The Living World 3: Plant and Animal Biology (O000089)

Valid as from the academic year 2016-2017

Course Specifications

Course

<table>
<thead>
<tr>
<th>Course size</th>
<th>5.0</th>
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<tbody>
<tr>
<td>Credits</td>
<td></td>
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<tr>
<td>Study time</td>
<td>150 h</td>
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<tr>
<td>Contact hrs</td>
<td>60.0 h</td>
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</tbody>
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Course offerings and teaching methods in academic year 2016-2017

A (semester 1)
- Practicum: 30.0 h
- Lecture: 30.0 h

Lecturers in academic year 2016-2017

- Depuydt, Stephen (lecturer-in-charge)
- Radwanska, Magdalena (co-lecturer)

Offered in the following programmes in 2016-2017

- Bachelor of Science in Food Technology: 5 crdts A
- Joint Section Bachelor of Science in Environmental Technology, Food Technology and Molecular Biotechnology: 5 crdts A
- Bachelor of Science in Environmental Technology: 5 crdts A
- Bachelor of Science in Molecular Biotechnology: 5 crdts A

Teaching languages

- English

Keywords


Position of the course

The Living World 3 constitutes a basic course in biology with emphasis on biodiversity and adaptations of two kingdoms: Plantae (PART I, 1/3) and Animalia (PART II, 2/3). The course gives an introduction on the taxonomy, morphology and anatomy of plants and animals in the light of evolution, how large adaptation strategies have been explored in a changing physical and biological world. Typical features of the taxa are discussed, underlying relationship in anatomy and potential applications for agriculture are briefly mentioned and discussed.

Contents

PART I: Kingdom of Plants
1. General evolution and anatomy of plants. (in a, d-f; anatomy in b)
2. Classification and phylogeny of plants. (in a, d-f)
3. Autotrophic protozoa and algae (in f)
4. Morphology of flowering plants (in c)
5. Important crops for agriculture (in g)
6. An overview of plant biotechnology (in e)
7. An overview of plant diversity (in a, d-f)
   a. Classification and phylogeny of plants
   b. Histology: from cells to tissues
   c. Morphology of roots, stems, leaves and flowers
   d. Plant diversity in context of evolution: flowering plants
   e. Plant diversity in context of evolution: gymnosperms
   f. Plant diversity in context of evolution: land plants and algae
   g. Crop Biology
   h. Asexual reproduction, propagation and plant biotechnology

PART II: Kingdom of Animals
8. Animal Diversity, Systematics, and Ecology

(Approved)
9. Comparative Animal Anatomy and Physiology:
   a) Transition to Multicellularity: Porifera and Diploblastic Cnidaria and Ctenophora;
   b) Triploblastic Protostomia (Lophotrochozoa): Platyhelminthes (Flat Worms),
      Rotifera, Nemertea (Ribbon Worms), Mollusca, Annelida (Segmented Worms);
   c) Triploblastic Protostomia (Ecdysozoa): Nematoda (Round Worms), Arthropoda;
   d) Triploblastic Deuterostomia: Echinodermata, Chordata (Osteichthyes,
      Chondrichthyes, Amphibia, Reptilia, Aves, Mammalia);
   e) Human evolution.

Initial competences
   This course demands a basic knowledge of biology (Living World 1 and 2).

Final competences
   To have an overview of the biodiversity of plants and animals. To understand the basic
   taxonomy, morphology and anatomy of plants. Students gain knowledge of animal
   diversity, anatomy, physiology, systematics, and animal ecology. Moreover, they
   understand life cycles, and recognise actual living organisms and place them in the
   taxonomy. Students gain detailed knowledge of the anatomy of flowering 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

Learning materials and price
   Part I: Written syllabus; PowerPoint slides; notes form practical exercises
   Part II: PowerPoint slides from the course, notes from the practical exercises,
      excursions (ecology park), movies, and a textbook: Sixteenth Edition, Integrated

References

Course content-related study coaching

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, written examination with multiple choice questions

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

Examination methods in case of permanent evaluation
   Skills test, report

Possibilities of retake in case of permanent evaluation
   examination during the second examination period is possible in modified form

Extra information on the examination methods
   Partim 1(Plantae) and partim 2 (Animalia) will be evaluated separately. Minimum score
   of 50% on both partims is required to pass the exam. Participation in the practical
   exercises and excursions is mandatory in order to pass the course. The same counts
   for the submission of the report.

Calculation of the examination mark
   Written examination with open questions 60%
   Written examination with multiple choice questions 20%
   Practical Exercises (partim plant biology and partim animal biology) 10%
   Report (partim animal biology) 10%

(Approved)