



6. Soybean Processing
7. Chocolate
8. Coffee

### Initial competences

The student has taken Food Technology and Food Chemistry

### Final competences

- 1 Understand the processing of vegetal raw material into food products
- 2 Gain insight in the functionality and chemistry of the vegetal raw material used for food products
- 3 Gain insight in microstructure of plant based products and their production processes
- 4 Understand the principles of food fermentations and its applications
- 5 Integrate theoretical concepts in the practical sessions

### Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

### Conditions for exam contract

This course unit cannot be taken via an exam contract

### Teaching methods

Practicum, Lecture

### Extra information on the teaching methods

#### Practicum:

Students make food products (: i) alcoholic beverages (beer and makgeolli), ii) tofu, iii) bread, beer) and pasta. Students analyze the characteristics of the produced foods: texture, color and hyperspectral imaging, moisture content, alcohol concentration.

Students get lab quizzes and make reports.

### Learning materials and price

Slides and practical notes will be available on the electronic platform.

### References

- BOCKISH, M. (1998). Fats and Oils Handbook. AOCS Press, 1998, 838 p.
- KULP, K and Ponte, J.G. (2000). Handbook of cereal science and technology. Marcel Dekker Inc., NY, USA, 790 p.
- KENT, N.L. and Evers, A.D. (1994). Kent's technology of cereals. Fourth edition. An introduction for students of food science and agriculture. Elsevier Science, Ltd., Oxford, UK, 334 p.
- YAMAZAKI, W.T. and Greenwood, C.T. (1981). Soft wheat: production, breeding, milling and uses. American association of cereal chemists Inc., USA, 307 p.
- Mc DINNIS, R.A. (1982). Beet sugar development foundation, USA, 855 p.
- Meade, G.P. and Chen, J.C.P. (1977). Cane-sugar handbook. John Wiley & Sons, Inc., 947 p.
- MARIE, S. and Piggott, J.R. (1991). Handbook of sweeteners. Blackie and Son, Ltd, London, 302 p.
- NABORS, L.O.'B. (2001). Alternative sweeteners. Third edition. Marcel Dekker Inc., New York, 553 p.
- SCHENK, F.W. and Hebeda, P.E. (1992). Starch hydrolysis products. VCH Publishers, 650 p.
- VARNAM, A.H. and Sutherland, J.P. (1994). Beverages, Technology, chemistry and microbiology. Chapman and Hall, London, 464 p.
- ASHURST, P.R. (1998). The chemistry and technology of soft drinks and fruit juices. Sheffield academic press, England, 258 p.
- DAUTHY, M.E. (1995). Fruit and vegetable processing. FAO Agricultural service bulletins, 382 p.
- TALBURT, W.F. and Smith, O. (1967). Potato processing. The Avi Publishing Company, Inc., Westport, Connecticut, 588 p.
- LIU, K. (1997). Soybeans. Chemistry, technology and utilization. Chapman Hall, Florence, USA, 532 p.
- Hutkins, R.W. 2006. Microbiology and technology of fermented foods. ISBN 978-0-8138-0018-9.
- Bamforth, C.W. 2005. Food, fermentation and micro-organisms. ISBN 978-0-632-05987-4.
- Hui, Y.H. 2006. Food biochemistry and food processing. ISBN 978-0-8138-0378-4.

### Course content-related study coaching

Questions via mail, weekly office hours

**Assessment moments**

end-of-term and continuous assessment

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

Written examination with open questions

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

Report, Oral examination, Written examination with multiple choice questions, Written examination with open questions

**Examination methods in case of permanent assessment**

Report, Written examination

**Possibilities of retake in case of permanent assessment**

examination during the second examination period is possible in modified form

**Calculation of the examination mark**

Theory: final exam (written + oral defense): 60 %

Theory: midterm: 15 %

Practical work (lab quiz + report): 25%

*Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.*