Course syllabus

Vegetabiliska livsmedel
Vegetables

YTHA40, 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. **Depth of study relative to the degree requirements:** First cycle, has less than 60 credits in first-cycle course/s as entry requirements.
Language of instruction: The course will be given in Swedish

Aim

To give knowledge of cultivating, handling and storage of vegetables so that fresh as well as processed vegetables with an optimal quality and a minimal environmental load can reach the consumers.

In the concept vegetables all food derived from the vegetable kingdom is included: fruits, berries, vegetables, potatoes, root vegetables and cereals.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- have knowledge of the legislation regulating cultivation and additional handling of vegetables (fruits, berries, vegetables, cereals, potatoes) and of various cultivation methods for vegetables as well as how they influence the quality of the raw material and the environment.
- have knowledge of how carbohydrates are formed and converted in vegetables and how various types of vegetables are built up.
- have knowledge of what happens during harvesting, handling and storage of fresh vegetables and fruits
- have knowledge of how vegetables, fruits, berries, potaoes and other products rich in starch are processed on an industrial scale and be familiar with the

equipment used on an industrial scale as well as how the choice of primary product, harvest, handling, processing and storage influence the quality of the product.
- have a knowledge of the microbiological risks associated with consumption of vegetables
- be able to describe and explain the scientific reasons for the recommendation that we should eat 0.5 kg fruits and vegetables a day and have knowledge of the health problems and illness which could be caused by vegetables.

Competences and skills
For a passing grade the student must

· be able to investigate the presence of micro organisms in vegetable products, be able to choose the most suitable substrates and judge which methods are most appropriate during sample preparation.

Contents

In the term vegetables fruits, berries, vegetables, potatoes, cereals and all products from them are included. The area is large and important and frequently discussed in media. EHEC in lettuce, shigella in raspberries, the fibre content in bread, low GI in pasta, antioxidants, 0.5kg fruit and vegetables a day, the fat content in chips, sugar peas transported by air from Kenya, organic vs. conventional cultivation, overdone vegetables, plastic-coated cucumber.

The course content covers the whole chain from cultivation, harvest, storage, sale, cooking and industrial processing to consumption. The choice of raw material, handling routines and equipment as well as the suitability as a raw material in the food industry and environmental aspects will be discussed from an eating quality point of view

The course covers initially vegetables, fruits and berries and after that potato, rice, pasta and other vegetables rich in starch. Finally, cereals and bread etc. are covered.

Lectures, laboratory experiments, group assignments and study visits are included.

Examination details

Grading scale: UG - (U,G) - (Fail, Pass)
Assessment: Written exam, laborations, project and attendance at compulsory parts.

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:** Work Shops in Food Science.
Credits: 1. **Grading scale:** UG. **Assessment:** Active participation in work shops and approved written laboratory reports.
Code: 0221. **Name:** Works Shops in Microbiology.
Credits: 1. **Grading scale:** UG. **Assessment:** Active participation in works shops and approved written laboratory reports. **Contents:** Microbiology
Code: 0321. **Name:** Written Examination.
Credits: 3,5. **Grading scale:** UG. **Assessment:** Approved written home exam.
Code: 0421. **Name:** Attendance at Mandatory Course Activites.
Credits: 1. **Grading scale:** UG. **Assessment:** Active presence at guest lectures, study visits and seminars.
Code: 0521. **Name:** Project.
Credits: 1. **Grading scale:** UG. **Assessment:** Approved written and oral project presentation.

Admission

Assumed prior knowledge: YTHA71 Food Chemistry I, YTHA73 Food Microbiological Bases, YTHA66 Basic Nutrition, YTHF35 Food Microbiological Quality, YTHF15 Food Chemistry II
The number of participants is limited to: No

Reading list

- Nylander A et al.: Livsmedelsvetenskap. Studentlitteratur, 2014, ISBN: 978-91-44-09567-7.
- Ulla Johansson och Anna Stubbendorf: Näring och hälsa. Studentlitteratur, 2020, ISBN: 9789144125947.
- H. Thougaard: Grundläggande mikrobiologi med livsmedelsapplikationer. Studentlitteratur, 2007, ISBN: 9789144006567.
- Furugren, B: Livsmedelskemi och matkunskap. KFS, 2018.
- G. Molin: Livsmedelsmikrobiologi. KFS, 1989, ISBN: 917970588X.
- Utdelat material.

Contact and other information

Course coordinator: Birgitta Åsman, birgitta.asman@food.lth.se
Course homepage: https://www.ple.lth.se/en/
Further information: Study visits and guest lectures are compulsory. In case of legal impediment the student has to accomplish an individual assignment with an equivalent content.