

# Course Specifications

Valid in the academic year 2018-2019

## Nematodes as Model Organisms (C002814)

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

Credits 4.0      Study time 120 h      Contact hrs 20.0 h

Course offerings and teaching methods in academic year 2018-2019

A (semester 1)	English	lecture	12.5 h
		practicum	7.5 h
		seminar: practical PC room classes	2.5 h

Lecturers in academic year 2018-2019

Braeckman, Bart      WE11      lecturer-in-charge

Offered in the following programmes in 2018-2019

	crdts	offering
<a href="#">International Master of Science in Agro- and Environmental Nematology</a>	4	A

Teaching languages

English

Keywords

Model systems, *Caenorhabditis elegans*, techniques, bio-informatics

Position of the course

This course is part of the common general courses of the 1st year. In this course we emphasize on the important role of nematodes as simple multicellular models to study complex biological functions. We will also focus on some milestones in biological research that were carried out on nematode models.

Contents

Nematode models: an introduction *Caenorhabditis elegans*  
 History of a supermodel: *C. elegans* biology, *C. elegans* resources  
 Important techniques developed/used in *C. elegans* to study biological processes:  
 Culture maintenance - reproduction - mutagenesis and transgenesis - sequencing -  
 RNAi - expression studies - worm sorting - laser ablation - neurobiological techniques  
*C. elegans* in fundamental research: neurobiology - developmental biology - apoptosis -  
 aging.

Initial competences

Preliminary knowledge of general biology is necessary. Basic Internet skills are a plus but not required

Final competences

- 1 Understanding the importance of nematode models to solve many general biological questions.
- 2 Appreciation of the value of detailed molecular analyses in these models used to understand basic biological phenomena.
- 3 Ability to carry out basic searches in WormBase and related databases.
- 4 Awareness of the possibilities within these databases.
- 5 Ability to perform laboratory experiments as well as analysis, interpretation, summarizing and reporting of the obtained data.

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, seminar: practical PC room classes

#### Extra information on the teaching methods

Exercises in computer class (WormBase)  
Practicals - experiments with *C. elegans* in the lab  
Lab tour: visit to the research lab of the titular

#### Learning materials and price

English notes and powerpoint presentations printed in color  
Infrastructure for practicals: Computer class with projector and screen; each student is provided with a pc / lab with necessary equipment. Estimated price: €11

#### References

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#### Course content-related study coaching

Questions concerning this course can be asked anytime at the offices of the teaching staff or submitted to the staff by using the Minerva server.

#### Evaluation methods

end-of-term evaluation and continuous assessment

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

Oral examination

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

Oral examination

#### Examination methods in case of permanent evaluation

Report

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

examination during the second examination period is not possible

#### Extra information on the examination methods

Oral exam with written preparation.  
The permanent evaluation is a group report of the practicals.

#### Calculation of the examination mark

Period-bound examination (80%) and non-periodical evaluation (20%).