GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2017-2018

Food Fermentations (I001496)

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

Credits 4.0 **Study time 120 h** **Contact hrs** 45.0 h

Course offerings and teaching methods in academic year 2017-2018

A (semester 2)	lecture	30.0 h
	self-reliant study activities	7.5 h
	excursion	7.5 h

Lecturers in academic year 2017-2018

Raes, Katleen	LA16	lecturer-in-charge

Offered in the following programmes in 2017-2018	crdts	offering
Master of Science in Food Technology	4	A
Exchange Programme in Bioscience Engineering: Chemistry and Bioprocess Technology (master's level)	4	A
Exchange Programme in Bioscience Engineering: Food Science and Nutrition (master's level)	4	A

Teaching languages

English

Keywords

Food Fermentations, fermentation techniques, bacteria, yeasts, molds, indogenous fermented food products

Position of the course

The course will focus on the production of different fermented foods, both industrial processes and traditional fermented food products. The role of the most important microorganisms (lactic acid bacteria, *Bacillus*, acetic acid bacteria, yeast, molds, ...) will be discussed. The impact of the fermentation process on microbiological, enzymatic, biochemical, nutritional changes will be dealt with. Different fermentation techniques will be discussed.

Contents

1. Introduction
2. Lactic acid fermentations
3. Alcoholic fermentations
4. Alkaline fermentationss
5. Acetic acid fermentations
6. High salt/savory sauce and paste fermentations
7. Fermentations producing meat substitutes
8. company visits
9. task

Initial competences

Basic knowledge of biochemistry and microbiology

Final competences

1 The student understands the principles of food fermentations and its applications

2 The student understands the role of the different microorganisms in the food fermentation process.

3 The student has insight in the biochemical, enzymatic and chemical reactions occurring during the production of fermented foods.

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

Excursion, lecture, self-reliant study activities

Extra information on the teaching methods

Task : Making a report related to a local fermented food product
Oral lectures

Learning materials and price

Syllabus is available

References

Walstra, P., Wouters, J.T.M. & Geurts T.J. (Eds.) (2006). Dairy Science and Technology, 2nd ed. CRC TAylor & Francis. 782 pp.ISBN 084727630
- Hutkins, R.W. 2006. Microbiology and technology of fermented foods. ISBN 978-0-8138-0018-9.
- Bamforth, C.W. 2005. Food, fermentation and micro-organisms. ISBN 978-0-632-05987-4.
- Feiner, G. 2006. Meat products handbook. ISBN 978-1-84569-050-2.
- Hui, Y.H. 2006. Food biochemistry and food processing.ISBN 978-0-8138-0378-4.

Course content-related study coaching

The students can contact the professor after the lectures.

Evaluation methods

end-of-term evaluation

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

Written examination with open questions

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

Written examination with open questions

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

Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner
Oral exam: 75%
Report and defence of the task: 25%