

Course Specifications

From the academic year 2017-2018 up to and including the

Biodiversity of Plants (C003176)

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

Credits 5.0 Study time 150 h Contact hrs 75.0 h

Course offerings and teaching methods in academic year 2018-2019

A (semester 1)	Dutch	lecture	30.0 h
		practicum	50.0 h

Lecturers in academic year 2018-2019

Chatrou, Lars	WE11	lecturer-in-charge
Beeckman, Tom	WE09	co-lecturer
Goetghebeur, Paul	WE11	co-lecturer

Offered in the following programmes in 2018-2019

	crdts	offering
Bachelor of Science in Biology	5	A
Preparatory Course Master of Science in Biology	5	A

Teaching languages

Dutch

Keywords

Morphology, Anatomy, Biodiversity, Classification, Phylogeny, Angiosperms, Gymnosperms, Land plants, Bryophytes, Ferns

Position of the course

This basic course provides the student with a concise survey of the biodiversity of land plants (bryophytes, ferns, gymnosperms, and angiosperms), with more attention to some particular & important taxa in these groups. Also, the basic terminology of morphological and anatomical diversity is taught, as is phylogeny and classification of bryophytes and ferns. During the extensive practical exercises and excursions in the botanic garden many taxa are shown in reality and provide a hands-on experience with these plants.

Contents

1. Lectures

In this course, land plants are introduced, with their morphology and anatomy. The evolutionary history from the earliest land plants (liverworts) till the most recently evolved group (angiosperms) is shown.

- Morphology:
- Morphology root
- Morphology stem
- Morphology leaf
- Morphology inflorescence
- Morphology flower
- Morphology fruit
- Morphology seed

Anatomy:

- Histology (tissue types)
- Anatomy root
- Anatomy stem
- Anatomy leaf

Evolution & biodiversity of land plants:

- Liverworts, mosses and hornworts
- Lycophytes and ferns

2. Practica

- Introductory practicum
- Practicum morphology flower
- Practicum morphology fruit & seed
- Identification practicum angiosperms
- Excursions in the botanic garden, showing morphological structures
- Practicum bryophytes and ferns
- Practicum anatomy root
- Practicum anatomy stem, primary & secondary
- Practicum anatomy leaf
- Practicum anatomy unidentified material
- Repetition practicum

Initial competences

No specific knowledge is needed. Basic knowledge of botany is of course a good start.

Final competences

- 1 Explaining the evolutionary history (evolutionary lineages and natural relationships) of land plants from bryophytes to angiosperms.
- 2 Describe the life cycle of various land plants.
- 3 Identify and explain the morphology of root, stem, leaf, inflorescence, flower, fruit and seed.
- 4 Recognize and discuss the tissue type (histology) and the anatomy of root, stem and leaf.
- 5 Preparing, observing and scientific drawing of morphological and anatomical structures of various land plants.

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

Lecture, practicum

Extra information on the teaching methods

Lectures

Practicums: (1) introduction lessons with multimedia demos and practice of preparation, observation and scientific view of morphological and anatomical structures of various land plants; (2) exercise of identifying Land plants (bryophytes, ferns, angiosperms); and (3) guided tours in the botanic garden to illustrate the course.

Learning materials and price

Syllabus and notes for the practical courses are available, the botanical garden is open to the public daily and for free, and is situated next to the teaching building

Price: the syllabus is distributed by the students' societies.

The complete syllabus is available on Minerva.

References

Course content-related study coaching

During lectures and practicums, and on-line available: list of terminology, list with important parts of the course, examples of examinations.

Evaluation methods

end-of-term evaluation and continuous assessment

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

Written examination with open questions, oral examination

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

Written examination with open questions, oral examination

Examination methods in case of permanent evaluation

Written examination

Possibilities of retake in case of permanent evaluation

examination during the second examination period is not possible

Extra information on the examination methods

Continuous assessment during the practical sessions (attendance required), and written exam at the end of the practicum series.

The exam consists of 1) a number of open questions, 2) a number of botanical terms to explain and to situate, 3) a number of blank plates to add the correct terminology, and 4) a selection of slides from the presentations to add comment.

Calculation of the examination mark

Practicum evaluation: 30%

Exam: 70%