GHENT UNIVERSITY

Course Specifications

From the academic year 2020-2021 up to and including the academic year

Food Colloids (I002762)

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

Credits 5.0	**Study time 150 h**	**Contact hrs**	50.0h

Course offerings and teaching methods in academic year 2022-2023

A (semester 1)	English	Gent	practicum	10.0h
			lecture	25.0h
			seminar: practical PC room classes	15.0h

Lecturers in academic year 2022-2023

Van der Meeren, Paul	LA24	lecturer-in-charge

Offered in the following programmes in 2022-2023	**crdts**	**offering**
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
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

Practicum, Guided self-study, Lecture, 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

Assessment moments

end-of-term and continuous assessment

Examination methods in case of periodic assessment during the first examination period

Oral examination, Open book examination, Written examination with open questions

Examination methods in case of periodic assessment during the second examination period

Oral examination, Open book examination, Written examination with open questions

Examination methods in case of permanent assessment

Report

Possibilities of retake in case of permanent assessment

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.