



## Statistisch programmeren (C003798)

Cursusomvang (nominale waarden; effectieve waarden kunnen verschillen per opleiding)

Studiepunten 6.0      Studietijd 150 u      Contacturen 62.5 u

Aanbodsessies en werkvormen in academiejaar 2017-2018

A (semester 1)      Engels      hoorcollege 10.0 u  
werkcollege: PC- 55.0 u

Lesgevers in academiejaar 2017-2018

Van den Poel, Dirk      EB07      Verantwoordelijk lesgever

Aangeboden in onderstaande opleidingen in 2017-2018

[Master of Science in Statistical Data Analysis](#)      stptn 6      aanbodsessie A

Onderwijstalen

Engels

Trefwoorden

Statistical programming language SAS, Statistical Language R, principles of data management, data security

Situering

The global objective of this course is to provide students with a thorough basis and practical skills for the handling and management of data with accompanying information.

Inhoud

- 1 Importance of information management in general.
- 2 How to use data sources?
- 3 Introduction to programming in SAS (SAS base/graph and macro language)
- 4 Introduction to programming in R
- 5 Error correction, archiving, confidentiality, ethics of data handling
- 6 Structuring scripts for reproducibility and cooperation with other scientists
- 7 Optimizing, debugging and checking code

Begincompetenties

Introduction to statistics

Eindcompetenties

- 1 The student know the basics of the SAS and R software and of information management.
- 2 The student can use software to query data bases, reshape data, produce graphs, descriptive statistics and reports.
- 3 The student can write scripts/programs in SAS and R.
- 4 The student can contribute to a group effort for a SAS or R programming project.
- 5 The student can report on programming activities and can provide a summary report of a data base.
- 6 The student can implement good programming practices.
- 7 The student is aware of ethical aspects of data handling.

Creditcontractvoorwaarde

Toelating tot dit opleidingsonderdeel via creditcontract is mogelijk mits gunstige beoordeling van de competenties

Examencontractvoorwaarde

Dit opleidingsonderdeel kan niet via examencontract gevolgd worden

## Didactische werkvormen

Begeleide zelfstudie, groepswerk, hoorcollege, zelfstandig werk, werkcollege: PC-klasoefeningen

## Leermateriaal

- Handbook: Delwiche L. D. and Slaughter S. J. (2003) The little SAS book: a primer, third edition. SAS Institute, Inc.
- De Vries, A. and Meys, J. (2012). R for dummies. Wiley.
- Own syllabus

Geraamde totaalprijs: 50 EUR

## Referenties

Peter Dalgaard (2002) Introductory Statistics with R, Springer. ISBN 0-387-95475-9.

## Vakinhoudelijke studiebegeleiding

Numerous exercises are being solved during practical sessions and PC labs. Students get extra exercises that can be solved either during the practical sessions and PC labs, or at home. Students can ask questions during the PC labs and they can ask for additional feedback and exercises they made at home. In addition, assignments (to be solved in teams) are handed out. Students receive coaching in the process of solving the assignments followed by feedback (collectively, by team and individually). After numerous tests involving the programming languages R and SAS, students will receive individual feedback & coaching.

## Evaluatiemomenten

periodegebonden en niet-periodegebonden evaluatie

## Evaluatievormen bij periodegebonden evaluatie in de eerste examenperiode

Schriftelijk examen met open vragen

## Evaluatievormen bij periodegebonden evaluatie in de tweede examenperiode

Schriftelijk examen met open vragen

## Evaluatievormen bij niet-periodegebonden evaluatie

Werkstuk, vaardigheidstest

## Tweede examenkans in geval van niet-periodegebonden evaluatie

Examen in de tweede examenperiode is mogelijk

## Toelichtingen bij de evaluatievormen

Permanent evaluation (several tests during the course).

Periodical: Written examination to evaluate the extent to which students mastered the material and can actually perform analysis using the respective software packages.

## Eindscoreberekening

If the student fails for this course in the first examination period and if he/she wants a retake in the second examination period, the non-periodical evaluation will be presented in a revised form in the second examination period.

The course consists of two parts (SAS and R). The final score is a weighted average of the scores obtained for each part (weight for SAS: 1/2, weight for R: 1/2). The student has to obtain a passing mark for both parts before a total passing mark can be obtained.