

# Food Analysis

Special Subjects  
Elective 2 credit

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## 1. Course Description

The aim of this course is to help students acquire an understanding of the fundamental principles of mass spectrometry for food analysis.

## 2. Course Objectives

The goals of this course are to obtain knowledge about the food analysis by mass spectrometry.

## 3. Grading Policy

Your final grade will be calculated according to the following ratio: Usual performance score 50%, Reports 50%.

## 4. Textbook and Reference

Textbook

Reference: Mass Spectrometry: A Textbook - Gross, Jurgen H, Springer

Imaging Mass Spectrometry: Protocols for Mass Microscopy - Setou, M, Springer

## 5. Requirements(Assignments)

## 6. Note

## 7. Schedule

- |      |                                                    |
|------|----------------------------------------------------|
| [1]  | Introduction                                       |
| [2]  | Mass spectrometry (MS)                             |
| [3]  | Ionization                                         |
| [4]  | MS instruments                                     |
| [5]  | Mass spectra data                                  |
| [6]  | GC-MS                                              |
| [7]  | LC-MS                                              |
| [8]  | Imaging MS                                         |
| [9]  | Protein analyses                                   |
| [10] | Lipid analyses                                     |
| [11] | Carbohydrate analyses                              |
| [12] | Vitamin analyses                                   |
| [13] | Mineral analyses                                   |
| [14] | Analyses of functional food ingredient from animal |
| [15] | Analyses of functional food ingredient from plant  |