Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Module Catalogue

for the Subject

Biology

as a minor in a Bachelor's degree programme

(60 ECTS credits)

Examination regulations version: 2008
Responsible: Faculty of Biology

Contents

The subject is divided into

Content and Objectives of the Programme

No translation available.

Abbreviations used

Course types: **E** = field trip, **K** = colloquium, **O** = conversatorium, **P** = placement/lab course, **R** = project, **S** = seminar, **T** = tutorial, **Ü** = exercise, **V** = lecture

Term: **SS** = summer semester, **WS** = winter semester

Methods of grading: **NUM** = numerical grade, **B/NB** = (not) successfully completed

Regulations: **(L)ASPO** = general academic and examination regulations (for teaching-degree programmes), **FSB** = subject-specific provisions, **SFB** = list of modules

Other: **A** = thesis, **LV** = course(s), **PL** = assessment(s), **TN** = participants, **VL** = prerequisite(s)

Conventions

Unless otherwise stated, courses and assessments will be held in German, assessments will be offered every semester and modules are not creditable for bonus.

Notes

Should there be the option to choose between several methods of assessment, the lecturer will agree with the module coordinator on the method of assessment to be used in the current semester by two weeks after the start of the course at the latest and will communicate this in the customary manner.

Should the module comprise more than one graded assessment, all assessments will be equally weighted, unless otherwise stated below.

Should the assessment comprise several individual assessments, successful completion of the module will require successful completion of all individual assessments.

In accordance with

the general regulations governing the degree subject described in this module catalogue:

ASPO2007

associated official publications (FSB (subject-specific provisions)/SFB (list of modules)):

28-Apr-2009 (2009-36)

This module handbook seeks to render, as accurately as possible, the data that is of statutory relevance according to the examination regulations of the degree subject. However, only the FSB (subject-specific provisions) and SFB (list of modules) in their officially published versions shall be legally binding. In the case of doubt, the provisions on, in particular, module assessments specified in the FSB/SFB shall prevail.

Compulsory Courses

(46 ECTS credits)

General Biology I

(10 ECTS credits)

Module title			Abbreviation
From Cells to Organisms for minor field of study			07-1A1ZO-NF-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Biologie (Biology)		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
10	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

The first part of the course will acquaint students with the elementary building blocks of life as well as biological categories. Building on this knowledge, the course will then discuss the cell, the smallest unit of life, starting with its macroscopic structure before moving on to its microscopic structure. The course will point out differences and similarities between prokaryotic cells (bacteria, archaebacteria) and eukaryotic cells (animals, plants). The second part will address one of the central issues of biology: evolution. Fundamental mechanisms and hypotheses will be discussed and students will be introduced to major phylogenetic reconstruction methods. Using the examples of plants and animals, the subsequent module components will introduce students to the phylogenetic diversity of eukaryotes. At the level of groups in the plant and animal kingdoms, students will acquire the fundamental knowledge necessary to understand the forms and functions of animal and plant organisms, with morphology and cytology being discussed in an evolutionary and ecological context. The contents of the module are relevant for biological disciplines at all levels of biological organisation.

Intended learning outcomes

- Knowledge of the structures of prokaryotic and eukaryotic cells and their (biological) macromolecules. - Knowledge of the specific characteristics of the intracellular and extracellular structures of prokaryotes as well as animal and plant cells. - Ability to recognise evolution as the driving force behind the phylogeny of species. - Familiarity with the concepts of phylogenetic relationships between plants/animals. - Familiarity with the distinguishing characteristics and major representatives of groups in the plant and animal kingdoms. - Ability to select those plant and animal organisms that are most suitable for particular scientific issues. - Familiarity with the components and functioning of microscopes.

Courses (type, number of weekly contact hours, language — if other than German)

This module has 4 components; information on courses listed separately for each component.

- 07-1A1ZO-2E-072: Ü (no information on language and number of weekly contact hours available)
- 07-1A1ZO-3P-072, and 07-1A1ZO-4T-072: V + Ü (no information on language and number of weekly contact hours available)
- 07-1A1ZO-NF-1Z-082: V (no information on language and number of weekly contact hours available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

This module has the following 4 assessment components. Unless stated otherwise, students must pass all of these assessment components to pass the module as a whole.

Assessment in module component 07-1A1ZO-2E-072: Evolution

- 1 ECTS credit, numerical grading
- written examination (30 minutes)

Assessment in module component 07-1A1ZO-3P-072: Das Pflanzenreich (The Plant Kingdom), and **in module component 07-1A1ZO-4T-072:** Das Tierreich (The Animal Kingdom) **:**

- 4 ECTS credits, numerical grading
- written examination (approx. 60 minutes)
- Additional prerequisites: admission prerequisite to assessment: regular attendance of and participation in exercises as well as successful completion of the respective exercises as specified at the beginning of the course.

Assessment in module component 07-1A1ZO-NF-1Z-082: Die Zelle für das Nebenfach Biologie (The Cell for Biology Minors)

- 1 ECTS credit, numerical grading
- written examination (approx. 60 minutes) including multiple choice questions

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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General Biology II

(9 ECTS credits)

Module title			Abbreviation
Genetics, Neurobiology, Behaviour			07-2A2GNV-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Biologie (Biology)		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
6	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

Fundamental principles of genetics, neurobiology and behavioural biology.

Intended learning outcomes

[Version 1: Students will understand that there are molecular, cellular and system biological mechanisms and processes involved in animal behaviour and will be able to relate animal behaviour to the molecular and formal bases of inheritance.] [Version 2: Students will understand that there are molecular, cellular and system biological mechanisms and processes involved in animal behaviour and will be able to relate animal behaviour to the molecular and formal bases of inheritance.]

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 3 module components. Information on courses will be listed separately for each module component.

- 07-2A2GNV-1G-072: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 07-2A2GNV-2N-072: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 07-2A2GNV-3V-072: V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-2A2GNV-1G-072: Basic Genetics Basic Genetics

- 2 ECTS, Method of grading: numerical grade
- written examination (approx. 30 minutes)
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.

Assessment in module component 07-2A2GNV-2N-072: Basic Neurobiology Basic Neurobiology

- 2 ECTS, Method of grading: numerical grade
- written examination (approx. 30 minutes)
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.

Assessment in module component 07-2A2GNV-3V-072: Behavioural Biology Behavioural Biology

- 2 ECTS, Method of grading: numerical grade
- written examination (approx. 30 minutes, word problems and/or multiple choice questions)
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.

Allocation of places

Only as part of "spezielles Studienangebot": 10 places.

Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module title			Abbreviation
Basic Physiology of Animals for minor field of study			07-2A2TP-NF-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Biologie (Biology)		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
3	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.	

Contents

This module will acquaint students with the principles of general and comparative plant physiology and will provide them with an opportunity to develop the fundamental skills for working in a physiological laboratory. The module will discuss the physiological processes that regulate the internal environment of animals.

Intended learning outcomes

Students have developed an understanding of the physiological functions and regulation of organisms. They have acquired fundamental knowledge on planning, setup, interpretation and presentation of scientific results.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes, word problems and/or multiple choice questions)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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General Biology III

(16 ECTS credits)

Module title			Abbreviation
Developmental Biology of Plants and Animals			07-3A3EBIO-072-m01
Module coordinator		**Module offered by**	
Dean of Studies Biologie (Biology)		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
10	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

In this module, students will acquire an overview of the theoretical and practical fundamentals of animal and plant developmental biology.

Intended learning outcomes

1. Fundamental concepts in developmental biology. 2. Developmental biology of selected model organisms. 3. Selected molecular mechanisms that regulate determination and differentiation processes. 4. Establishment of embryonic axes. 5. Examples of mechanisms of morphogenesis and organogenesis. 6. Interrelations between ontogeny and evolution. 7. Physiological aspects of the developmental processes discussed.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 07-3A3EBIO-1T-072: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 07-3A3EBIO-2P-072: V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-3A3EBIO-1T-072: Developmental Biology of Animals (Lecture and Experimental Course) Developmental Biology of Animals (Lecture and Experimental Course)

- 5 ECTS, Method of grading: numerical grade
- written examination (60 minutes)

Assessment in module component 07-3A3EBIO-2P-072: Developmental Biology of Plants (Lecture and experimental course) (Lecture and Experimental Course) Developmental Biology of Plants (Lecture and experimental course) (Lecture and Experimental Course)

- 5 ECTS, Method of grading: numerical grade
- written examination (60 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Ecology of animals for minor field of study			07-3A3OET-NF-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Zoology III		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
3	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will provide students with an overview of the interactions of animals with their abiotic and biotic environments. The module will focus on the functional adaptation to environmental conditions as well as on the structure and dynamics of populations and ecosystems. Students will be introduced to fundamental model concepts of ecology, will become familiar with examples of research findings and will acquire the fundamental knowledge necessary to develop an understanding of current ecological problems.

Intended learning outcomes

Students are familiar with the fundamental principles of research in the field of ecology and with the most important abiotic and biotic factors that influence the distribution and frequency of occurrence of organisms in their environment. In addition, they understand the scientific relevance ecology has to the assessment of environmental issues. They are familiar with the fundamental principles of plant ecophysiology and, in particular, the adaptations of plants to their habitats, the development of plant societies, the role of plants in ecosystems as well as interactions with other organisms.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (45 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Ecology of plants for minor field of study			07-3A3OEP-NF-082-m01
Module coordinator		**Module offered by**	
holder of the Chair of Plant Physiology and Biophysics		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
3	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will provide students with an overview of the interactions of plants with their abiotic and biotic environments. The module will focus on the functional adaptation to environmental conditions as well as on the structure and dynamics of populations and ecosystems. Students will be introduced to fundamental model concepts of ecology, will become familiar with examples of research findings and will acquire the fundamental knowledge necessary to develop an understanding of current ecological problems.

Intended learning outcomes

Students are familiar with the fundamental principles of research in the field of ecology and with the most important abiotic and biotic factors that influence the distribution and frequency of occurrence of organisms in their environment. In addition, they understand the scientific relevance ecology has to the assessment of environmental issues. They are familiar with the fundamental principles of plant ecophysiology and, in particular, the adaptations of plants to their habitats, the development of plant societies, the role of plants in ecosystems as well as interactions with other organisms.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (60 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Mathematics/Quantitative Biology

(4 ECTS credits)

Module title			Abbreviation
Mathematical Biology and Biostatistics			07-2BM-072-m01
Module coordinator		**Module offered by**	
holder of the Chair of Bioinformatics		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
4	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.	

Contents

Fundamental principles of the most important mathematical and statistical methods in biology.

Intended learning outcomes

Students will have acquired fundamental skills in the evaluation of experiments, the interpretation of readings and numbers as well as the mathematical description of biological processes.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 45 minutes) including multiple choice questions

Allocation of places

Only as part of "spezielles Studienangebot": 30 places.

Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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General Biology IV

(7 ECTS credits)

Module title			Abbreviation
Local Fauna			07-4A4FA-072-m01
Module coordinator		**Module offered by**	
holder of the Chair of Animal Ecology and Tropical Biology		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
7	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

In this module, students will acquire an overview of selected groups of animals to be found in Central Europe. They will acquire a fundamental knowledge of the systematics and taxonomy as well as on the quantitative recording of biodiversity and will practise identifying species, using specimens of animals. Selection of specimens will be taxon-specific and will represent specific habitats or lifestyles. Field exercises in a variety of habitats will provide students with an opportunity to consolidate the knowledge and skills they acquired in the lab by identifying living specimens including their ecology and behavioural biology.

Intended learning outcomes

Students know how to taxonomically classify selected representatives of the indigenous fauna (vertebrates, invertebrates) and use identification keys. They are familiar with selected Central European habitats as well as their faunas and phenology. On the basis of the morphology and habitats of species, students are able to predict the biology and ecology of these species as well as, where applicable, to predict whether they function as indicators and are of conservation concern.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 07-4A4FA-1FA-072: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 07-4A4FA-2FA-072: E (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-4A4FA-1FA-072: Fauna (Lecture, Practice on Systematic) Fauna (Lecture, Practice on Systematic)

- 4 ECTS, Method of grading: numerical grade
- written examination (45 minutes) and practical identification assignment (45 minutes); weighted 1:1

Assessment in module component 07-4A4FA-2FA-072: Fauna Field Excursions

- 3 ECTS, Method of grading: (not) successfully completed
- log (approx. 1 to 2 pages) and presentation (approx. 10 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Compulsory Electives

(14 ECTS credits)

General Biology III

(4 ECTS credits)

Module title			Abbreviation
Biotechnology			07-3A3BT-072-m01
Module coordinator		**Module offered by**	
holder of the Chair of Biotechnology and Biophysics		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
2	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will provide students with an overview of topics in biotechnology: biosensors and environmental biotechnology, microbiotechnology and nanobiotechnology, biomaterials, cryobiotechnology, bioprocess engineering and microbial biotechnology.

Intended learning outcomes

Students have become familiar with the fundamental principles of biotechnology.

Courses (type, number of weekly contact hours, language — if other than German)

V + S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (30 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Bioinformatics			07-3A3BI-072-m01
Module coordinator		**Module offered by**	
holder of the Chair of Bioinformatics		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
2	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Fundamental principles of bioinformatics.

Intended learning outcomes

Students are proficient in methods for the analysis of DNA and protein databases.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 07-3A3BI-1B-072: V (no information on SWS (weekly contact hours) and course language available)
- 07-3A3BI-2B-072: S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-3A3BI-1B-072: Bioinformatics (Lecture)

- 1 ECTS, Method of grading: numerical grade
- written examination (approx. 20 minutes)

Assessment in module component 07-3A3BI-2B-072: Bioinformatics (Seminar)

- 1 ECTS, Method of grading: (not) successfully completed
- term paper (approx. 5 to 10 pages)

Allocation of places

Only as part of Biochemistry Master's: 5 places. Places will be allocated by lot.

Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Pharmaceutical Biology			07-3A3PB-072-m01
Module coordinator		**Module offered by**	
holder of the Chair of Pharmaceutical Biology		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
2	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

In this module, students will acquire an overview of the study of biogenic drugs. The module will include an introduction to one branch: pharmacokinetics, the discipline that describes the fate of a drug or xenobiotic in an organism.

Intended learning outcomes

Students have become familiar with the fundamental principles of pharmacokinetics.

Courses (type, number of weekly contact hours, language — if other than German)

V + S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (30 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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General Biology II/IV and Special Biosciences I

(10 ECTS credits)

Module title			Abbreviation
Local Flora			07-4A4FL-072-m01
Module coordinator		**Module offered by**	
holder of the Chair of Ecophysiology and Vegetation Ecology		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
7	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

The module will discuss the fundamental principles of the systematics and ecology of flowering plants. Students will acquire an overview of the major flowering plants to be found in the temperate zone as well as their ecological and economic importance. Using the field guide *Flora von Deutschland* by Schmeil-Fitschen, the course will demonstrate how dichotomous keys are used, and students will practise identifying freshly-gathered plants using dichotomous keys. Identifying plants, students will learn how to identify major morphological plant characteristics and will become familiar with the respective terminology. The module will also include field trips to typical habitats in the Botanical Garden and the vicinity of Würzburg. Students will become familiar with the common as well as scientific names of the plants found and will be introduced to the family- as well as species-specific characteristics of these plants. Students will practise using field guides and identification keys on site. Habitat ecological, geobotanical, climatic as well as conservation-relevant characteristics will also be discussed. The module will also include sessions at the Botanical Garden of the University of Würzburg with its outdoor facilities and greenhouses to help students acquire species identification skills.

Intended learning outcomes

Students have acquired knowledge and skills related to the ecology, systematics and taxonomy of indigenous flowering plants. They are familiar with the terminology of plant morphology and know how to use Floras and set up scientific herbaria.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 07-4A4FL-1FL-072: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 07-4A4FL-2FL-072: E (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-4A4FL-1FL-072: Flora (Lecture, Practice on Systematic) Flora (Lecture, Practice on Systematic)

- 4 ECTS, Method of grading: numerical grade
- written examination (45 minutes) and practical identification assignment (60 minutes); weighted 1:1

Assessment in module component 07-4A4FL-2FL-072: Flora Field Excursions

- 3 ECTS, Method of grading: (not) successfully completed
- log (approx. 1 to 2 pages) and presentation (approx. 10 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module title			Abbreviation
Human Genetics			03-4S1HG-092-m01
Module coordinator		**Module offered by**	
holder of the Chair of of Human Genetics		Faculty of Medicine	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

Fundamentals of and analytical methods in human and vertebrate cytogenetics. Characterisation of the normal human karyotype and chromosome aberrations. Introduction to chromosome evolution.

Intended learning outcomes

Students who complete this module will acquire the theoretical basis of and practical experience in human cytogenetics. They will learn how to prepare and identify human chromosomes and critically interpret cytogenetic findings.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 03-4S1HG-1HZ-092: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 03-4S1HG-2HZ-092: S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 03-4S1HG-1HZ-092: Human Genetics (Lecture and Laboratory Practice) Human Genetics (Lecture and Laboratory Practice)

- 3 ECTS, Method of grading: numerical grade
- 2 written examinations (multiple choice): mid-semester examination (15 minutes), end-of-semester examination (20 minutes)
- Other prerequisites: A basic knowledge of genetics is recommended.

Assessment in module component 03-4S1HG-2HZ-092: Human Genetics (Seminar)

- 2 ECTS, Method of grading: (not) successfully completed
- presentation (approx. 20 to 30 minutes)
- Other prerequisites: A basic knowledge of genetics is recommended.

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			**Abbreviation**
Advanced Light- and Electron-Microscopy			07-4S1MZ1-092-m01
Module coordinator		**Module offered by**	
head of the Department of Electronmicroscopy		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
3	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents
Fundamental principles of confocal laser scanning microscopy and electron microscopy.
Intended learning outcomes
Students have acquired theoretical knowledge and practical skills in the area of light and electron microscopy.
Courses (type, number of weekly contact hours, language — if other than German)
V + Ü (no information on SWS (weekly contact hours) and course language available)
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (45 minutes)
Allocation of places
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Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module title			**Abbreviation**
Analysis of Chromosomes			07-4S1MZ2-092-m01
Module coordinator		**Module offered by**	
head of the Department of Electronmicroscopy		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
3	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents
Overview of the structure of chromosomes of somatic and meiotic cells.
Intended learning outcomes
Students are able to analyse chromosomal structures.
Courses (type, number of weekly contact hours, language — if other than German)
V + Ü (no information on SWS (weekly contact hours) and course language available)
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
written examination (45 minutes)
Allocation of places
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Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module title			Abbreviation
Ecology and Developmental Biology of marine organisms			07-4S1MZ3-092-m01
Module coordinator		**Module offered by**	
head of the Department of Electronmicroscopy		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

A combination of lab work and field trips, this module will provide students with an insight both into the organismal diversity of a marine ecosystem and into the biocenosis of the littoral of the island of Helgoland in the North Sea.

Intended learning outcomes

Students are familiar with the morphology, developmental biology, physiology and ecology of organisms in a marine ecosystem.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 07-4S1MZ3-1MO-092: Ü (no information on SWS (weekly contact hours) and course language available)
- 07-4S1MZ3-2MO-092: S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-4S1MZ3-1MO-092: Ecology and Developmental Biology of Marine Organisms

- 4 ECTS, Method of grading: numerical grade
- log (approx. 10 to 20 pages)
- Assessment offered: once a year, summer semester
- Other prerequisites: Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.

Assessment in module component 07-4S1MZ3-2MO-092: Seminar on Marine Biology

- 1 ECTS, Method of grading: (not) successfully completed
- presentation (approx. 20 to 30 minutes)
- Assessment offered: once a year, summer semester

Allocation of places

Information on the allocation of places will be listed separately for each module component.

- 07-4S1MZ3-1MO-092: Number of places: 18. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the

other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.

- 07-4S1MZ3-2MO-092: --

Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			**Abbreviation**
Special Bioinformatics I			07-4S1MZ6-092-m01
Module coordinator			**Module offered by**
holder of the Chair of Bioinformatics			Faculty of Biology
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Fundamental principles of the tree of life, fundamental principles of phylogenetics (methods and markers), fundamental principles of evolutionary biology (concepts), sequence analysis, RNA structure prediction, phylogenetic reconstruction.

Intended learning outcomes

Students are able to use software and databases for sequence analysis, RNA structure prediction and phylogenetic reconstruction.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

log (approx. 10 to 20 pages)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			**Abbreviation**
Neurobiology I			07-4S1NVO1-092-m01
Module coordinator			**Module offered by**
holder of the Chair of Neurobiology and Genetics			Faculty of Biology
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	
Contents			
Neurobiology and methods in neurobiology, using Drosophila as a neurogenetic model system.			
Intended learning outcomes			
Students have acquired an advanced knowledge of the neurobiology of a model organism and are able to apply the relevant methods in neurobiology.			
Courses (type, number of weekly contact hours, language — if other than German)			
P (no information on SWS (weekly contact hours) and course language available)			
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)			
log (approx. 10 to 20 pages)			
Allocation of places			
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Additional information			
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Referred to in LPO I (examination regulations for teaching-degree programmes)			
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Module title			Abbreviation
Aspects of Integrative Behavioural Biology			07-4S1NVO2-092-m01
Module coordinator		**Module offered by**	
holder of the Chair of Zoology II		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.	

Contents

Communication in the animal kingdom, neuroethology and behavioural development, perception and processing of olfactory signals, temporal organisation of behaviour, adaptive feeding behaviour, reproductive behaviour, social behaviour, orientation mechanisms.

Intended learning outcomes

Students have acquired an advanced knowledge in the area of behavioural biology and are able to deliver presentations on current studies on relevant topics.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 07-4S1NVO2-1IV-092: V (no information on SWS (weekly contact hours) and course language available)
- 07-4S1NVO2-2IV-092: S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-4S1NVO2-1IV-092: Aspects of Integrative Behavioural Biology 1 (Lecture and Practice)

- 2 ECTS, Method of grading: numerical grade
- written examination (30 minutes)
- Language of assessment: German or English
- Other prerequisites: A good command of the English language is recommended.

Assessment in module component 07-4S1NVO2-2IV-092: Current Topics in Behavioural Biology

- 3 ECTS, Method of grading: (not) successfully completed
- presentation (approx. 20 to 30 minutes)
- Assessment offered: once a year, summer semester
- Language of assessment: German or English
- Other prerequisites: A good command of the English language is recommended.

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Fuctional Morphology of arthropods			07-4S1NV03-092-m01
Module coordinator		**Module offered by**	
holder of the Chair of Zoology III		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.	

Contents

Morphology, anatomy, phylogeny and ecology of arthropods.

Intended learning outcomes

Students are able to explain arthropod radiations in a functional context as well as to explain the importance of arthropods to ecosystems.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

term paper (approx. 5 to 10 pages)

Allocation of places

Number of places: 20. Should the number of applications exceed the number of available places, places will be allocated as follows: Places will primarily be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits. Should the module be used in other subjects, there will be two quotas: 95% of places will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits and 5% of places (a minimum of one participant in total) will be allocated to students of the Bachelor's degree subject Biologie (Biology) with 60 ECTS credits and to students of the Bachelor's degree subjects Computational Mathematics and Mathematik (Mathematics), each with 180 ECTS credits, as part of the application-oriented subject Biology (as well as potentially to students of other 'importing' subjects). Should the number of places available in one quota exceed the number of applications, the remaining places will be allocated to applicants from the other quota. Should there be, within one module component, several courses with a restricted number of places, there will be a uniform regulation for the courses of one module component. In this case, places on all courses of a module component that are concerned will be allocated in a standardised procedure. In this procedure, applicants who already have successfully completed at least one other module component of the respective module will be given preferential consideration. A waiting list will be maintained and places re-allocated as they become available. Selection process group 1 (95%): Places will primarily be allocated according to the applicants' previous academic achievements. For this purpose, applicants will be ranked according to the number of ECTS credits they have achieved and their average grade of all assessments taken during their studies or of all module components in the subject of Biologie (Biology) (excluding Chemie (Chemistry), Physik (Physics), Mathematik (Mathematics)) at the time of application. This will be done as follows: First, applicants will be ranked, firstly, according to their average grade weighted according to the number of ECTS credits (qualitative ranking) and, secondly, according to their total number of ECTS credits achieved (quantitative ranking). The applicants' position in a third ranking will be calculated as the sum of these two rankings, and places will be allocated according to this third ranking. Among applicants with the same ranking, places will be allocated according to the qualitative ranking or otherwise by lot. Selection process group 2 (5%): Places will be allocated according to the following quotas: Quota 1 (50% of places): total number of ECTS credits already achieved in modules/module components of the Faculty of Biology; among applicants with the same number of ECTS credits achieved, places will be allocated by lot. Quota 2 (25% of places): number of subject semesters of the respective applicant; among applicants with the same number of subject semesters, places will be allocated by lot. Quota 3 (25% of

places): allocation by lot. Should the module be used only in the Bachelor's degree subject Biologie (Biology) with 180 ECTS credits, places will be allocated according to the selection process of group 1.
Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module title			**Abbreviation**
Ecology of insects			07-4S1NVO4-092-m01
Module coordinator		**Module offered by**	
holder of the Chair of Zoology III		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Taxonomy, ecology (synecology in particular) and behavioural biology of insects, including experimental field and lab work.

Intended learning outcomes

Students are proficient in insect diagnostics and are able to apply appropriate methods for experiments on insect ecology and behavioural biology.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (60 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Ecology of populations			07-4S1NVO5-092-m01
Module coordinator		**Module offered by**	
holder of the Chair of Zoology III		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

More in-depth discussion of the structure and dynamics of human and animal populations; regulation of population density; management.

Intended learning outcomes

Students are able to interpret the structure and dynamics of populations and metapopulations on the basis of model concepts in population ecology and to apply more advanced methods of quantitative analysis to these.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 07-4S1NVO5-1PO-092: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 07-4S1NVO5-2PO-092: S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-4S1NVO5-1PO-092: Basic Ecology of Populations (Lecture, Practice) Basic Ecology of Populations (Lecture, Practice)

- 4 ECTS, Method of grading: numerical grade
- written examination (45 minutes)

Assessment in module component 07-4S1NVO5-2PO-092: Ecology of Populations (Seminar)

- 1 ECTS, Method of grading: (not) successfully completed
- presentation (approx. 20 to 30 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			**Abbreviation**
Molecular modelling - From DNA to protein			07-4S1PS1-092-m01
Module coordinator		**Module offered by**	
holder of the Chair of Plant Physiology and Biophysics		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will equip students with advanced knowledge on the structure and function of nucleic acids and proteins as well as on the search for and analysis and modelling of plant macromolecules using databases and specific software.

Intended learning outcomes

Students have acquired a specialist knowledge of the structure-function relationships of macromolecules and are able to work with relevant databases and software.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

computerised practical examination (4 hours)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title	**Abbreviation**
Introduction Methods in Plant Ecophysiology	07-4S1PS2-092-m01

Module coordinator	**Module offered by**
holder of the Chair of Plant Physiology and Biophysics	Faculty of Biology

ECTS	**Method of grading**	**Only after succ. compl. of module(s)**
5	numerical grade	--

Duration	**Module level**	**Other prerequisites**
1 semester	undergraduate	--

Contents

Complex experiments to introduce students to the current state of research in plant ecophysiology as well as discussion of experimental findings in a comprehensive scientific context.

Intended learning outcomes

Students are able to use current methods in plant ecophysiology as well as to document experimental findings and put these in a scientific context.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

log (approx. 10 to 20 pages)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Pharmaceutical Drugs			07-4S1PS3-092-m01
Module coordinator		**Module offered by**	
holder of the Chair of Pharmaceutical Biology		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will introduce students to the major active agent groups in medicinal plants and phytopharmaceuticals as well as to their application in pharmacy. Microscopic and phytochemical analyses will be performed and the requirements and analytical methods of the pharmacopoeia will be explained.

Intended learning outcomes

Students have acquired a specialist knowledge on active agents from medicinal plants and phytopharmaceuticals as well as on the requirements and analytical methods of the pharmacopoeia.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 07-4S1PS3-1PD-092: Ü (no information on SWS (weekly contact hours) and course language available)
- 07-4S1PS3-2PD-092: S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-4S1PS3-1PD-092: Pharmaceutical Drugs (Laboratory Course)

- 3 ECTS, Method of grading: numerical grade
- written examination (45 minutes)

Assessment in module component 07-4S1PS3-2PD-092: Seminar on Pharmaceutical Drugs

- 2 ECTS, Method of grading: (not) successfully completed
- presentation (approx. 20 to 30 minutes)

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Methods Pharmaceutical Biology - practical course			07-4S1PS4-092-m01
Module coordinator		**Module offered by**	
holder of the Chair of Pharmaceutical Biology		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will provide students with a theoretical and methodological introduction to fundamental techniques in molecular biology and drug analysis.

Intended learning outcomes

Students are able to analyse groups of drugs, using a variety of methods.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 07-4S1PS4-1PB-092: P (no information on SWS (weekly contact hours) and course language available)
- 07-4S1PS4-2PB-092: S (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 07-4S1PS4-1PB-092: Analytics and Molecular Biology of Pharmaceutical Drugs (Laboratory Course)

- 4 ECTS, Method of grading: numerical grade
- written examination (45 minutes)

Assessment in module component 07-4S1PS4-2PB-092: Seminar on Analytics and Molecular Biology of Pharmaceutical Drugs

- 1 ECTS, Method of grading: (not) successfully completed
- presentation (approx. 20 to 30 minutes)
- Assessment offered: once a year, winter semester

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Basic Physiology of Prokaryotes for minor field of study			07-2A2PPR-NF-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Biologie (Biology)		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
3	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module will acquaint students with the principles of prokaryotic physiology. It will discuss prokaryotic metabolic diversity.

Intended learning outcomes

Students have developed an understanding of the physiological functions and regulation of organisms. They have acquired fundamental knowledge on planning, setup, interpretation and presentation of scientific results.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

written examination (approx. 60 minutes) including multiple choice questions

Allocation of places

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Additional information

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module title			Abbreviation
Basic Physiology of Plants for minor field of study			07-2A2PPF-NF-082-m01
Module coordinator		**Module offered by**	
Dean of Studies Biologie (Biology)		Faculty of Biology	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
3	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	Admission prerequisite to assessment: regular attendance of exercises and successful completion of the respective exercises as specified at the beginning of the course.	
Contents			
This module will acquaint students with the principles of general and comparative plant physiology and will provide them with an opportunity to develop the fundamental skills for working in a physiological laboratory. The module will discuss the physiological processes that regulate the internal environment of plants.			
Intended learning outcomes			
Students have developed an understanding of the physiological functions and regulation of organisms. They have acquired fundamental knowledge on planning, setup, interpretation and presentation of scientific results.			
Courses (type, number of weekly contact hours, language — if other than German)			
V + Ü (no information on SWS (weekly contact hours) and course language available)			
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)			
written examination (approx. 45 minutes)			
Allocation of places			
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Additional information			
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Referred to in LPO I (examination regulations for teaching-degree programmes)			
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