Analytical Chemistry (I610014)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course Specifications
Valid as from the academic year 2020-2021

Course size (nominal values; actual values may depend on programme)
Credits 3.0       Study time 90 h       Contact hrs 30.0 h

Course offerings and teaching methods in academic year 2020-2021
A (semester 2)   Dutch   Kortrijk

Lecturers in academic year 2020-2021
Vandenbussche, Caroline    LA23   staff member
Dumoulin, Ann               LA24   lecturer-in-charge

Offered in the following programmes in 2020-2021
Bachelor of Science in Bioindustrial Sciences

Teaching languages
Dutch

Keywords
Analytical applications of chemical equilibria, titrimetry, gravimetry, electroanalytical methods.

Position of the course
A major objective is to provide a background in the chemical equilibria that are important for analytical chemistry. The course introduces a range of wet-chemical analytical techniques and their applications. A final goal is to teach the laboratory skills.

Contents
1 Analytical Chemistry (role, steps: method selection, sampling, measurement, evaluating results),
2 titrimetric methods (general aspects, neutralization titrations, argentometric precipitation titrations, EDTA complex-formation titrations),
3 gravimetric methods,
4 electroanalytical methods (electrochemical cell, redox titration, potentiometry, conductometry).

Initial competences
General Chemistry

Final competences
1 Application of the concepts concerning chemical equilibria for chemical analytical problems,
2 Analyzing a problem, selecting the most suitable technique (consult standards),
3 Evaluate and report the results,
4 Implementing environment, health and safety rules.

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

(Approved)
Lecture, practicum, seminar: practical PC room classes

Extra information on the teaching methods
An interactive and query driven approach will be used to treat the teaching matter during a response lecture. Dropbox will be used to turn in the excel sheets at the end of the PC-classes. The practica are hands-on application in the laboratory.

Learning materials and price
Dutch course syllabus (€10), notes for the practicum, Microsoft Excel sheets for the PC-exercises, presentation via e-learning platform.

References
in course material

Course content-related study coaching
The teaching staff (professor and teaching assistants) can always be contacted to solve problems. The e-learning platform will be used to post exercises and solutions of exercises.

Evaluation methods
end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period
Written examination with open questions, oral examination

Examination methods in case of periodic evaluation during the second examination period
Written examination with open questions, oral examination

Examination methods in case of permanent evaluation
Written examination, participation, assignment, skills test, job performance assessment, report

Possibilities of retake in case of permanent evaluation
examination during the second examination period is possible in modified form

Calculation of the examination mark
Final score = 0.4xP1 + 0.6xP2, with P1 end-of-term assessment and P2 continuous assessment. In order to pass, one has to attain a score of at least 8/20 for both end-of-term and continuous assessment. If this condition is not fulfilled, and when the calculated score is 10/20 or more, the student may be failed by the examiner and the final score is 9/20.
Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.

(Approved)