

## Plantphysiology (C003937)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

<b>Course size</b>	<i>(nominal values; actual values may depend on programme)</i>		
<b>Credits</b> 4.0	<b>Study time</b> 100 h	<b>Contact hrs</b>	49.0 h

### Course offerings and teaching methods in academic year 2020-2021

A (semester 1)	Dutch	Gent	practicum	25.0 h
			lecture	25.0 h
			online lecture	0.0 h

### Lecturers in academic year 2020-2021

Vanholme, Bartel	WE09	lecturer-in-charge
Inzé, Dirk	WE09	co-lecturer

### Offered in the following programmes in 2020-2021

	crdts	offering
<a href="#">Bachelor of Science in Biology</a>	4	A
<a href="#">Preparatory Course Master of Science in Biology</a>	4	A

### Teaching languages

Dutch

### Keywords

Water balance of plants, mineral nutrition, fotosynthesis, respiration, nitrogen assimilation, photomorphogenesis, flower induction, plant hormones

### Position of the course

The aim of the course is to give students an understanding of the basic physiological processes occurring in higher plants. The functioning of the whole plant and the interaction of the plant with the environment are central themes.

### Contents

- 1 The plant cell: Functional aspects of the endomembrane system, the plasmamembrane and the cell wall
- 2 Water balance of the plant: uptake of water and transpiration
- 3 Mineral nutrition: micro- and macronutrients
- 4 Photosynthesis: chloroplasts as power stations of plants
- 5 Respiration: breathe without lungs
- 6 Nitrogen assimilation: with or without mico-organisms
- 7 Photomorphogenesis and flower-induction: light and lifecycle
- 8 Plant hormones: signals steering plant growth and development. Biosynthesis, transport, and physiological effects of auxins, gibberellins, cytokinins, ethylene, abscisic acid, and brassinosteroids

### Initial competences

A good knowledge of the morphology of higher plants, basic knowledge of the cellular structures, biochemistry and molecular biology (transcription/translation/...).

### Final competences

- 1 Insight into the physiological processes in higher plants.
- 2 Understanding the interaction of plants with the environment.
- 3 Provide insight in the importance of plants for a sustainable bio-based economy.
- 4 The interdisciplinary character of the course illustrates the importance to cross traditional boundaries between academic disciplines.

5 The student develops independency for the analysis and interpretation of scientific data, resulting in a problem solving attitude.

6 The course provides a basis for further studies in the field of plant biology and biotechnology.

#### **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**

Guided self-study, lecture, practicum, online lecture

#### **Learning materials and price**

Syllabus available.

Download via Ufora.

#### **References**

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

#### **Evaluation methods**

end-of-term evaluation and continuous assessment

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

Written examination

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

Written examination

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

Participation, report

#### **Possibilities of retake in case of permanent evaluation**

examination during the second examination period is not possible

#### **Extra information on the examination methods**

The written exam consists of main questions and extra questions. For the main questions the student needs to link the different aspects of the course. The smaller questions need to be answered shortly and within the context of the course.

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

Periodical evaluation (80%) + non-periodical evaluation (20%).

In the second examination period, the marks for the non-periodical evaluation are taken into account in the same way as in the first examination period.