

## Zoology: Morphology and Systematics (I700200)

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

**Credits 4.0**      **Study time 120 h**      **Contact hrs**      48.0h

**Course offerings and teaching methods in academic year 2022-2023**

A (semester 1)	Dutch	Gent	practicum	16.0h
			seminar: coached exercises	2.0h
			online lecture	24.0h

**Lecturers in academic year 2022-2023**

Ingels, Katrijn	LA22	staff member
Michiels, Joris	LA22	lecturer-in-charge

**Offered in the following programmes in 2022-2023**

<a href="#">Bachelor of Science in Bioscience Engineering Technology</a>	<b>crdts</b>	<b>offering</b>
	4	A

**Teaching languages**

Dutch

**Keywords**

Zoology, taxonomy, embryology, growth of animals, functions of animals, protozoa, invertebrates, vertebrates

**Position of the course**

Animals have diverse relations to humans, amongst them production of food, companion animals, plant pests, parasites for human and animal. The course focuses on gaining insights in the huge diversity of animal organisms and the importance of some organisms for the program. An elaborate knowledge of zoology, systematics of the animal kingdom and animal growth is indispensable in the bachelor program.

**Contents**

The learning content of the course consists of:

- Importance and principles of classification
- Concept of species
- Terms such as symmetrie, segmentation, polymorfism, direct and indirect development
- Embryology of the animal, pre- en postnatal growth and applications
- Regnum Protista, Subregnum Protozoa
- Regnum Animalia
  - Phylum Porifera (sponges)
  - Phylum Cnidaria (cnidarians)
  - Phylum Ctenophora (combjellies)
  - Phylum Plathelminthes (flatworms)
  - Phylum Nematoda (nematodes)
  - Phylum Rotifera (rotifers)
  - Phylum Mollusca (molluscs)
  - Phylum Annelida (annelids)
  - Phylum Onychophora
  - Phylum Arthropoda (arthropods)
  - Phylum Bryozoa (moss animals)

Phylum Echinodermata (echinoderms)  
Phylum Chordata (chordates)  
Subphylum Urochordata or Tunicata (tunicates)  
Subphylum Cephalochordata  
Subphylum Euchordata or vertebrates (vertebrates)

A brief introduction to typical characteristics of the animal plan for each taxonomic group is given, and relevant examples with life cycles are addressed. Particular attention is directed to taxonomy of insect, birds and mammals.

Students are offered theoretical exercises via the electronic learning platform in order to process the lecture material and gain necessary insights. In the practical exercises exemplary organisms are studied, both morphology and anatomy.

#### **Initial competences**

Basic principles of zoology such as systematic, cell and tissue anatomy, physiology and biochemistry is recommended.

#### **Final competences**

- 1 He/she can situate the organisms of the animal kingdom in an independent way in the complex system of the animal kingdom and can indicate a number of important and relevant characteristics
- 2 Able to elaborate on the life cycles and importance of some exemplary organisms with high importance for production of plant and animal and human health
- 3 Capable of addressing morphological and anatomical characteristics of animals during dissection in relation to the diversity of animals

#### **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**

Practicum, Online lecture, Lecture, Seminar: coached exercises

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

Course notes and presentations "Zoology: morphology and systematics"  
Theoretical exercises on electronic learning platform with interaction  
Videos and animations on electronic learning platform  
Notes exercises "Zoology: morphology and systematics"

#### **References**

Hickman C.P., Roberts L.S., Keen S.L., Eisenhour D.J., Larson A. & l'Anson H. (2017). Integrated principles of zoology. 17th Ed., McGraw-Hill Education, USA, 913 p.  
Dorit R.L., Walker W.F. & Barnes R.D. (1991). Zoology. Saunders College Publishing, Philadelphia, USA, 1009 p.  
URL references are included in the course notes.

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

Possibility to ask questions after appointment. One hour consultation on a predetermined moment in the week is scheduled.  
Rehearsal lesson  
Possibility to consult books and journals available at the department.

#### **Assessment moments**

end-of-term and continuous assessment

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

Written examination with multiple choice questions, Written examination with open questions

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

Written examination with multiple choice questions, Written examination with open questions

**Examination methods in case of permanent assessment**

Report, Written examination, Job performance assessment

**Possibilities of retake in case of permanent assessment**

examination during the second examination period is not possible

**Extra information on the examination methods**

Theory: written

Exercises: permanent evaluation by report and activity during exercise,  
intermittent and final testing

**Calculation of the examination mark**

Theory: 70%

Exercises: 30%