

*Course syllabus*

# Livsmedlens mikrobiologiska grunder Food Microbiological Bases

**YTHA73, 7,5 credits, G1 (First Cycle)**

**Valid for:** 2023/24

**Faculty:** Faculty of Engineering, LTH

**Decided by:** PLED LIV

**Date of Decision:** 2023-04-17

## General Information

**Main field:** Food Science.

**Compulsory for:** KLMT1

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

## Aim

To give basic knowledge in food microbiology.

## Learning outcomes

### *Knowledge and understanding*

For a passing grade the student must

- define the concept of microbiology, which groups of organisms that are included and the typical characteristics of each group and their function.
- describe how a unicellular organism is built up and how it functions.
- understand microbiological systematics.
- be familiar with the most important bacterial genera within food microbiology; their occurrence and typical properties.
- describe how microbial populations grow and die and how different environmental conditions influence growth.
- explain the fermentation process and give examples on when fermentation is used, and which microorganisms that are involved.

### *Competences and skills*

For a passing grade the student must

- be able to use sterile technique and cultivate common bacteria
- be able to read plates, count colonies and report the results in a correct way
- be familiar with methods and techniques used for identification of microorganisms.

### *Judgement and approach*

For a passing grade the student must

- have established an insightful relation to microorganisms

## Contents

The course introduces foods and the general content of compounds in food and gives microbiological and food chemical bases. The concept of microbiology is introduced with focus on food applications. Different groups of microorganisms are presented together with their properties, functions and special growth requirements. Specific nomenclature and concepts of microbiology are introduced. Laboratory practices cover microscopy, aseptic techniques, and culturing of microorganisms.

## Examination details

**Grading scale:** UG - (U,G) - (Fail, Pass)

**Assessment:** Written examination, written task and laboratory experiments.

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:** 0121. **Name:** Written Examination.

**Credits:** 4,5. **Grading scale:** UG. **Assessment:** Approved written examination

**Code:** 0221. **Name:** Laboratory Experiments.

**Credits:** 2. **Grading scale:** UG. **Assessment:** Attendance at laboratory experiments and written laboratory reports.

**Code:** 0321. **Name:** Assignment.

**Credits:** 1. **Grading scale:** UG. **Assessment:** Approved individual written task, oral presentation and peer review.

## Admission

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

**The course overlaps following course/s:** YTHA70

## Reading list

- Herluf Thougard et al.: Grundläggande mikrobiologi med livsmedelsapplikationer. Studentlitteratur AB, 2007, ISBN: 978-91-44-00656-7.

## Contact and other information

**Course coordinator:** Olena Prykhodko, [olena.prykhodko@food.lth.se](mailto:olena.prykhodko@food.lth.se)

**Course coordinator:** Stephen Burleigh, [stephen.burleigh@food.lth.se](mailto:stephen.burleigh@food.lth.se)

**Course homepage:** <https://www.ple.lth.se/en/>

**Further information:** Laboratory works is compulsory. If scheduled, guest lectures and study visits are also compulsory. In case of legal impediment the student should accomplish an individual task with equivalent content.