

# Course Specifications

Valid as from the academic year 2024-2025

# Food Colloids (1002762)

Course size	(nominal values; actual values may depend on programme)				
Credits 5.0	Study time 150 h				
Course offerings and	teaching methods in academic y	rear 2024-2025			
A (semester 1)	English	Gent	seminar practical		
			lecture		
Lecturers in academic	year 2024-2025				
Van der Meeren, Paul			LA24	lecturer-in-charge	
Offered in the following programmes in 2024-2025				crdts	offering
Master of Science in Food Technology				5	А
Exchange Programme in Bioscience Engineering: Chemistry and Bioprocess Technology (master's level)				5	А
Exchange Programme in Bioscience Engineering: Food Science and Nutrition (master's				5	А

level)

#### 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**

Seminar, Lecture, Practical, Independent work

# Study material

Type: Syllabus

Name: Food Colloids Indicative price: Free or paid by faculty Optional: no Language : English Number of Pages : 200 Available on Ufora : Yes Online Available : Yes

# Type: Slides

Name: Food Colloids Indicative price: Free or paid by faculty Optional: no Language : English Available on Ufora : Yes Online Available : Yes

#### 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 assessment, Written assessment with open-ended questions

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

Oral assessment, Written assessment with open-ended questions

# Examination methods in case of permanent assessment

Assignment

# 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.