

Integrated Sustainable Agriculture (I002654)

Course size *(nominal values; actual values may depend on programme)*

Credits 5.0

Study time 150 h

Course offerings and teaching methods in academic year 2024-2025

A (Year)

Dutch

Gent

group work

seminar

0.0h

independent work

excursion

Lecturers in academic year 2024-2025

De Smet, Stefaan

LA22

lecturer-in-charge

Buyse, Jeroen

LA27

co-lecturer

De Clercq, Patrick

LA21

co-lecturer

Offered in the following programmes in 2024-2025

[Master of Science in Bioscience Engineering: Agricultural Sciences](#)

crdts

offering

5

A

Teaching languages

Dutch

Keywords

Agricultural systems, innovation, sustainability

Position of the course

This course is a final program's course that aims at integrating and using acquired knowledge and skills from the master's subjects of the programme into a case study. The students must develop a case study in groups in which the different components of an agricultural system (1/ biology: soil, plant and/or animal; 2/ technology; 3/ socioeconomy) are treated. The focus is on interactions between the different components of an agricultural system and on evaluating its sustainability. In addition, when working out the assignment, attention is also paid to project management and other skills such as teamwork, discipline, result-oriented work, communication etc.

Contents

The students choose a specific case study that they develop in a group of 3-5 students and that can be at different levels: company, chain, regional or international. In any case, the four components (biology, technology, socio-economy and sustainability) must be addressed in the elaboration of the assignment. The students can divide tasks among themselves, but there must be clear and documented project management.

Examples of case studies are:

- Conversion of a fruit or vegetable conventional farm to organic farming
- Design of a food forest
- Design of an urban farm
- Applying agroforestry on an arable crops farm
- Production of mealworms as animal feed source

The elaboration of the case study will be presented at the end of the year to the other students of this subject and teachers involved in the programme. This is followed by a discussion in a broad context.

Two excursions to relevant companies, organisations or institutions, and a debate will also be organised.

Initial competences

This course is an integration course and builds on the master's courses of the curriculum of Bioscience Engineering: Agriculture.

Final competences

- 1 Analyze and develop an agricultural case study with interactions between soil, plant and/or animal, technology, socio-economy and sustainability at the level of a novice professional.
- 2 Approach agricultural systems in a multidisciplinary and integrated manner.
- 3 Evaluate sustainability aspects of agricultural systems in a broad societal context.
- 4 Working in a team on an agricultural case study and presenting and defending it orally and in writing.

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

Group work, Seminar, Excursion, Independent work

Extra information on the teaching methods

This course comprises mainly group work.

Coaching sessions are provided by university lecturers and other members of the education team.

Each student is expected to take own initiative to fulfill the tasks assigned to him/her within the group, to undertake independently necessary research work for this purpose and to report his/her findings to the group.

Study material

Type: Slides

Name: Introduction

Indicative price: Free or paid by faculty

Optional: no

Language : Dutch

Available on Ufora : Yes

Additional information: Limited number of slides for the introduction and organisation of the course. As this is an integration course, the necessary information for the group work will have to be gathered from previous courses and own research.

Type: Excursion

Name: Farm visits

Indicative price: Free or paid by faculty

Optional: no

References

Course content-related study coaching

The general course of the case study is supervised by the teachers of this subject and other members of the education team. Contact hours are provided for the guidance where the students can request additional information and/or clarification from the teachers. Depending on the subject of the case study and the related expertise, other teachers from the programme will also be involved. Communication is via Ufora.

Assessment moments

end-of-term and continuous assessment

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

Oral assessment, Peer and/or self assessment, Assignment

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

Oral assessment, Assignment

Examination methods in case of permanent assessment

Participation, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible in modified form

Extra information on the examination methods

Throughout the course (annual course) a report must be submitted per semester. After the first semester, an interim report has to be submitted, which is also presented, and upon which feedback and feedforward is provided. In the course of the second semester, the final report will be submitted. The final report is presented to and discussed with the entire group of students of this course as a final period-related evaluation. The final evaluation covers the entire process.

Calculation of the examination mark

Interim report and presentation: 10%

Final report: 40%

Final presentation and discussion: 30%

Peer assessment (soft skills, team work, project management): 20%

The examiner may declare the student who withdraws from period-related and/or non-period-related evaluations for this course to be unsuccessful.