Course Specifications
Valid as from the academic year 2018-2019

Environmental Sciences (I700131)

Course

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

Offered in the following programmes in 2019-2020
Bachelor of Science in Bioscience Engineering Technology
Preparatory 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 compagnies 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, nutriënt removal, sludge treatment, small scale waste water treatment
Air: parameters and causes of pollution, greenhouse effect, acidification, physicochemical and biological air purification
Waste: origen and karakteristics of waste streams, landfills, inceneration, digestion, composting, manure treatment
Visit of wastewater treatment plant and composting/digestor/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 en Anorganic Chemistry 1

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.

Contact hrs
Study time 110 h
Course size (nominal values; actual values may depend on programme)

Credits 4.0
Contact hrs 36.0 h
Course offerings and teaching methods in academic year 2019-2020
A (semester 1)
Dutch
microteaching 2.0 h
excursion 4.0 h
lecture 24.0 h
group work 6.0 h

Offering

crdts offering
Bachelor of Science in Bioscience Engineering Technology 4 A
Preparatory Course Master of Science in Biochemical Engineering Technology 4 A

(Aapproved)
Access to this course unit via a credit contract is determined after successful competences assessment.

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 not possible

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

(Approved)