Course Specifications
Valid as from the academic year 2019-2020

Microbiology (I700217)

Course

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

Course offerings and teaching methods in academic year 2019-2020
A (semester 2)

Dutch
practicum
24.0 h
lecture
24.0 h

Offered in the following programmes in 2019-2020
Bachelor of Science in Bioscience Engineering Technology

Teaching languages
Dutch

Keywords
Microbiology, micro-organisms

Position of the course
In the course microbiology, the students are introduced into the microbial world. They acquire knowledge and insight into the structure, morphology, taxonomy, ecology, growth, metabolism and application of bacteria, yeast, fungi and viruses. They learn the correct execution of microbiological techniques. The course is the basis for more advances courses in the fields of industrial, food and environmental microbiology.

Contents
The largest subject entails the bacteria, including their cell structure, morphology, taxonomy, conditions for growth, growth kinetics, metabolism, and their part in de carbon, nitrogen en sulphur cycles. Yeasts and fungi are discussed in terms of their cell structure and morphology (specifically in contrast to the bacteria), taxonomy and life cycles. In between the general theory, relevant practical applications in industrial, food and environmental microbiology are touched upon. Also, physical, chemical and biological sanitation techniques are discussed.
In the exercises, microscopic and biochemical identification techniques for bacteria, yeasts and fungi are carried out and implemented, where special attention is given for their isolation and enumeration. Microbiological techniques are applied in the quality survey of air, water, drinking water and food.

Initial competences
Completed with success the courses Cell Biology and Organic Chemistry.
Enrolled in the course Biochemistry.

Final competences
1. A profound basic knowledge of microbiology, encompassing the importance, features, growth, kinetics, nutritional requirements and detection techniques of microorganisms
2. Knowledge and insight concerning microbial metabolisms, their role in carbon, nitrogen and sulfur cycle, and their applications in several sectors
3. Knowledge of the properties of industrially important microorganisms
4. Acquiring and correctly applying basic microbiological techniques

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

(Approved)
Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Lecture, practicum

Learning materials and price

Syllabus and Exercise notes Microbiology
Reference works in the library

References


Course content-related study coaching

During contact hours
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

Written examination, participation

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible in modified form

Extra information on the examination methods

Theory: written exam
Practical exercises: continuous evaluation, weekly quizzes, written test

Calculation of the examination mark

Theory: 70%
Exercises: 30%

(Approved)