



**LUNDS UNIVERSITET**  
Lunds Tekniska Högskola

*Course syllabus*

## **Förpackningsmaterial, fördjupning Packaging Material Science**

**MTTN56, 7,5 credits, A (Second Cycle)**

**Valid for:** 2023/24

**Faculty:** Faculty of Engineering, LTH

**Decided by:** PLED I

**Date of Decision:** 2023-04-14

### **General Information**

**Main field:** Technology.

**Main field:** Food Systems.

**Compulsory for:** MFIPDES2

**Elective Compulsory for:** MLSA1

**Elective for:** B4, I5, M5, MD4, MLIV1

**Language of instruction:** The course will be given in English

### **Aim**

The course is multidisciplinary with the aim to provide students with knowledge and understanding in characteristics and functions of packaging materials and the evaluation of them, in a supply chain context.

### **Learning outcomes**

*Knowledge and understanding*

For a passing grade the student must

Understand and explain different characteristics and functions of packaging materials.

Understand and explain how supply chain processes affect the performance of packaging materials.

Understand and explain how the packaging material and the content within the package interact.

Obtain knowledge about how packaging material choices relate to sustainable development in supply chains.

Obtain knowledge about how different packaging materials affects costs and environmental impact in supply chains.

Obtain knowledge about standardized methods for the evaluation of packaging material performance.

### *Competences and skills*

For a passing grade the student must

Explain and motivate standardized test methods for the evaluation of packaging material performance.

Plan, execute and report evaluations of packaging material and its consequences in a supply chain.

Evaluate the consequences of the choice of packaging material for a product in a defined supply chain considering product protection, costs, and environmental impact.

### *Judgement and approach*

For a passing grade the student must

Critically review and use information in the scientific literature to analyse the characteristics of different packaging materials and their performance in a supply chain context.

Critically and constructively evaluate and give feedback on peer students work.

## **Contents**

Lectures on packaging materials and standardized test methods for the evaluation of packaging material performance given by experts from academia and industry. Laboratory demonstrations or exercises on standard test methods for material evaluation. Study visits to packaging material related industries. Literature study and written assignments on packaging material and their features. Parallel supply chain project to evaluate packaging material features throughout a defined supply chain.

## **Examination details**

**Grading scale:** TH - (U,3,4,5) - (Fail, Three, Four, Five)

**Assessment:** Laboratory assignments, literature assignment and project assignment (including written report, oral presentation and opposition). The final grade is based on the total amount of points from all the course assignments.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

## Parts

**Code:** 0120. **Name:** Assignments and Literature Study.

**Credits:** 3,5. **Grading scale:** UG. **Assessment:** Assignments and literature study with grades pass or fail.

**Contents:** Assignments including lab reports and reflections. Literature study.

**Code:** 0220. **Name:** Project Report.

**Credits:** 4. **Grading scale:** UG. **Assessment:** Project report with grades Pass or Fail **Contents:** Project: Supply chain analysis, for each of the abovementioned labs.

## Admission

**Assumed prior knowledge:** Courses equivalent to a Bachelor in Food engineering, Chemistry, Chemical engineering, Biotechnology, Mechanical engineering or Industrial engineering and management.

**The number of participants is limited to:** No

## Reading list

- Gordon L Robertsson : Food Packaging , Principles and Practice. CRC Press, 2012, ISBN: 9781439862414.
- Research articles and selected book chapters within packaging material science and packaging logistics.

## Contact and other information

**Course coordinator:** Lars Palm, lars.palm@plog.lth.se

**Teacher:** Jenny Schelin, jenny.schelin@tmb.lth.se

**Teacher:** Johan Tryding, johan.tryding@solid.lth.se

**Course homepage:** <https://www.plog.lth.se/education/packaging-material-science/>