UNIVERSITEIT GENT

Studiefiche

Academiejaar 2016-2017 t.e.m. 2017-2018

Technology of Vegetable Products (I001282)

Cursusomvang (nominale waarden; effectieve waarden kunnen verschillen per opleiding)

Studiepunten	5.0	Studietijd	135 u	Contacturen	60.0 u

Aanbodsessies en werkvormen in academiejaar 2017-2018

A (semester 2)	Engels	practicum	10.0 u
		werkcollege: geleide oefeningen	3.75 u
		zelfstandig werk	2.5 u
		hoorcollege	27.5 u
		begeleide zelfstudie	10.0 u
		demonstratie	2.5 u
		excursie	3.75 u

Lesgevers in academiejaar 2017-2018

Dewettinck, Koen	LA23	Verantwoordelijk lesgever
Van Bockstaele, Filip	LA23	Medelesgever

Aangeboden in onderstaande opleidingen in 2017-2018	stptn	aanbodsessie
Master of Science in Chemical Engineering	5	A
Master of Science in de ingenieurswetenschappen: chemische technologie	5	A
Master of Science in de bio-ingenieurswetenschappen: chemie en bioprocestechnologie	5	A
Master of Science in de bio-ingenieurswetenschappen: levensmiddelenwetenschappen en voeding	5	A
Uitwisselingsprogramma bio-ingenieurswetenschappen: chemie en bioprocestechnologie (niveau master-na-bachelor)	5	A
Uitwisselingsprogramma bio-ingenieurswetenschappen: Food Science and Nutrition (niveau master-na-bachelor)	5	A

Onderwijstalen

Engels

Trefwoorden

Fats, oils, cereals, sugars, sweeteners, starch, vegetables, fruit, soy(bean), potato, composition, processing, preservation

Situering

This product focussed course deals with the technologies applied in the processing and preservation of vegetal raw materials. Attention is paid to the study of the raw material, processing and preservation techniques, and quality attributes of the final product.

Inhoud

Theory

1. Fats and oils processing
2. Sweeteners
3. Fat and sugar replacements
4. Cereal processing
5. Starch processing and modification
6. Gums and hydrocolloids
7. Soybean processing
8. Coffee and tea processing
9. Fruit, vegetable and potato processing

10. Chocolate processing

Workshops

1. Workshop cocoa and chocolate processing
2. Workshop soybean processing
3. Workshop minimally processed vegetables
4. Workshop fat modification
5. Workshop bread making

Begincompetenties

Basic knowledge in biochemistry/biology

Eindcompetenties

1 Understand the processing of vegetal raw material into food products
2 Gain insight in the functionality of the vegetal raw material used for food products
3 Be aware of the impact of processing of vegetal raw material on the quality of food products in a wide sense
4 Perform calculations related to fat modification
5 Gain insight in microstructure of plant based products and their production processes
6 Write a scientific report related to a workshop
7 Integrate theoretical concepts in the practical sessions

Creditcontractvoorwaarde

Toelating tot dit opleidingsonderdeel via creditcontract is mogelijk mits gunstige beoordeling van de competenties

Examencontractvoorwaarde

Dit opleidingsonderdeel kan niet via examencontract gevolgd worden

Didactische werkvormen

Begeleide zelfstudie, demonstratie, excursie, hoorcollege, practicum, zelfstandig werk, werkcollege: geleide oefeningen

Toelichtingen bij de didactische werkvormen

The theory is given by means of lectures. A syllabus and slides are available as study material. During the exercises students have time to solve the problems individually or in group.
For the practical exercise the students will perform experiments and analyses in the lab.
Demonstration sessions are given.
A company visit is included to illustrate the theory.

Leermateriaal

There is an English syllabus available.
The course slides are available on Minerva.

Referenties

BECKETT, S.T. (2009). Industrial chocolate manufacture and use. Wiley-Blackwell, West Sussex, UK, 720p.
BeMILLER, J. & WHISTLER, R. (2009) Starch: chemistry and technology. Academic Press, Burlington, USA, 879p.
BOCKISCH, M. (1998). Fats and oils handbook. AOCS press, Champaign, illinois, USA, 838 p.

DAUTHY, M.E. (1995). Fruit and vegetable processing. FAO Agricultural servie bulletins, 382p
DICKINSON, E (2005) Food colloids: interactions, microstructure and processing. The royal society of chemistry, Cambridge, 497p.
GARTI, N. & SATO, K. (2001). Crystallization processes in fats and lipid systems, Marcel Dekker, New York, 533p.
HAMM, W. AND HAMILTON, R.J. (eds.) (2000). Edible oil processing. Sheffield Academic Press, Sheffield, 281p.
KULP, K and Ponte, J.G. (2000). Handbook of cereal science and technology. Marcel Dekker Inc., NY, USA, 790p.
LIU, K. (1997). Soybeans. Chemistry, technology and utilization. Chapman Hall, Florence, USA, 532p
McClements, D.J (1999) Food emulsions: Principles, Practice and Techniques, CRC press LLC, 378 p.
McCLEMENTS, D.J (2007) Understanding and controlling the microstructure of complex foods. Woodhead Publishing, CRC press, Boca Raton, Florida, USA, 772p.
NABORS, L.O.'B. (2001). Alternative sweeteners. Third edition. Marcel Dekker Inc., New York, 553p
O'DONNELL, K. & KEARSLY, M. (2012). Sweeteners and Sugar Alternatives in Food

Technology. Wiley-Blackwell, 484 p.
SJOBLOM, J. (2001) Encyclopedic handbook of emulsion technology, Marcel Dekker, New York, 736p.
ELIASSON, A.-C. (1996). Carbohydrates in Food. Marcel Dekker Inc., 561p.

Vakinhoudelijke studiebegeleiding

Possibility to consult a teacher or his collaborators after the theoretical lectures or exercises, on appointment.
The (practical) exercises are guided by a teaching assistant.

Evaluatiemomenten

periodegebonden en niet-periodegebonden evaluatie

Evaluatievormen bij periodegebonden evaluatie in de eerste examenperiode

Schriftelijk examen met open vragen

Evaluatievormen bij periodegebonden evaluatie in de tweede examenperiode

Schriftelijk examen met open vragen

Evaluatievormen bij niet-periodegebonden evaluatie

Participatie, werkstuk

Tweede examenkans in geval van niet-periodegebonden evaluatie

Examen in de tweede examenperiode is enkel mogelijk in gewijzigde vorm

Toelichtingen bij de evaluatievormen

PE1 and PE 2: The exam is written. Open questions will be asked to assess insight in the study material.
NPE: the task is evaluated by the teaching assistants. Participation during exercises and pracital sessions is evaluated by presence and commitment.

Eindscoreberekening

Task and exercises: 10%, Written exam: 90%
Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.