GHENT UNIVERSITY

Course Specifications

Valid in the academic year 2023-2024

Population Ecology (C002241)

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

Credits 4.0 **Study time 110 h**

Course offerings and teaching methods in academic year 2023-2024

A (semester 1)	Dutch	Gent	lecture
			seminar

Lecturers in academic year 2023-2024

Lens, Luc	WE11	lecturer-in-charge
Strubbe, Diederik	WE11	co-lecturer

Offered in the following programmes in 2023-2024	**crdts**	**offering**
Bachelor of Science in Biology	4	A
Master of Science in Bioinformatics(main subject Systems Biology)	4	A
Preparatory Course Master of Science in Biology	4	A

Teaching languages

Dutch

Keywords

Population numbers, population growth, demography, interactions, spatial structure, exploitation

Position of the course

Students gain insight into underlying processes that determine the functioning of natural populations. This is achieved through the study of theoretical models and applied case studies.

Contents

The course consists of the following chapters: estimation of population numbers, population growth, demography, competition, predation, parasitism, spatially-structured populations, exploited populations. Focus is both on the development of theoretical models (e.g. capture-recapture models, growth models, Lotka-Volterra models, SI-model, Incidence Function model, dynamic pool model) and on their use in particular case studies.

Initial competences

Be able to define ecological concepts in a scientifically sound way; be able to identify and analyze simple ecological problems; be able to apply simple infinitesimal analytic tools.

Final competences

1 To report on the basic concepts underlying the functioning of natural populations in accurate scientific language.
2 To explain population-ecological models and assess their applicability.
3 To apply population-ecological models in ecological problem-solving.
4 To understand the interface between population ecology and other biological disciplines.

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

Seminar, Lecture

Extra information on the teaching methods

because of COVID19 modified forms of work may be implemented when necessary

Learning materials and price

Free syllabus available

References

Alstad, D.N. 2001. Basic Populus Models of Ecology. Prentice-Hall, Inc. NJ. (ISBN 0-13-021289-X)
Krebs, C.J. 2001. Ecology: the experimental analysis of distribution and abundance (5th Ed). Benjamin Cummings, NY (ISBN 0-321-04289-1)

Course content-related study coaching

During practical classes, population ecological concepts are illustrated with practical examples. During these classes, students can pose general questions on the course's content.

Assessment moments

end-of-term assessment

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

Oral assessment, Written assessment

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

Oral assessment, Written assessment

Examination methods in case of permanent assessment

Possibilities of retake in case of permanent assessment

not applicable

Extra information on the examination methods

Practicals: written
Theory: oral examination with written preparation. Students are evaluated on their knowledge of population-ecological concepts and insight into ecological modeling.

Calculation of the examination mark

Theory 60% ; practicals 40 %