DOCTORAL SCHOOL OF BIOLOGICAL SCIENCES

Faculty of Science

Name of discipline: biological sciences

Form of training: doctoral (Ph.D.) training

Program objectives: to acquire the academic degree training, acquisition of practice in higher education

Training time: 4 + 4 semesters

Training type: regular school

Financing: state-supported, or tuition fee based

Entrance requirements: master's degree and a successful entrance exam

Language requirements: State-recognized type „C" secondary (or equivalent) in English language and basic knowledge of a second language

Training ends: First 2 years (I): 132 credits and complex examination; Second 2 years (II): 108 credits, final (pre-degree) certificate

The number of credits required: 240

Ways of Getting Credit / modules: study credits (I: 32, II: 0), research credits (I: 100, II: 108), educational credits (I: 0, II:0)

Responsible for the training: Prof. Anna Erdei – head of the graduate school.

DOCTORAL EDUCATION PROGRAMS

I. ECOLOGY, CONSERVATION BIOLOGY AND SYSTEMATICS

Program leader: Dr. János Podani

Students must complete 32 credits from the following courses:

BIO/1/2 Grassland ecology

4 credits, lecture, optional, can be taken only once

BIO/1/4 Theory and practice of ecological sampling

4 credits, lecture, optional, can be taken only once

BIO/1/5 Introduction to the analysis of multivariate biological data

4 credits, practical, optional, can be taken only once

BIO/1/6 Conservation biology

4 credits, lecture, optional, can be taken any number of times

BIO/1/7 Fundamentals of seed bank ecology

4 credits, lecture, optional, can be taken only once

BIO/1/14 Population dynamics and evolution of clonal plants

4 credits, lecture, compulsory, can be taken any number of times

BIO/1/17 Conservation of biodiversity in forests

4 credits, lecture, optional, can be taken only once

BIO/1/18 Bryophyte ecology

6 credits, practical, optional, can be taken only once

BIO/1/19 General ecology

4 credits, practical, optional, can be taken only once

BIO/1/20 Spatial ecology

4 credits, lecture, optional, can be taken only once

BIO/1/20 Spatial ecology

4 credits, practical, optional, can be taken only once

BIO/1/21 Vegetation dynamics

2 credits, lecture, optional, can be taken only once

BIO/1/22 Phylogenetics in conservation biology

2 credits, lecture, optional, can be taken only once

BIO/1/23 Forest ecology

2 credits, lecture, optional, can be taken only once

BIO/1/24 Application of spatial informatics to ecology

2 credits, lecture, optional, can be taken only once

BIO/1/25 Holocene vegetation dynamics and phylogeography

2 credits, lecture, optional, can be taken only once

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, can be taken any number of times

II. ETHOLOGY

Program leader: Dr. Ádám Miklósi

Students must complete 32 credits from the following courses:

BIO/2/1 Behaviour genetics

4 credits, lecture, compulsory, can be taken only once

BIO/2/2 Cognitive ethology

4 credits, lecture, optional, can be taken only once

BIO/2/3 Human ethology

4 credits, lecture, compulsory, can be taken only once

BIO/2/4 Ethology

4 credits, lecture, compulsory, can be taken only once

BIO/2/5 Research management

4 credits, lecture, compulsory, can be taken only once

BIO/2/6 Integrated research methods in ethology

6 credits, lecture, optional, can be taken only once

BIO/2/7 Behaviour ecology

4 credits, lecture, optional, can be taken only once

BIO/2/8 Ethology of dogs

4 credits, lecture, specialization compulsory optional, can be taken only once

BIO/2/9 PhD students' reports

4 credits, lecture, optional, can be taken any number of times

BIO/2/10 Animal welfare

4 credits, lecture, optional, can be taken only once

BIO/2/12 Animal personality

4 credits, lecture, optional, can be taken only once

BIO/2/13 Strategic thinking for scientific writing

4 credits, lecture, optional, can be taken only once

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, can be taken any number of times

III. IMMUNOLOGY

Program leader: Dr. Zsuzsa Bajtay

Students must complete 32 credits from the following courses:

BIO/3/1 Journal Club

4 credits, practial course, compulsory, can be taken any number of times

BIO/3/2 Report of Doctoral Students

4 credits, individual research, compulsory, can be taken any number of times

BIO/3/4B HSI Conference

4 credits, lecture, optional, can be taken only once

BIO/3/6 Immunology of Infections

4 credits, lecture, optional, can be taken only once

BIO/3/7 Immunopathology

4 credits, lecture, optional, can be taken only once

BIO/3/14 Innate immunoty, evolution of the immune system

4 credits, lecture, optional, can be taken only once

BIO/3/18 A system biology view of the immunology of pregnancy

4 credits, lecture, optional, can be taken only once

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, can be taken any number of times

IV. EXPERIMENTAL PLANT BIOLOGY PROGRAM

Program leader: Dr. Gábor M. Kovács

Students must complete 32 credits from the following courses:

BIO/4/1Plant biotechnology

4 credits, lecture, optional, can be taken only once

BIO/4/3 Electronmicroscopical techniques I.

8 credits, practice, optional, can be taken only once

BIO/4/4 Pharmacobotanics

4 credits, lecture, optional, can be taken any number of times

BIO/4/5 Writing scientific papers in English

4 credits, lecture, optional, can be taken only once

BIO/4/6 Plant molecular biology

4 credits, lecture, optional, can be taken any number of times

BIO/4/7 Plant biochemistry

4 credits, lecture, optional, can be taken any number of times

BIO/4/8 Separation techniques in plant biochemistry

8 credits, practice, optional, can be taken only once

BIO/4/9 Absorption and fluorescence spectroscopy for studying plant substances and metabolism

8 credits, practice, optional, can be taken only once

BIO/4/11 Mechanism of ion uptake and mineral nutrition of plants

4 credits, lecture, optional, can be taken only once

BIO/4/12 Biogenesis and evolution of the photosynthetic apparatus

4 credits, lecture, optional, can be taken only once

BIO/4/13 Plant – bacterium interactions

4 credits, lecture, optional, can be taken only once

BIO/4/14 Plant – fungus interactions

4 credits, lecture, optional, can be taken only once

BIO/4/15 Secondary metabolism in plants

4 credits, lecture, optional, can be taken only once

BIO/4/16 Plant stress physiology

4 credits, lecture, optional, can be taken only once

BIO/4/18eng Biology of plant reproduction

4 credits, lecture, optional, can be taken only once

BIO/4/19 Fluorescent imaging techniques

4 credits, practice, optional, can be taken only once

BIO/4/20 Ultrastructural basis of plant cell functions

4 credits, lecture, optional, can be taken only once

BIO/4/21 Molecular plant virology

4 credits, lecture, optional, can be taken only once

BIO/4/22 Electronmicroscopical techniques II.

8 credits, practice, optional, can be taken only once

BIO/4/23 Plant transformation and transgenic plants

4 credits, lecture, optional, can be taken only once

BIO/4/24 PCR techniques in plant molecular biology I.

4 credits, lecture, optional, can be taken only once

BIO/4/24P PCR techniques in plant molecular biology II. Pr

4 credits, practice, optional, can be taken only once

BIO/4/25 Plant cell and tussue culture

4 credits, lecture+pactice, optional, can be taken only once

BIO/4/26 Plastids – Basics and Applications

4 credits, lecture, optional, can be taken only once

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, can be taken any number of times

V. PROGRAM GENETICS

Program leader: Dr. Tibor Vellai

Students must complete 32 credits from the following courses:

BIO/5/1 Genetic analysis (progressive level)

4 credits, compulsory, can be taken only once

BIO/5/2 Developmental genetics

4 credits, lecture, optional, can be taken only once

BIO/5/3 Gene technology, rrecombination

4 credits, lecture, optional, can be taken only once

BIO/5/4 Clinical human genetics

4 credits, lecture, optional, can be taken only once

BIO/5/5 Genetic aspects of bone metabolism

4 credits, lecture, optional, can be taken only once

BIO/5/6 Molecular taxonomy, evolution

4 credits, lecture, optional, can be taken only once

BIO/5/7 Exon shuffling, molecular evolution, genomics

4 credits, lecture, optional, can be taken only once

BIO/5/8 Applications of transgenic plants

4 credits, lecture, optional, can be taken only once

BIO/5/9 Gene silencing, RNA interference

4 credits, lecture, optional, can be taken only once

BIO/5/11 Sequence-specific DNA-protein interactions (prokaryote, eukaryote)

4 credits, lecture, optional, can be taken only once

BIO/5/12 Seminars in bioinformatics

4 credits, lecture, optional, can be taken only once

BIO/5/13 Transgenic animals: developmental applications

4 credits, practice, optional, can be taken only once

BIO/5/15 From transcription to translation: proteins, genes, diseases

4 credits, lecture, optional, can be taken only once

BIO/5/16 Bacterial and (new) phage genetics

4 credits, lecture, optional, can be taken only once

BIO/5/17 Molecular tumor genetics

4 credits, lecture, optional, can be taken only once

BIO/5/18 The function and biogenesis of plant regulatory small RNAs

4 credits, lecture, optional, can be taken only once

BIO/5/19 Functional genomics

4 credits, lecture, optional, can be taken only once

BIO/5/21 Plant-microbe symbiosis, mycorrhyza relation and the genetic analysis of symbiotic nitrogen fixation

4 credits, lecture, optional, can be taken only once

BIO/5/22 Recombination models, gene conversion, enzymes, gene map

4 credits, lecture, compulsory, can be taken only once BIO/5/24 Mathematical and statistical methods in genetic identification and genealogy

4 credits, lecture, optional, repeatable

BIO/5/25 Next generation genome editing and gene regulatory techniques

4 credits, lecture, optional, repeatable

BIO/5/26 Plant viral genetics, virus diagnostics

4 credits, lecture, optional, repeatable

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, can be taken any number of times

VI. MOLECULAR CELL AND NEUROBIOLOGY PROGRAM

Program leader: Dr. Gábor Juhász

Students must complete 32 credits from the following courses:

BIO/6/1 Introduction to molecular neurobiology

4 credits, lecture, optional, can be taken only once

BIO/6/2 Cell biology of neurodegeneration diseases

4 credits, lecture, optional, can be taken only once

BIO/6/3 Developmental biology

4 credits, lecture, optional, can be taken only once

BIO/6/4 Light and electron microscopical immunocytochemistry

6 credits, practice, optional, can be taken only once

BIO/6/6 Membranbiology

4 credits, lecture, optional, can be taken only once

BIO/6/7 Neuroanatomy I.

4 credits, practice, optional, can be taken only once

BIO/6/9 Neurobiology analysis methods

4 credits, lecture, optional, can be taken only once

BIO/6/10 Stem cell biology I.

4 credits, lecture, optional, can be taken only once

BIO/6/11 Receptors, signaling, cell-cell communication

4 credits, lecture, optional, can be taken only once

BIO/6/16 Cytoskeleton, movement, cytomatrix

4 credits, lecture, optional, can be taken only once

BIO/6/20 Transgenic techniques: GFP, gene knockout and more

4 credits, lecture, optional, can be taken only once

BIO/6/21 The ubiquitin-proteasome system and its roles

4 credits, lecture, optional, can be taken only once

BIO/6/22 The biology of cancer

4 credits, lecture, optional, can be taken only once

BIO/6/23 The molecular cell biology of autophagy and cell death

8 credits, lecture, optional, can be taken only once

BIO/6/24 Stem cell biology II.

4 credits, theoretical, optional, non-repeatable

BIO/6/25 Neuroimmunology

4 credits, theoretical, optional, non-repeatable

BIO/6/26 Drosophila genetic analysis methods

4 credits, practice, optional, non-repeatable

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, can be taken any number of times

VII. NEUROSCIENCE AND HUMANBIOLOGY

Program leader: Dr. Árpád Dobolyi

Students must complete 32 credits from the following courses:

BIO/7/1 Molecular biology of learning and memory

4 credits, theory, optional, can be taken only once

BIO/7/2 Neuronal celldifferentiation I.

4 credits, lecture, optional, can be taken only once

BIO/7/3 Psychopharmacology

4 credits, lecture, optional, can be taken only once

BIO/7/4 Neurochemistry

4 credits, lecture, optional, can be taken only once

BIO/7/6 Behavioral physiology I.

4 credits, lecture, optional, can be taken only once

BIO/7/7 Daily rhythm, sleep and wakefulness

4 credits, lecture, optional, can be taken only once

BIO/7/8 Neurobiology and pharmacology of behavior

4 credits, lecture, optional, can be taken only once

BIO/7/9 Cogniteve psychophysiology

4 credits, lecture, optional, can be taken only once

BIO/7/10 Anthropogenetics

4 credits, lecture, optional, can be taken only once

BIO/7/16 Modeling in neurobiology

4 credits, theory, optional, can be taken only once

BIO/7/17 Imaging of brain structure and function

4 credits, theory, optional, can be taken only once

BIO/7/18 Electrophysiology

4 credits, theory, optional, can be taken only once

BIO/7/19 In vitro cell-technology

4 credits, theory, optional, can be taken only once

BIO/7/20 Experimental surgery and animal handling

4 credits, theory, optional, can be taken only once

BIO/7/21 Molecular basis of learning and memory

4 credits, theory, optional, can be taken only once

BIO/7/27 Data management and modeling in human biology

4 credits, lecture, optional, can be taken only once

BIO/7/28 Applied anthropometry

4 credits, lecture, optional, can be taken only once

BIO/7/29 Auxology

4 credits, lecture, optional, can be taken only once

BIO/7/30 Human ecology: Man and its environment I

4 credits, lecture, optional, can be taken only once

BIO/7/31 Human ecology: Man and its environment II

4 credits, lecture, optional, can be taken only once

BIO/7/32 Methodology of writing dissertations

4 credits, lecture, optional, can be taken only once

BIO/7/33 Genetics of human growth

4 credits, lecture, optional, can be taken only once

BIO/7/34 Paleopathology

4 credits, lecture, optional, can be taken only once

BIO/7/36 Neuronal celldifferentiation II.

4 credits, theory, optional, can be taken only once

BIO/7/37 Behavioral physiology II.

4 credits, theory, optional, can be taken only once

BIO/7/39 Neuroinformatics: basis and neurobiological applications

4 credits, theory, optional, can be taken only once

BIO/7/40eng Presentation in science (paper, talk, poster, essay)

2 credits, practical, optional, can be taken only once

BIO/7/41 Discussion of scientific papers

4 credits, theory, optional, can be taken any number of times

BIO/7/42 Neurotoxicology

2 credits, theory, optional, can be taken only once

BIO/7/43 Light and fluorescent microscopy in neuroscience

4 credits, theory, optional, can be taken only once

BIO/7/44 Neuropeptides

4 credits, theory, optional, can be taken only once

BIO/7/45 Theoretical stemcell biology: development of organs and cell replecament

4 credits, theory, optional, can be taken only once

BIO/7/46 Psychophysiology of sensory functions

4 credits, theory, optional, can be taken only once

BIO/7/47 Human evolution

4 credits, theory, optional, can be taken only once

BIO/7/48 Dermatoglyphics

4 credits, theory, optional, can be taken only once

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, can be taken any number of times

VIII. STRUCTURAL BIOCHEMISTRY PROGRAM

Program leader: Dr. Mihály Kovács

Students must complete 32 credits from the following courses:

BIO/8/1 Directed evolution approaches in protein science

4 credits, lecture, optional, can be taken only once

BIO/8/2 Introduction to protein bioinformatics

4 credits, lecture, optional, can be taken only once

BIO/8/3 Eukaryotic gene expression systems

4 credits, lecture, optional, can be taken only once

BIO/8/4 DNA repair mechanisms: cellular aspects

4 credits, lecture, optional, can be taken only once

BIO/8/5 Structural biology of DNA repair

4 credits, lecture, optional, can be taken only once

BIO/8/6 Structure and function of intrinsically disordered proteins

4 credits, lecture, optional, can be taken only once

BIO/8/7 Journal Club

4 credits, lecture, optional, can be taken any number of times

BIO/8/8 Transient enzyme kinetics

4 credits, practical course, optional, can be taken only once

BIO/8/9 Fluorescence spectroscopy

4 credits, practical course, optional, can be taken only once

BIO/8/10 Transient enzyme kinetics

4 credits, lecture, optional, can be taken only once

BIO/8/11 Fluorescence spectroscopy

4 credits, lecture, optional, can be taken only once

BIO/8/12 Protein folding: mechanisms of formation of correctly folded and misfolded structures

4 credits, lecture, optional, can be taken only once

BIO/8/13 Methods for studying protein structure and interactions

4 credits, lecture, optional, can be taken only once

BIO/8/15 Physical biochemistry

4 credits, lecture, optional, can be taken only once

BIO/8/16 Eukaryotic signal transduction: protein networks

4 credits, lecture, optional, can be taken only once

BIO/8/17 Research progress reports

4 credits, lecture, compulsory, to be taken in 2nd semester

BIO/8/19 Statistical analysis of biological measurements

4 credits, lecture course, optional, can be taken only once

BIO/8/20 Methods of protein crystallography

4 credits, lecture, optional, can be taken only once

BIO/8/21 Protein structure, flexibility and stability

4 credits, lecture, optional, can be taken only once

BIO/8/23 Albert Szent-Györgyi lecture series

4 credits, lecture, optional, can be taken any number of times

BIO/8/24 From basic research to targeted tumor therapy

4 credits, lecture, optional, can be taken only once

BIO/8/26 Calculation of molecular interactions in biology

4 credits, lecture, optional, can be taken only once

BIO/8/27 Structural bioinformatics of drug design

4 credits, lecture, optional, can be taken only once

BIO/8/28 Introduction to biomolecular modeling

4 credits, lecture, optional, can be taken only once

BIO/8/29 Practical applications of protein bioinformatics tools

4 credits, lecture, optional, can be taken only once

BIO/8/30 Investigation of protein and peptide structure by NMR spectroscopy

4 credits, lecture, optional, can be taken only once

BIO/8/31 Research progress reports

0 credit, lecture, compulsory, to be taken in 6th semester

BIO/8/32 Beginning programming for biologists

4 credits, practical course, optional, can be taken only once

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, can be taken any number of times

IX. ZOOTAXONOMY, ANIMAL ECOLOGY, HYDROBIOLOGY

Program leader: Dr. János Török

Students must complete 32 credits from the following courses:

BIO/9/1 Advanced Zootaxonomy

4 credits, lecture, compulsory, can be taken only once

BIO/9/2 New trends and tasks in animal ecology

4 credits, lecture, compulsory, can be taken only once

BIO/9/5 Aquatic ecosystems for maintaining and regulating possibilities

4 credits, lecture, can be taken only once

BIO/9/ Formation of lake sediments: physical and chemical characteristics, mass- and nutrient relationships of the sediment. Lake Fertő/Neusiedler See case study

4 credits, lecture, can be taken only once

BIO/9/7 Current issues in conservation biology

4 credits, lecture, can be taken only once

BIO/9/8 Biogeography

4 credits, lecture, can be taken only once

BIO/9/9 Ecological informatics

4 credits, practice, can be taken only once

BIO/9/10 Chemical ecology of insects

4 credits, lecture, can be taken only once

BIO/9/13 Progress in enchytraeid (Enchytraeidae, Annelida) taxonomy and ecology

4 credits, lecture, can be taken only once

BIO/9/14 Molecular taxonomy techniques in zoology

4 credits, lecture, can be taken only once

BIO/9/14 Molecular taxonomy techniques in zoology

8 credits, practice, can be taken only once

BIO/9/15 Animal-microbe interactions

4 credits, lecture, can be taken only once

BIO/9/18 Ecology and evolution of parasitism

4 credits, lecture, can be taken only once

BIO/9/19 Ecological and evolutionary studies in ornithology

4 credits, lecture, can be taken only once

BIO/9/20 Life history and foraging strategies

4 credits, lecture, can be taken only once

BIO/9/21 Reproductive physiology of birds

4 credits, lecture, can be taken only once

BIO/9/23 Pheromone biology of insects

4 credits, lecture, can be taken only once

BIO/9/24eng Predator-prey systems and their application in biological control

4 credits, lecture, can be taken only once

BIO/9/25eng Advances in protistology

4 credits, lecture, can be taken only once

BIO/9/26eng Student's report (semester 3)

4 credits, lecture, compulsory, can be taken only once

BIO/9/27eng Student's report (semester 7)

4 credits, lecture, compulsory, can be taken only once

BIO/9/28eng Evolutionary ecology – main concepts and approaches

4 credits, lecture, can be taken only once

BIO/9/29eng Evolutionary ecology

4 credits, lecture, can be taken only once

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, can be taken any number of times

X. Theoretical and Evolutionary Biology

Program leader: Dr. Eörs Szathmáry

Students must complete 32 credits from the following courses:

BIO/10/1 Basic Statistics (theory)

4 credits, lecture, optional, can be taken only once

BIO/10/2 Basic Statistics (practice)

4 credits, practical course, optional, can be taken only once

BIO/10/3 Advanced Statistics

4 credits, practical course, optional, can be taken only once

BIO/10/5 Computer Programming for Biologists

4 credits, practical course, optional, can be taken only once

BIO/10/6 Numerical Methods and Computer Simulations in Ecology

4 credits, practical course, optional, can be taken only once

BIO/10/7 Theoretical Evolutionary Biology

4 credits, lecture, optional, can be taken only once

BIO/10/8 Theoretical Ecology

4 credits, lecture, optional, can be taken only once

BIO/10/9 Seminars in Evolutionary Biology and Ecology

4 credits, seminar, optional, can be taken any number of times

BIO/10/13 Seminars in Population Biology

4 credits, seminar, optional, can be taken any number of times

BIO/10/14 Space-time Models in Ecology and Evolution

4 credits, lecture, optional, can be taken only once

BIO/10/19 The Structure of Trophic Networks

4 credits, lecture, optional, can be taken only once

BIO/10/20 Evolutionary Game Theory

4 credits, lecture, optional, can be taken only once

BIO/10/21 Nonlinear Phenomena in Ecology

4 credits, lecture, optional, can be taken only once

BIO/10/26 Current Problems in Theoretical Biology

4 credits, lecture, optional, can be taken only once

BIO/10/29 Mathematical Approaches in HIV Research

4 credits, lecture, optional, can be taken only once

BIO/10/30 Models of Prebiotic Evolution

4 credits, practical course, optional, can be taken only once

BIO/10/31 Mathematical Models in Biology

4 credits, lecture, optional, can be taken only once

BIO/10/32 Computer Modelling in Biology

4 credits, practical course, optional, can be taken only once

BIO/10/33 Evolutionary Background of Human Cooperation

4 credits, seminar, optional, can be taken only once

BIO/10/34 Animal Communication – Game Theoretical Approaches

4 credits, lecture, optional, not repeatable

BIO/10/35 Cultural Evolution

4 credits, lecture, optional, not repeatable

BIO/RK-KV Credits transferred from other programs (max: 16)

Research (for a total of 208 credits):

BIO/KUT Supervised research

Doctoral research, compulsory, repeatable

THE LIST OF COMPLEX EXAMINATION COURSES

Selectable major- and minor-courses:

- Anatomy
- Animal systematics
- Biochemistry
- Bioinformatics
- Cytology
- Ecology
- Ethology
- Evolutionary biology
- Genetics

- Humanbiology
- Hydrobiology
- Immunology
- Microbiology
- Mycology
- Molecular biology
- Neurobiology
- Ontogeny
- Physiology
- Plant anatomy
- Plant physiology
- Plant systematics

Selectable only as minor-courses:

- Behavioural ecology
- Behavioural physiology
- Biogeography
- Biological plant protection
- Biophysics
- Biostatistics
- Cognitive ethology
- Conservation biology
- Evolutionary genetics
- Gene technology
- Human ethology
- Human genetics
- Immune pathology
- Immune regulation
- Immunological methods
- Immunology of infections
- Major transitions in evolution

- Methodology of teaching biology
- Methods of multivariate data processing
- Microbial biotechnology
- Modeling in biology
- Molecular developmental genetics
- Molecular tumor cell biology
- Neurochemistry
- Neuronal cell- and developmental biology
- Paleopathology
- Plant biotechnology
- Plant molecular biology
- Plant stress
- Protein science
- Psychopharmacology
- Psychophysiology
- Virology

THE ASSESSMENT OF KNOWLEDGE

Fulfillment of requirements of a given course is rated by the lecturer in a five-grade scale system (5-excellent, 4-good, 3-fair, 2-passing, 1-fail). Research activities are evaluated and recorded in the transcript by the supervisor on a three-point scale (excellent – acceptable - failed). Credits are recorded in the Neptun system.