow a proper code style,
- install and use R packages,
- debug and profile a basic R-script,
- navigate and build R-scripts using a modern integrated development environment.

Judgement and approach

Students shall have developed the ability to pursue further studies in the subject and should be able to search for and evaluate information with a high degree of independence. Students shall also have developed the ability to write an empirical report and critically assess the contents of reports of others.

Course content

The following topics will be covered in the course:

- basic programming concepts, data structures, conditional statements, functions, scope, and classes, as well as the basic R-syntax for these concepts,
- using built-in functions in R, such as "lm", "max" and "apply",
- creating own functions in R,
- using basic R data types, such as lists, vectors and matrices,
- using an integrated development environment, such as R-studio,
- basic debugging procedures,
- loading and using basic R-packages,
- using modern data manipulation packages, such as "dplyr".

Course design

1. Teaching: Teaching consists of lectures and exercises.

Assessment

1. Examination: The examination consists of online quizzes and home assignments that are peer reviewed. Other forms of examination may be used to a limited extent.

2. Limitations on the number of examination opportunities: –

The University views plagiarism and other academic dishonesty very seriously, and will take disciplinary action against students for any kind of attempted malpractice in connection with examinations and assessments. Plagiarism is considered to be a very serious academic offence. The penalty that may be imposed for this, and other unfair practices in examinations or assessments, includes suspension from the University for a specified period.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, E, D, C, B, A.
1. Grading:

A (Excellent) A distinguished result that is excellent with regard to theoretical depth, practical relevance, analytical ability, and independent thought.

B (Very good) A very good result with regard to the above-mentioned aspects.

C (Good) The result is of a good standard with regard to the above-mentioned aspects and lives up to expectations.

D (Satisfactory) The result is of a satisfactory standard with regard to the above-mentioned aspects and lives up to expectations.

E (Sufficient) The result satisfies the minimum requirements with regard to the above-mentioned aspects, but not more.

F (Fail) The result does not meet the minimum requirements with regard the above-mentioned aspects.

To pass the course, the student must have been awarded the grade of E or higher.

2. Weighting grades from different parts of the course: –

3. Grading scales for different parts of the course: –

Entry requirements

Students admitted to the master programme Data Analytics and Business Economics are eligible for this course. For other students, STAA31 Statistics: Basic Course 1 or STAA36 Statistics: Fundamentals of Business Analytics, or the equivalent, is required.

Further information

1. Transitional regulations: –

2. Limitations in the period of validity: –

3. Limitations: –

4. Similar courses: –

5. Limitations in renewed examination: –

Subcourses in DABN11, Data Analytics and Business Economics:
Programming in R

Applies from H21

2101   Programming in R, 3,5 hp
          Grading scale: Fail, E, D, C, B, A