

## Sustainable Agriculture: a Global Perspective (I002914)

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

**Credits 5.0**

**Study time 150 h**

**Course offerings in academic year 2025-2026**

A (semester 1)

English

Gent

**Lecturers in academic year 2025-2026**

de la Pena, Eduardo

LA21

lecturer-in-charge

De Smet, Stefaan

LA22

co-lecturer

**Offered in the following programmes in 2025-2026**

[Master of Science in Nutrition and Food Systems](#)

**crdts**

**offering**

5

A

[Exchange Programme in Bioscience Engineering: Agricultural Sciences \(master's level\)](#)

5

A

[Exchange Programme in Bioscience Engineering: Food Science and Nutrition \(master's level\)](#)

5

A

**Teaching languages**

English

**Keywords**

Food systems, sustainable production, primary production, crop production, types of crops, land-use, animal production, aquaculture, plant- and animal-source foods, sustainable intensification, global change (adaptation)

**Position of the course**

The aim of this course is to acquire general knowledge on agriculture, primary production systems and sustainable development aspects; all necessary to develop new strategies to improve food security and food systems.

**Contents**

- 1 General introduction to global food systems
- 2 Food production in the "Anthropocene", society, environment, global change
- 3 Food systems and primary production
- 4 Traditional, industrial, indigenous food systems
- 5 Farming systems, agricultural systems
- 6 Agrobiodiversity, agroecology
- 7 Major food crops: staple crops
- 8 Yield gap
- 9 Farm to fork strategy (Green deal)
- 10 Impact of primary production on land-use
- 11 Food system transformation, closing the yield gap, agricultural innovation
- 12 Animal production worldwide (roles and prospects, distribution of major farm animal species, classification and major characteristics of animal production systems)
- 13 Factors determining production of animal source foods (productivity of animals; feeds, crop residues and by-products of the agro-industry; effects of climate)
- 14 Sustainability issues in livestock production
- 15 Fish, fishery products, aquaculture
- 16 Food security

The course integrates classic lectures, guest lectures led by experts, and an interactive discussion session (preceded by group work in which essential documents on critical issues of sustainable primary production are analyzed).

**Initial competences**

No specific requirements

### **Final competences**

- 1 General knowledge on primary production and agriculture, on the characteristics, opportunities and limitations of the different production systems, crops and products.
- 2 Have knowledge of the limiting factors and the main bottlenecks in primary production.
- 3 Reasons for world's food problem are known, and possible ways/strategies to tackle them are understood.

### **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, Lecture, Independent work

### **Study material**

Type: Slides

Name: Slides of "Sustainable agriculture: a global perspective"

Indicative price: Free or paid by faculty

Optional: no

Language : English

Number of Slides : 350

Oldest Usable Edition : 2023

Available on Ufora : Yes

Online Available : No

Additional information: Together with the slides a selection of articles, policy notes and relevant documentation is provided

### **References**

### **Course content-related study coaching**

Permanent through Ufora. Personal contact with lecturers and assistants.

### **Assessment moments**

end-of-term and continuous assessment

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

Participation, Written assessment with open-ended questions

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

Written assessment

### **Examination methods in case of permanent assessment**

### **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**

The end-of-term assessment consists of a written assessment with open-ended questions on the different parts of the course.

The continuous assessment consists of an evaluation of the group work and participation in the discussion session.

### **Calculation of the examination mark**

90% end-of-term assessment and 10% continuous assessment