Course Specifications
Valid as from the academic year 2018-2019

Course

Lecturers in academic year 2018-2019
Stevens, Christian
LA24 lecturer-in-charge

Offered in the following programmes in 2018-2019
Bachelor of Science in Bioscience Engineering (main subject Chemistry and Food Technology)

1. Introduction
1.1. Definitions
1.2. Overview (economical importance)
2. Synthetic Methods
2.1. Stepwise polymerisation
2.2. Chain polymerisation
   · Radical polymerisation
   · Ionic and coordination polymerisation
   · Co-polymerisation
3. Features
3.1. Solubility
3.2. Physico-chemical features
3.3. Mechanical properties
4. Analysis of polymers
5. Design of polymers (extrusion, moulding...)
6. Specific Applications
6.1. Packaging
6.2. Adhesives and coatings
6.3. Composite materials
7. Recycling
8. New type polymers
dendrimers and liquid crystals

(Approved)
Initial competences
Polymer Chemistry builds on certain learning outcomes of course units Chemistry 3: Organic chemistry - structure, and Chemistry 4: Organic chemistry - reactivity; or the learning outcomes have been achieved differently. No specific knowledge of polymer chemistry required.

Final competences
1. To have a general overview on the field of polymer chemistry and of the importance of the sector for society
2. To have a profound knowledge on the synthetic procedures to produce polymers and the general principles to produce polymers with certain characteristics
3. To be knowledgeable on the kinetics of polymerisation reactions
4. To have a good view on the applications of polymers
5. To be familiar with the basic concepts of polymer recycling
6. To have a view on the recent developments in the polymer industry

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
Guided self-study, excursion, group work, lecture, practicum

Extra information on the teaching methods
Lectures: 24 hours
Guided self-learning: 6 hours
Practical exercises: 12 hours
Excursions: 8 hours
Group work: 10 hours

Learning materials and price
Course material is available.

References
Included in the lecturing material

Course content-related study coaching
The study coaching will be taken care of by the teaching assistants of the department.

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, written examination

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

Examination methods in case of permanent evaluation
Oral examination, assignment

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

Extra information on the examination methods
The group work is evaluated after an oral presentation of the work and a questioning by a team consisting of the professor and 3 teaching assistants.

Calculation of the examination mark
Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examinator.

Facilities for Working Students
Students are not obliged to attend the lectures.
The practical excersises and the excursions are obligatory. The group work is also obligatory.

(Approved)