

Course Specifications

From the academic year 2017-2018 up to and including the

Mathematics II: Fundamental Methods in Mathematics and Statistics (C001434)

Course size (nominal values; actual values may depend on programme)
Credits 5.0 Study time 150 h Contact hrs 50.0 h

Course offerings and teaching methods in academic year 2018-2019

A (semester 2)	Dutch	lecture	25.0 h
		seminar: practical PC room classes	5.0 h
		seminar: coached exercises	20.0 h

Lecturers in academic year 2018-2019

Van Daele, Marnix	WE02	lecturer-in-charge
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Offered in the following programmes in 2018-2019

Bachelor of Science in Chemistry	crdts	offering
	5	A

Teaching languages

Dutch

Keywords

Mathematics, statistics

Position of the course

To teach the mathematics (in particular statistics) and its techniques which are necessary in the different courses of the bachelor of science in chemistry program. Basic scientific skills (analytical thinking, critical reflection, problem solving, data gathering and processing, etc) are further developed during this course.

Contents

- Analysis : differential equations
- Statistics : probability, distributions, confidence intervals, tests, regression and correlation

Initial competences

The mathematical background of the incoming students varies from 3 or 4 hours to more than 6 hours. For some students, most of the topics are already known, for some students a lot of topics are new

Final competences

- 1 Knowledge of the the mathematical and statistical techniques.
- 2 The students should be able to apply the mathematical and statistical techniques in practice.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Lecture, seminar: coached exercises, seminar: practical PC room classes

Extra information on the teaching methods

PC - class : a hands-on training in SPSS

Learning materials and price

Lecture notes (in Dutch), exercises and solutions in printed and/or electronic form. The printed version costs about 5 €. Also Maple-worksheets and Java-applets are used. All the material is available at the website of the lecturer and the electronic learning environment Ufora.

References

E. Mendelson, F. Ayres, Schaum's Outline of Calculus, Mc Graw-Hill Trade, 1999.
M.R. Spiegel, J.J. Schiller, R.A. Srinivasan, A. Srinivasan, Schaum's Outline of Probability and Statistics, Graw-Hill Trade, 2000.

Course content-related study coaching

Exercise classes

Individual coaching by lecturer/assistant : consultation by appointment

Interactive coaching via Claroline (Forum : student-student, student-lecturer)

Evaluation methods

end-of-term evaluation

Examination methods in case of periodic evaluation during the first examination period

Written examination with open questions, open book examination

Examination methods in case of periodic evaluation during the second examination period

Written examination with open questions, open book examination

Examination methods in case of permanent evaluation

Possibilities of retake in case of permanent evaluation

not applicable

Extra information on the examination methods

Written (open book form for exercises and closed-book form for theory)

Evaluation of the knowledge and insight in basic concepts and the ability to apply these concepts in problem cases.

Calculation of the examination mark

Theory (50 %) and exercises (50 %)