Course Specifications
Valid as from the academic year 2018-2019

Course

Food Colloids (I001181)

Lecturers in academic year 2018-2019
Van der Meeren, Paul
LA24 lecturer-in-charge

Course offerings and teaching methods in academic year 2018-2019
A (semester 1) English
- seminar: practical PC room classes 12.5 h
- seminar: coached exercises 2.5 h
- practicum 15.0 h
- guided self-study 10.0 h
- lecture 20.0 h

Offered in the following programmes in 2018-2019
- Master of Science in Food Technology 5 A
- Exchange Programme in Bioscience Engineering: Chemistry and Bioprocess Technology (master's level) 5 A
- Exchange Programme in Bioscience Engineering: Food Science and Nutrition (master's level) 5 A

Teaching languages
- English

Keywords
Colloids, emulsions, dispersions, foams

Position of the course

General
Providing detailed scientific knowledge in food science.

Specific
This course is mainly focused on the technology of processed foods with a colloidal nature, such as emulsions and foams. Hereby, much attention is spent on the discussion of the physicochemical background governing both the preparation and the stability of this type of products. The theoretical concepts are illustrated by simulation models. Besides, the experimental determination as well as the technological relevance of some major quantities, such as surface tension and zeta-potential, are demonstrated during practical exercises.

Contents
1 Introductory concepts
2 Surface and interface chemistry
3 Emulsions
4 Stability of dispersions
5 Electrokinetics and zeta potential
6 Viscosity and rheology

Initial competences
- General knowledge of chemistry and mathematics

Final competences
1 thorough knowledge of the physico-chemical properties that determine the preparation and physico-chemical stability of dispersions

Course size
- Credits 5.0
- Study time 135 h
- Contact hrs 60.0 h

Course size (nominal values; actual values may depend on programme)

Credits 5.0 Study time 135 h Contact hrs 60.0 h

(Approved)
2 being capable to perform quantitative calculations based on experimental data
3 to perform simple simulations to predict the physico-chemical stability based on existing theories

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, lecture, practicum, seminar: coached exercises, seminar: practical PC room classes

Learning materials and price
Course notes are available Cost: 10 EUR

References
a list of recent text books is included in the course notes

Course content-related study coaching
lecturer and assistants are available for questions

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, open book examination, oral examination

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

Examination methods in case of permanent evaluation
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
One fifth of the final marks are made up of the permanent evaluation (lab reports), whereas four fifth are made up of the period-aligned evaluation (examination).
De examinator kan de student die zich onttrekt aan periodegebonden en/of niet-periodegebonden evaluaties voor dit opleidingsonderdeel niet-geslaagd verklaren.