

Biosphere: Botany (C002459)

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 2023-2024

A (semester 2)	Dutch	Gent	lecture
			practical

Lecturers in academic year 2023-2024

Verbeken, Annemieke	WE11	lecturer-in-charge
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Offered in the following programmes in 2023-2024

Bachelor of Science in Geology	crdts	offering
	5	A

Teaching languages

Dutch

Keywords

Botany, landplants, morphology, cytology, anatomy, systematics, taxonomy, ecology, bryophyta, pteridophyta, gymnosperms, angiosperms

Position of the course

- A solid knowledge of the basis botanical terminology (especially morfological and anatomical terminology).
- To gain insights in the general way plants are composed, in analogous vs. homologous structures and their importance in systematics.
- To get to know the biodiversity, following the evolutionary line from the origin of lanplants onwards.
- Test your own knowledge and get to know a minimal number of higher plants by creating a study herbarium.

Contents

- What are plants and why are they essential + role in the biosphere.
- Morphology: the way plants are built, the way they grow and develop, basic organs (root, stem, leaf) and secondary organs (inflorescence, flower, fruit, seed).
- Cytology: cell and cell cycle, mitosis, meiosis.
- Anatomy: histology, composition of organs (root, stem, leaf).
- Systematics of Landplants: bryophyta, pteridophyta, seedplants (gymnosperms, angiosperms), the development of life, the transition towards land-life, the increasing complexity of plants.
- Basis-knowledge ecology, growth of populations, interaction, abiotic factors, vegetations, ecosystems.

Initial competences

Secondary school.

Final competences

- 1 The student has knowledge of the necessary botanical terminology to communicate about organisms on a scientific level.
- 2 The student has good knowledge of life processes and life cycles of plants (landplants: mosses, ferns, gymnosperms and angiosperms).
- 3 The student has insights in the way flowering plants (and by extension other landplants) are built, and this at all different levels: cell (cytology), tissues (histology), organs (anatomy) and morphology.
- 4 The student is able to classify plants and fossile plants in their large systematic groups and

has insights in the history of the evolution of landplants and how they determined/determine the landscape on earth.

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, Practical

Extra information on the teaching methods

Practicum: 8 obligate practicum afternoons, the last of them is for the practical exam.

Learning materials and price

Syllabus and plates.

Fresh plant material.

Microscopical slides.

Price: about 35 EUR.

References

Course content-related study coaching

There is no formal tutoring for this course. By personal contact with the teacher (immediately after the lecture or via an appointment) eventual questions are treated time for questions and interaction during practical courses.

Assessment moments

end-of-term and continuous assessment

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

Oral assessment, Written assessment with open-ended questions

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

Oral assessment, Written assessment with open-ended questions

Examination methods in case of permanent assessment

Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible

Extra information on the examination methods

Theory: one written and oral examination. One oral examination for herbarium feedback.

Examination method and examination contents will be explained by the end of the lecturing series.

Exam theory: oral and written (open questions)

Exam practica: written exam and permanent evaluation of the exercises.

Calculation of the examination mark

Exam theory (85%) and exam practica inclusive permanent evaluation for practical part (15%).