

Packaging Materials: Food Safety Aspects (I690019)

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

Credits 3.0 **Study time 90 h**

Course offerings in academic year 2024-2025

A (Year) English Kortrijk

Lecturers in academic year 2024-2025

De Meulenaer, Bruno	LA23	lecturer-in-charge
Vermeulen, An	LA23	co-lecturer

Offered in the following programmes in 2024-2025

	crdts	offering
Postgraduate Certificate Food Packaging	3	A
Postgraduate Certificate Sustainable Food Packaging Solutions	3	A

Teaching languages

English

Keywords

Food contact materials, migration, legislation, microplastics

Position of the course

Food contact materials and in particular food packaging materials are not inert. Due to their interaction with the food matrix, substances are migrating from the contact material to the food. This may affect food safety and the sensorial quality of food. In this course the factors impacting the transfer of substances from the contact material to the food will be presented. Various types of materials will be considered: plastics, elastomers and rubbers, metals, glass, paper and board. Due to these mass transfer phenomena, detailed legislative frameworks are developed in order to guarantee food safety. The legislative framework of the EU will be outlined, next to the US FDA legislation. The methodological approaches to evaluate the transfer of (volatile and non-volatile) substances from food contact materials, will be covered. These include chemical analytical approaches and the mathematical prediction of the migration from plastic food contact materials with the use of dedicated software.

Contents

1. Mechanistic aspects of material transfer from food contact materials to foods
2. Legislative and normative aspects of migration from food contact materials
3. Methodological aspects in the evaluation of the transfer of substances from food contact materials

Initial competences

Final competencies obtained in the course unit 'Food packaging materials, machines and conditions'.

Final competences

- 1 To acquire knowledge and insights in the material transfer from food contact materials to

foods.

2 To acquire knowledge and insights in the food safety and legislative aspects of the material transfer from food contact materials to foods.

Conditions for credit contract

This course unit cannot be taken via a credit contract

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Lecture, Independent work

Extra information on the teaching methods

Lectures (can be organised online): (20 hrs)

Exercises with simulation software (cannot be organised online). (5 hrs)

Guided self-study (can be organised online): Students will carry out a case with respect to the specifications of a Declaration of Compliance (DOC) (5 hrs)

Study material

Type: Slides

Name: Packaging Materials: Food Safety Aspects

Indicative price: Free or paid by faculty

Optional: no

Language : English

Number of Slides : 0

Available on Ufora : Yes

Online Available : Yes

Available in the Library : No

Available through Student Association : No

References

Migration from food contact materials. L.L. Katan, Springer, ISBN 978-1-4613-1225-3

https://ec.europa.eu/food/safety/chemical_safety/food_contact_materials_en

<https://www.efsa.europa.eu/en/applications/foodcontactmaterials>

Course content-related study coaching

Before and after the lectures and exercises, the student can ask the teacher or assistant for additional information or explanations. The teacher and assistant can also be contacted by e-mail.

Assessment moments

end-of-term assessment

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

Assignment

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

Assignment

Examination methods in case of permanent assessment

Possibilities of retake in case of permanent assessment

not applicable

Extra information on the examination methods

Assignment: the evaluation of this course is part of an individual integrative assignment in which students have to integrate and apply knowledge and competences from all the different courses making up the specific elective track of the postgraduate certificate Food Packaging. The student (qualitatively) evaluates a food product-packaging concept. The product-packaging concept will be predetermined before the start of the lectures. The student should demonstrate s/he is able to apply the course in an interdisciplinary way, and explain the concept from a course specific perspective.

The product of the assignment is a report (including a self-reflection) which will be presented to

a jury.

Calculation of the examination mark

The assignment (100%):

- Report (40%)
- Presentation (20%)
- Q&A (40%)