Course Specifications
Valid as from the academic year 2019-2020

Environmental Sciences (I700220)

Course

Course size
Credits 4.0
Nominal values; actual values may depend on programme

Course offerings and teaching methods in academic year 2019-2020
A (semester 1) Dutch

- Lecture 24.0 h
- Group work 6.0 h
- Microteaching 2.0 h
- Excursion 4.0 h

Lecturers in academic year 2019-2020
De Gelder, Leen
LA25 Lecturer-in-charge

Offered in the following programmes in 2019-2020
Bachelor of Science in Bioscience Engineering Technology
Linking Course Master of Science in Biochemical Engineering Technology

Teaching languages
Dutch

Keywords
Environmental legislation, environmental problems and pollution, waste water treatment, air purification, waste processing, composting, manure treatment

Position of the course
Due to the necessity to safeguard the environment, also companies in the sectors of agriculture, horticulture, food processing and fermentation are required to consider techniques to minimize negative impact on the environment. Problems and solutions specific to these industries are highlighted.

Contents
Environmental policies and legislation
Water: parameters and causes of pollution, eutrophication, physicochemical, aerobic and anaerobic biological waste water treatment, nutrient removal, sludge treatment, small scale waste water treatment
Air: parameters and causes of pollution, greenhouse effect, acidification, physicochemical and biological air purification
Waste: origin and characteristics of waste streams, landfills, incineration, digestion, composting, manure treatment
Visit of wastewater treatment plant and composting/digester/manure treatment
Rapport of environmental problems and techniques on a production facility

Initial competences
Based on certain end competences of the course Microbiology, and General and Inorganic Chemistry

Final competences
1. Having knowledge of the Flemish environmental legislation
2. Having knowledge and insight in the causes of environmental pollution and the contribution of different industries
3. Having knowledge and insight concerning the principle and application of environmental technologies for waste water, air and waste treatment
4. Can situate the application of environmental technologies within the context of different production sectors.
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
Excursion, group work, lecture, microteaching

Learning materials and price
Syllabus available

References

Course content-related study coaching
By appointment

Evaluation methods
end-of-term evaluation and continuous assessment

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

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

Examination methods in case of permanent evaluation
Participation, assignment, peer assessment

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

Calculation of the examination mark
Written exam: 80%
Report and participation: 20%

(Approved)