

Functional Foods (I002717)

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

Studiepunten 5.0 **Studietijd 150 u**

Aanbodsessies en werkvormen in academiejaar 2023-2024

A (semester 2)	Engels	Gent	hoorcollege werkcollege zelfstandig werk
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Lesgevers in academiejaar 2023-2024

Van Camp, John	LA23	Verantwoordelijk lesgever
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Aangeboden in onderstaande opleidingen in 2023-2024

	stptn	aanbodsessie
Master of Science in Biology	5	A
Master of Science in de bio-ingenieurswetenschappen: levensmiddelenwetenschappen en voeding	5	A
Master of Science in de biowetenschappen: voedingsindustrie	5	A
Master of Science in Food Technology	5	A
Master of Science in Nutrition and Food Systems	5	A
Uitwisselingsprogramma bio-ingenieurswetenschappen: cel- en genbiotechnologie (niveau master-na-bachelor)	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

Human nutrition and health, food science, functional foods

Situering

To study the relationship between nutrition and health in humans, the principles to evaluate nutrient requirements and nutritional status of humans (for individuals as well as for populations) are given. Techniques to formulate diets are explained and applied to protein, fat and micronutrient mixtures. In a more theoretical part, an overview is given of the nutritional composition of vegetable products, dairy products, oils and fats, meat and meat products, and stimulants. The influence on human health of bio-active compounds present in these products is discussed. The development of functional foods and their mechanism of action in humans is explained. A group discussion on a nutritional subject is included.

Inhoud

1. Introduction
2. The nutritional status: general overview, methods for determination of body composition
3. The nutritional requirements (for energy, protein, vitamins and anorganic nutrients)
4. The world hunger: current situation, causes, interventions
5. Functional foods: definition, legislation, claims
6. Vegetable products, dairy products, oils and fats, meat- and meat products, stimulants: nutritional composition and effects on human health
7. Alternative nutrition, nutrition for athletes, stimulants

Begincompetenties

Functional Foods builds on certain learning outcomes of course unit Human Nutrition (or the

Dutch equivalent "voeding van de mens"); or the learning outcomes have been achieved differently.

Eindcompetenties

- 1 The student has knowledge on the nutritional value of foods.
- 2 The presence of bio-active compounds in foods, as well as the mechanisms by which they influence human health, is understood.
- 3 Knowledge is obtained about techniques to evaluate nutrient recommendations and nutrient status of humans.
- 4 Principles for development of foods in relation to specific needs of humans are understood.
- 5 The student can present and defend a case-study related to nutrition and health.

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

Groepswerk, Werkcollege, Hoorcollege, Zelfstandig werk

Toelichtingen bij de didactische werkvormen

Theory: oral lectures

Exercises: theoretical exercises are performed with the whole group while tasks are performed in smaller groups

Leermateriaal

There is an English syllabus with literature references available

Referenties

Human Energy Requirements. W.P.T. James and E.C. Scholfield (eds.). Oxford University Press, Oxford, 1990

Functional foods: biochemical and processing aspects. Mazza, G. (ed.) Technomic Publishing Company, Inc., 1998

Introduction to Functional Food Science. Martirosyan, M. (ed.) Food Science Published Dallas, 4th Edition, 2020

Vakinhoudelijke studiebegeleiding

For the theory and the theoretical exercises, contact hours are available in which the student can ask additional information and/or clarification.

A case-study is made on a topic of functional foods which is supervised by a scientific co-worker.

Evaluatiemomenten

periodegebonden en niet-periodegebonden evaluatie

Evaluatievormen bij periodegebonden evaluatie in de eerste examenperiode

Mondelinge evaluatie, Peer en/of self assessment, Schriftelijke evaluatie

Evaluatievormen bij periodegebonden evaluatie in de tweede examenperiode

Mondelinge evaluatie, Schriftelijke evaluatie

Evaluatievormen bij niet-periodegebonden evaluatie

Werkstuk

Tweede examenkans in geval van niet-periodegebonden evaluatie

Examen in de tweede examenperiode is mogelijk

Toelichtingen bij de evaluatievormen

Theory: written examination

Exercises: written examination (open book)

For the non-period aligned examination a case-study needs to be presented and defended, and a report has to be submitted

Eindscoreberekening

Theory: period aligned evaluation (60%)

Exercises: period aligned evaluation (20%) and non-period aligned evaluation in the case of group works (20%)

Students who eschew period aligned and/or non-period aligned evaluations for this course unit

may be failed by the examiner (ie if mathematically the final score is 10/20 or more, then this score becomes 7/20). When the student wants to repeat the examination in a new examination period, an exemption for the non-period aligned evaluation can only be given in case minimum 50% of the marks were obtained.