UNIVERSITEIT GENT

Studiefiche

Vanaf academiejaar 2026-2027

R for Data Analysis (C004617)

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

Studiepunten 3.0 **Studietijd 90 u**

Aanbodsessies in academiejaar 2026-2027

A (semester 1) Engels Gent

Lesgevers in academiejaar 2026-2027

Plevoets, Koen	WE02	Verantwoordelijk lesgever

Aangeboden in onderstaande opleidingen in 2026-2027	**stptn**	**aanbodsessie**
Master of Science in Statistical Data Analysis	3	A

Onderwijstalen

Engels

Trefwoorden

Statistical programming language R, principles of data management, efficiency, coding style, reproducible reporting

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 R programming at an intermediate level (Objects and classes, vector-based computing, visualization with lattice and ggplot2, string processing and regular expressions, Shiny apps).
4 Error correction, archiving, confidentiality, ethics of data handling.
5 Structuring scripts for reproducibility and cooperation with other scientists.
6 Optimizing, debugging and checking code.

Begincompetenties

Introductory course to statistics, introductory course to R (as required for passing the admission test).

Eindcompetenties

1 The student knows the R software at an intermediate level.
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 R.
4 The student can contribute to a group effort for an R programming project.
5 The student can report on programming activities and can provide a summary report of a database.
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 na gunstige beoordeling van de competenties

Examencontractvoorwaarde

Dit opleidingsonderdeel kan niet via examencontract gevolgd worden

Didactische werkvormen

Werkcollege, Hoorcollege, Zelfstandig werk

Studiemateriaal

Type: Slides

Naam: R for data analysis
Richtprijs: Gratis of betaald door opleiding
Optioneel: nee
Taal : Engels
Aantal slides : 500
Beschikbaar op Ufora : Ja

Referenties

- Chambers, J.N. (2010). Software for data analysis. New York: Springer.
- Cotton, R. (2013). Learning R. Sebastopol: O'Reilly.
- Matloff, N. (2011). The art of R programming. San Franciso: No Starch Press.
- Wickham, H. (2019) Advanced R. Second edition. Boca Raton: Chapman & Hall/CRC.

Vakinhoudelijke studiebegeleiding

Numerous exercises are being solved during both the practical sessions and at home. Students can ask questions or feedback during the practical sessions or via an online discussion forum.

Evaluatiemomenten

periodegebonden en niet-periodegebonden evaluatie

Evaluatievormen bij periodegebonden evaluatie in de eerste examenperiode

Schriftelijke evaluatie open boek

Evaluatievormen bij periodegebonden evaluatie in de tweede examenperiode

Schriftelijke evaluatie open boek

Evaluatievormen bij niet-periodegebonden evaluatie

Vaardigheidstest, Schriftelijke evaluatie open boek, Werkstuk

Tweede examenkans in geval van niet-periodegebonden evaluatie

Examen in de tweede examenperiode is mogelijk

Toelichtingen bij de evaluatievormen

Permanent: Weekly skills tests on a course chapter and one homework report on a data-analytical project.
Periodical: Report on a data-analytical project.

Eindscoreberekening

The score depends on the weekly skills tests (totalling to 10%, i.e. 2/20), the homework (10%, i.e. 2/20), and the periodical evaluation (80%, i.e. 16/20). The student needs to pass for the periodical evaluation and the total score must be at least 10/20.