Note:
The following curriculum is a consolidated version. It is legally non-binding and for informational purposes only.
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Curriculum for the
Bachelor's Programme Biology
at the Faculty of Biology at the University of Innsbruck

§ 1 Allocation of the study programme
According to §54 of the Universities Act, the Bachelor's Programme Biology is grouped among the natural science study programmes.

§ 2 Qualification profile
(1) Objective: The Bachelor's Programme Biology at the University of Innsbruck imparts a broad education in all key areas of biology. In the courses, theoretical knowledge and, through a high proportion of exercises, the practical skills necessary for a sound education are imparted. This basic training enables the understanding, analysis and assessment of biological systems and their interactions with the environment on the level of molecules, organisms and the ecosystem. Graduates are able to understand subject-specific questions or tasks in biology and to independently deal with them in consideration of theoretical requirements.

Graduates can independently carry out tasks on a very high professional level and with ultimate responsibility. In addition, they are able to cope with complex challenges in changing contexts and to develop new, innovative solutions. They are in a position to head functional areas, to lead employees and to take on decision-making responsibility.

(2) The study programme qualifies its graduates for occupational fields in the following areas, private and public companies and institutions which have a biological orientation:
- authorities and public administration,
- bio technology
- botanical gardens and zoos
- agriculture and forestry
- landscape ecology
- food and cosmetics industry
- life sciences
- medicine and medical technology
- museums, scientific collections and libraries,
- pharmaceutical industry,
- quality assurance and quality management,
- environmental and nature conservation
- environmental and experiential education.

(3) By opting for topic-specific elective modules, the training can be tailored to individual professional visions. The Bachelor's programme also prepares for a continuing Master's programme and is the basis for a career in research and science.

§ 3 Scope and duration

The Bachelor's Programme Biology covers 180 ECTS-Credits; this corresponds to a study duration of six semesters. One ECTS-Credit corresponds to a workload of 25 hours.

§ 4 Admission

The Rectorate decides on the admission to the Bachelor's programme accordance with the regulations provided by the Universities Act 2002.

§ 5 Types of courses and maximum number of students per course

(1) Courses without continuous performance assessment:

1. **Lectures** (VO) are courses held in lecture format. They introduce the research areas, methods and schools of thought for a given subject. Maximum number of students per course: 450
2. **Study orientation courses** (SL) provide an overview of the study programme and its structure. They give students an objective basis to assess their decision to pursue their chosen subject. Maximum number of participants: 450

(2) Courses with continuous performance assessment:

1. **Introductory seminars** (PS) introduce students interactively to scientific literature through the treatment of selected issues. They convey knowledge and methods of academic work. Maximum number of participants: 25
2. **Practical courses** (UE): focus on the practical treatment of concrete scientific tasks within an area. Maximum number of participants: 40
3. **Seminars** (SE) provide in-depth treatment of scientific topics through students' presentations and discussion thereof. Maximum number of participants 25
4. **Lecture with integrated practical elements** (VU) focus on the practical treatment of concrete scientific tasks that are discussed during the lecture parts of the course. Maximum number of participants: 40
5. **Excursions** (EX): conducted outside the premises of the university, serve to demonstrate and deepen course contents. Maximum number of participants: 25
6. **Excursion with integrated practical elements** (EU): conducted outside the premises of the university, serve to demonstrate and deepen course contents through practical experience with concrete scientific tasks. Maximum number of participants: 25
7. **Project studies** (PJ): promote scientific collaboration of two or more fields through the treatment of multidisciplinary topics and the use of various methods and techniques. Maximum number of participants: max. 20

§ 6 Allocation of places in courses with a limited number of participants

In courses with a limited number of participants, course places are allocated as follows:

1. Presence at the preliminary meeting (personal or representative)Date of fulfilment of the necessary admission requirement(s); students who fulfilled the ad- mission requirement(s) at an earlier time are to be given priority.
2. Number of semesters the student has been enrolled for the Bachelor's Programme Biology; Students who have been enrolled for a longer time are to be given priority.
3. By lot.

§ 7 Studies induction and orientation stage

(1) The studies induction and orientation stage, which takes place in the first semester, gives the students an overview of the most important contents of the study programme and its structure and gives them an objective basis to assess their decision to pursue their chosen subject.

The following courses must be passed:

1. SL The Bachelor's Programme Biology at the University of Innsbruck (Compulsory Module 1 lit. a/1h/3 ECTS-Credits)
2. VO Botany (Compulsory Module 1 lit. b/2 hrs/3 ECTS-Credits)
3. VO Zoology (Compulsory Module 1 lit. c/2 hrs./3 ECTS-Credits)
4. VO Microbiology (Compulsory Module 1 lit. e/2 hrs./3 ECTS-Credits).

(2) Successful passing of the examinations listed in paragraph 1 entitles to passing all further lectures and examinations beyond the studies induction and orientation stage as well as to writing the Bachelor's Thesis as prescribed by the curriculum. The registration requirements specified in the curriculum must be met.

(3) Before the completion of the studies induction and orientation stage, courses corresponding to 18 ECTS-Credits may be passed. The registration requirements specified in the curriculum must be met.

§ 8 Compulsory and elective modules

(1) The following compulsory modules covering altogether 115 ECTS-Credits must be passed:

1.	**Compulsory Module: Introduction to the Biological Disciplines**	**h**	**ECTS-Credits**
a.	**SL The Bachelor's Programme Biology at the University of Innsbruck** Practical tips at the start of the study programme: introduction to the Bachelor's Programme Biology, orientation aids, organisational matters, learning platforms, examination regulations, presentation of the campus	1	0.5
b.	**VO Botany** Introduction to the basics of plant cell biology, anatomy, morphology and physiology	2	3
c.	**VO Zoology** Phylogenetic systematics; blueprints of the metazoa; cell differentiation; design principles; reproduction; development; life cycles; basal metazoa (porifera, cnidaria, ctenophora); organ systems and variety of the bilateria	2	3
d.	**VO Ecology** Introduction to basic ecological concepts and the working methods in ecology	2	3
e.	**VO Microbiology** Characteristic of viruses, bacteria, archaea and fungi; microbial growth, nutrition and environmental claims; material cycles, symbioses; ecological significance of microorganisms (waters, soil, material cycles, symbioses); microorganisms as the cause of food poisoning	2	3
	Total	**9**	**12.5**
	Learning Outcome: Students understand – the structure and organisation of the Bachelor's Programme Biology, – blueprints and physiology of plants, – the organisation and variety of animals, – basic concepts and working methods in ecology, – the basic properties and the importance of microorganisms.		

	Prerequisites: none

2.	Compulsory Module: Fundamentals of Biology	h	ECTS-Credits
a.	**VO Genetics and Molecular Biology** Mendel and the birth of genetics; chromosome theory of inheritance; molecular structure of DNA and chromatin: DNA topology, DNA replication; transposition; DNA damage and repair; mutations; expression of genetic information: genetic code, molecular control of transcription and translation as well as gene regulation in pro- and eukaryotes; presentation of basic methods for studying DNA, RNA and proteins	2	3
b.	**VO Evolution** Emergence of the theory of evolution (Darwin-Wallace); Neo-Darwinism and modern synthesis; basics of population genetics; speciation; evolution of man	1	1.5
c.	**VO Cell Biology** Structure and blueprint of a cell; cell cycle; replication; mitosis; meiosis; germ cell formation; cellular aspects of transcription and protein production; cell metabolism; energetics of the cell; basic features of cell differentiation	2	3
	Total	**5**	**7.5**
	Learning Outcome: Students know – the fundamentals of classical genetics and molecular genetics, – the basic principles and methods of molecular biology, – cell blueprints, basic functional processes in cells and their differentiation ability, – fundamentals of modern evolutional biology and population genetics, – evolutionary origin of humans.		
	Prerequisites: none		

3.	Compulsory Module: Fundamentals of Chemistry and Physics	h	ECTS-Credits
a.	**VO General and Inorganic Chemistry** Structure of atoms and molecules; acids / bases and buffer systems; redox reactions and electrochemistry; diffusion / osmosis; precipitation reactions; basics of analytics (spectroscopy, chromatography); basic chemical computing	2	3
b.	**VO Organic Chemistry** Hydrocarbons, homologous series, isomerism, functional groups; nomenclature; basic reaction mechanism	1	1.5
c.	**VO Fundamentals of Biochemistry** Structure and reactivity of biological molecules (amino acids, (poly) peptides, vitamins, coenzymes, nucleic acids, lipids, carbohydrates)	1	1.5
d.	**VO Physics** Hydrodynamics; thermodynamics; electromagnetism; optics; atomphysics	1	1.5
	Total	**5**	**7.5**

	Learning Outcome: Students understand – the basics of general, inorganic and organic chemistry, – biochemical bases of biologically relevant molecules, – biologically relevant topics and methods of physics.
	Prerequisites: none

4.	**Compulsory Module: Biochemistry**	**h**	**ECTS-Credits**
	VO Biochemistry Biocatalysis; basics of metabolism; enzymatic reactions; central metabolic pathways and their regulatory relationships; signal transduction	2	2.5
	Total	**2**	**2.5**
	Learning Outcome: Students – understand the principles of biocatalysis and anabolism and catabolism, – understand the biochemical processes of central metabolic pathways, – can reproduce basic formulas and reaction equations of central metabolic pathways, – can correctly answer simple questions about metabolism regulation and signal transduction.		
	Prerequisites: none		

5.	**Compulsory Module: Fundamentals of Human Biology**	**h**	**ECTS-Credits**
a.	**VO Immunology** Function of the innate and adaptive immune system; interactions and regulation of humoral and cellular components of the immune system; evolution of the immune system in different species	1	1.5
b.	**VO Stem Cell Biology** Regenerative capacity of different organisms in the context of evolution; stem cell concept; pluripotent and somatic stem cells; in vitro differentiation; methods and mechanisms of cell reprogramming; biomedical applications of human stem cells	1	1.5
c.	**VO Neurobiology** Development of the central and peripheral nervous system; adult neurogenesis; function of the cellular components of the nervous system; neuronal aging; neurodegeneration; synthetic neurobiology	1	1.5
d.	**VU Biology of Ageing** Concepts of aging at the level of organisms, organs, cells, organelles and molecules; model organisms and genetics of aging; epigenetics; cellular senescence; aging processes and environmental factors; practical study of age-related changes in cells, tissues and organisms	2	3
	Total	**5**	**7.5**
	Learning Outcome: Students – understand the function of the innate and adaptive immune system, – understand the stem cell concept and its importance for regeneration, – can explain the development, structure and function of the nervous system, – can explain biochemical and molecular features of aging at the level of organisms, organs,		

	cells, organelles and molecules, – understand the biochemical and genetic bases of aging as well as the role of environmental factors.
	Prerequisites: none

6.	**Compulsory Module: Microbiology I**	**h**	**ECTS-Credits**
a.	**VO Diversity and Systematics of Microorganisms: An Introduction** Comparison of the total and taxonomically recorded microbial diversity; methods of microbial classification; species concepts for fungi and prokaryotes; description of new species (methodology); cultivation-independent recording and characterisation of microbial diversity	2	3
b.	**VO Molecular Microbiology** Genome organisation; plasmids; horizontal gene transfer; regulation of gene expression; Communication (quorum sensing) in pro- and eukaryotic model microorganisms	1	1.5
c.	**VO Food Biotechnology** Biotechnological processes for the production of food and beverages such as alcoholic beverages, sour milk products, cheese, meat and vegetable products, vinegar	1	1.5
d.	**VO Environmental Biotechnology** Biotechnological processes for wastewater treatment, waste treatment and remediation of soil and groundwater	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students – have an overview of the diversity of microorganisms and the methods for their determination and classification, – know the molecular-biological characteristics of microorganisms and their possibilities to communicate, – recognise the benefits of microorganisms in the production of food and in wastewater and waste treatment.		
	Prerequisites: none		

7.	**Compulsory Module: Botany I**	**h**	**ECTS-Credits**
a.	**VU Plant Structure and Architecture** Internal and external construction of plants; introduction to herbal cell and tissue structures; application of microscopic techniques	2	3
b.	**VO Plant Biodiversity** Basics of biological systematics; overview of the biodiversity of photosynthetically active organisms from cyanobacteria to angiosperms, their systematic organisation and evolutionary trends	1	1.5
c.	**UE Plant Biodiversity** Practical overview of the biodiversity of photosynthetically active organisms from the cyanobacteria to angiosperms with a focus on seed plants	2	3
	Total	**5**	**7.5**

	Learning Outcome: Students – understand the anatomical and morphological structure of various seed plants, – know microscopic techniques, – know the systematic organisation of photosynthetic active organisms, – understand the fundamentals of biological classification and evolutionary trends, – can apply their knowledge practically.
	Prerequisites: successful completion of compulsory module 1

8.	**Compulsory Module: Zoology I**	**h**	**ECTS-Credits**
a.	**VO Animal Body Plans** Systematics, morphology, life cycles and behaviour of animals, in particular articulate mammals and vertebrates.	2	3
b.	**UE Animal Body Plans** Morphology of selected animals; live observations and dissection techniques	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students understand – the different levels of organisation and the blueprints of animals, – the structure and functions of different types of tissue and organs, – basic working techniques in microscopy, – section and dissection of animals, organs and tissues.		
	Prerequisites: successful completion of compulsory module 1		

9.	**Compulsory Module: Fundamentals of Scientific Working**	**h**	**ECTS-Credits**
a.	**VU Fundamentals of Scientific Working** Basic techniques of practical laboratory work; documentation and evaluation of experimental data; reporting	3	4.5
b.	**VU Data Management and Statistics** Data management; data evaluation and logging	2	3
	Total	**5**	**7.5**
	Learning Outcome: Students – have basic skills for safe work in chemical-biological laboratories, – master basic laboratory techniques incl. documentation, – can perform simple experiments according to instructions, – can evaluate test results and present them in a report.		
	Prerequisites: successful completion of compulsory module 3		

10.	Compulsory Module: Ecology I	h	ECTS-Credits
a.	**VO Aquatic Ecology** Introduction to limnology; ecology of different aquatic habitats (lakes, rivers, groundwater, ice); structure and dynamics of biological communities; primary and secondary production	2	3
b.	**VO Terrestrial Ecology** Structure and dynamics of terrestrial biological communities; energy and substance flows through ecosystems: biogeochemical cycles; biogeography; conservation ecology; global ecology and sustainability	2	3
c.	**VO Landscape Ecology** Definition, history, methods and case studies for landscape ecological research and application in planning practice	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students – have basic knowledge of biogeochemical and ecological processes, structures and functions in aquatic and terrestrial systems, – can evaluate case studies from the field of landscape ecology.		
	Prerequisites: none		

11.	Compulsory Module: Molecular Biology	h	ECTS-Credits
a.	**VO Genetics and Genomics** Model organisms in classical genetics; molecular genetics; special aspects of gene regulation; introduction to genome-wide analyses (omics)	2	3
b.	**VO Molecular Development** Model organisms and basic signalling pathways of cell and developmental biology; introduction to the concepts and methodological approaches of modern developmental biology	2	3
c.	**PS Techniques and Methods of Molecular Biology** Development of molecular biological methods and issues in genetics, cell biology, developmental biology, aging research, stem cell research, neurobiology or immunology	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students – know central model organisms of molecular biological and genetic research, – understand the regulation of gene expression, – know concepts and methodical approaches of modern developmental biology, – are familiar with the theoretical foundations of important molecular biological andgenetic methods and their application to specific scientific questions.		
	Prerequisites: successful completion of compulsory module 2 and 3		

12.	Compulsory Module: Zoology II	h	ECTS-Credits
a.	**VO Animal Physiology** Basics of mass transport and energy metabolism of animal organisms; structure and function of animal organs, especially of vertebrates	3	4.5
b.	**VO Fundamentals of Histology** Histological structure and microscopic anatomy of various tissues and organs	1	1.5
c.	**VO Evolutionary Developmental Biology I** Basics of embryonic development in vertebrates and invertebrates; fertilization, blastula and gastrula as universal developmental stages of multicellular animals; regeneration and stem cell systems	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students know – the evolutionarily conserved stages of animal embryonic development, – the causal relations between evolutionary and developmental biology, – structure-function relationships of animal tissues and organs, – the basics of the physiology of animal organisms.		
	Prerequisites: none		

13.	Compulsory Module: Botany II	h	ECTS-Credits
a.	**VO Plant Physiology** Introduction to the physiological, biochemical and biophysical basics on which plant life is based; overview of the effect of environmental factors on physiological processes	3	4.5
b.	**VO Vegetation and Population Ecology** Introduction to biogeography and vegetation history; foundations and methods of vegetation and population ecology; location theory and current research examples	1	1.5
c.	**EU Botanical Field Course** Getting to know important plant species from forest and grassland habitats; use of these habitats; vegetation and landscape genesis	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students – understand the basics of plant physiology – know the basics of vegetation and population ecology, – can recognise common plant species and know about the historical and recent use of forest and grassland habitats.		
	Prerequisites: successful completion of compulsory module 7		

14.	Compulsory Module: Ecology II	h	ECTS-Credits
a.	**VO Elements of Applied Ecology** Introduction to applied ecology by means of a lecture series on, for example, agroecology, forest ecology, applied ecotoxicology, nature conservation, environmental assessment of terrestrial and aquatic systems	1	1.5
b.	**EU Interdisciplinary Field Course Focussing on a Specific Habitat** Presentation of the complexity of living conditions in a forest border ecotone in practice; Using the example of the summit region of a mountain, students are taught the interplay of the different ecological factors.	3	3
c.	**VO Aquatic Biochemistry** Biogeochemical cycles in aquatic systems and their consequences for microbial food webs; connections to terrestrial ecosystems	1	1.5
d.	**VO Introduction to Molecular Ecology** Overview of the use of molecular methods and markers in ecology	1	1.5
	Total	**6**	**7.5**
	Learning Outcome: Students – have basic knowledge in the use of ecological assessments in the field of nature conservation of aquatic and terrestrial systems, – learn ecological contexts based on a practical example in forest border ecotone, – understand biogeochemical cycles in aquatic systems in the context of food webs, – know the use of molecular biological methods in ecology.		
	Prerequisites: successful completion of compulsory module 1		

15.	Compulsory Module: Microbiology II	h	ECTS-Credits
a.	**VO Fundamentals of Microbial Physiology** Bioenergetic basics; microbial structures; transport processes; types of energy conservation; prototrophy; important metabolic pathways of carbon metabolism	2	3
b.	**UE Basic Microbiology - Laboratory Course** Teaching of the most important microbiological work techniques and rules for working in the microbiological laboratory on the basis of basic experiments (isolation and enrichment of microorganisms, strain maintenance, influence of cultivation conditions, etc.)	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students – understand the basics of microbial physiology, – can isolate, cultivate and quantify microorganisms, – can investigate microbial activities experimentally.		
	Prerequisites: successful completion of compulsory module 1 and 9		

16.	Compulsory Module: Presentation	h	ECTS-Credits
a.	**SE Biological Seminar** Processing and presentation of basic or current biological topics based on original scientific papers	1	1.5
b.	**VU Scientific Writing Skills** Literature; literature and knowledge management; visualisation technology; logical reasoning	1	1
	Total	**2**	**2.5**
	Learning Outcome: Students – can present and critically discuss a scientific original work, – can research literature – can manage literature, information and knowledge, – can visualise and present information and knowledge, – know basics of writing scientific papers.		
	Prerequisites: successful completion of compulsory module 9		

(2) Elective modules covering altogether 50 ECTS-Credits must be passed. Of the elective modules 1 and 2, one module has to be passed.

1.	Elective Module: Practical Skills: Fieldwork	h	ECTS-Credits
a.	**VU Skills in Field Work and Soil Science** Theoretical and practical application of experimental design, statistics and common ecological field practices and sampling devices in the field of terrestrial and aquatic ecosystems; imparting of knowledge in the field of soil science	3	4
b.	**EX Biodiversity Field Course** Excursions with demonstration of native groups of organisms.	1	1
	Total	**4**	**5**
	Learning Outcome: Students – master sampling strategies and the use of sampling equipment in the field, – have basic knowledge of biodiversity in the field, – have basic knowledge of structure and functions of the soil.		
	Prerequisites: successful completion of compulsory module 1		

2.	Elective Module: Practical Skills: Lab Work	h	ECTS-Credits
	VU Basic Biochemistry Laboratory Course Basic techniques of biochemistry: analysis of proteins, carbohydrates, lipids, nucleic acids; enzyme reactions	4	5
	Total	**4**	**5**
	Learning Outcome: Students – understand the basics of biochemical analysis and can analytically determine the content of certain ingredients in natural products and other products,		

	– can perform simple characterisations of recombinant DNA, – master the fundamentals of protein production and analysis, – understand the principle of enzyme action and kinetics.
	Prerequisites: successful completion of compulsory module 4 and 9

3.	**Elective Module: Flora and Vegetation of Central Europe**	**h**	**ECTS-Credits**
a.	**VO Vegetation of Central Europe** Important plant communities of Central Europe; vegetation-determining environmental factors	1	1.5
b.	**VO Flora and Vegetation of the Alpine Region: Origin, Current State, Future** Geography, geology and climate of the Alps; evolution, systematics and biogeography of alpine species groups; climate or anthropogenically induced vegetation changes in the Ice Age and Holocene; influence of environmental factors on tree growth at locations at the forest line	3	4.5
c.	**VU Neophytes and Nature Conservation in the Alpine Region** Introduction to the subject area of neophytes; impact of alien plant species on the flora and vegetation in the Alpine region; basics of management of invasive species	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students know about – the vegetation of Central Europe, – the Alps as a habitat and "natural laboratory" of evolution, – various aspects of natural and anthropogenic flora and vegetation changes, – the ecology of the forest line, – neophytes as problem for nature conservation and their management.		
	Prerequisites: successful completion of compulsory module 7		

4.	**Elective Module: Diversity, Systematics and Ecology and Vascular Plants and Algae**	**h**	**ECTS-Credits**
a.	**VU Molecular Ecology of Algae** Overview of the different groups of algae and their distribution; classification according to phenotypic characteristics; ecophysiological adaptations at the molecular level	1	1.5
b.	**VU Diversity and Systematics of Vascular Plants I** Introduction to native families of vascular plants and their most important species; introduction to the determination of vascular plants with common identification literature	3	4.5
c.	**EU Botanical Field Course for Advanced Students** Advanced study of domestic vascular plants; habitat ecology; plant communities; conservation issues	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students – can discuss characteristic vascular plant species of selected habitats, – can use identification literature,		

	– know basic aspects of hydrobotany.
	Prerequisites: successful completion of compulsory module 13

5.	**Elective Module: Diversity, Systematics and Nature Conservation of Vascular Plants and Algae**	**h**	**ECTS-Credits**
a.	**VU Diversity and Systematics of Vascular Plants II** Introduction to native families of vascular plants that were not dealt with in elective module 4 and their most important species; identification of vascular plants with common identification literature	3	4.5
b.	**VU Hands-On Nature Conservation** Introduction to issues of nature and environmental protection; learning of the basics with selected botanical examples in theory and practice	2	3
	Total	**5**	**7.5**
	Learning Outcome: Students – can identify unknown vascular plant species, – have basic knowledge to deal with issues in nature conservation in theory and practice.		
	Prerequisites: successful completion of compulsory module 7		

6.	**Elective Module: Plant Physiology and Ecophysiology**	**h**	**ECTS-Credits**
a.	**VO Plant Ecophysiology** Introduction to the effects of abiotic environmental factors on physiological processes; basics of plant resistance to natural stress factors	2	3
b.	**VU Plant Physiology** Acquisition of in-depth knowledge of plant metabolism, taking into account growth and development processes; handling of measuring instruments and experimental techniques; evaluation and presentation of data; publication training	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students – understand the interrelation of plant physiology and environmental factors, – have in-depth knowledge of plant metabolism on the basis of selected laboratory experiments, – have practical knowledge of the analytical biochemistry of plants, – can interpret plant physiological data and present it in a publishable form.		
	Prerequisites: successful completion of compulsory module 7 and 9		

7.	**Elective Module: Experimental Plant Biology**	**h**	**ECTS-Credits**
a.	**VO Plant Structure and Function** Advanced understanding of the structural diversity of selected plant organs and the related functions	1	1.5
b.	**UE Plant Structure and Function** Experimental analysis of the specific function of selected plant organs; evaluation of measurement results, statistical analysis and presentation of the	2	3

	data		
c.	**UE Research Project in Plant Biology** Insights into current research projects; Analysis and presentation of physiological and ecophysiological data	2	3
	Total		
	Learning Outcome: Students – know organs of plants and their function, – are able to plan and carry out experiments in the field of plant biology, – can statistically evaluate and present scientific results.		
	Prerequisites: successful completion of compulsory module 7 and 9		

8.	**Elective Module: Current Topics in Plant Biology**	**h**	**ECTS-Credits**
a.	**VU Plant Biotechnology** Acquisition of theoretical and practical knowledge of plant biotechnology	2	3
b.	**VU Plants and Climate Change** Experimental analysis of the specific function of selected plant organs; interpretation of measurement results, statistical analysis and presentation of the data	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students – know applications of plant biotechnology, – know applied aspects of plant biology, – analyse and understand the effects of climate change on plants and recognise their adaptations, – can present the generated data.		
	Prerequisites: successful completion of compulsory module 7 and 9		

9.	**Elective Module: Model Organisms in Zoology**	**h**	**ECTS-Credits**
a.	**VU Model Organisms** History, importance and use of model organisms in experimental and molecular zoology	1	1.5
b.	**UE Model Organisms** Microscopic analyses and experiments on live animals or ready-to-use preparations (e.g. hydra, drosophila, c. elegans, ciona, danio or gallus); molecular approaches to zoological issues	4	6
	Total		
	Learning Outcome: Students can – describe the life cycles and morphology of model organisms, – understand the specific importance of model organisms and their application, – recognise and interpret phenotypes, – understand and apply the concept of experimental approaches.		
	Prerequisites: successful completion of compulsory module 8		

10.	Elective Module: Evolutionary Developmental Biology	h	ECTS-Credits
a.	**VO Evolutionary Developmental Biology II** Evolutionarily conserved signaling pathways and Hox genes; cell-cell adhesion; evolutionary unfolding of the animal kingdom; Cambrian explosion	2	3
b.	**VO Methods of Histology** Basics of histological fixation, staining and embedding; immunocytochemistry and production of antibodies; theoretical basis for the detection of nucleic acids and proteins	1	1.5
c.	**UE Development and Regeneration** Experiments and observations on the development and regeneration of cnidaria, platyhelminthes, tunicates or annelida; immunocytochemical stains; Maceration experiments; in vitro fertilization	2	3
	Total	**5**	**7.5**
	Learning Outcome: Students – can describe evolutionarily conserved molecular complexes of animal embryonic development, – can distinguish the different methods of visualizing protein and gene expression, – understand the development and regeneration of selected animals, – understand the connection of classical experimental embryology with molecular approaches, – can independently perform and document immunocytochemical staining, in vitro fertilization or maceration experiments.		
	Prerequisites: successful completion of compulsory module 8		

11.	Elective Module: Special Animal Physiology	h	ECTS-Credits
a.	**VO Special Animal Physiology** Breathing; sleep and activity; navigation; poisons and drugs; special adaptations of the metabolism; performance physiology; cardiovascular system; regulation and communication	2	3
b.	**UE Chronophysiology** Analysis of oscillating processes in physiology; "internal clock": measuring the daily rhythm of metabolic physiological processes; cardiovascular physiology: measurement and characterisation of heart rate variability, oxygenation and autonomous muscles (heart, blood vessels, intestines) in different species and humans	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students – know regulatory mechanisms of animal physiology and their special adaptations, – know methods for protein determination and for measurement of enzyme activities, – can analyse chronophysiological processes.		
	Prerequisites: successful completion of compulsory module 12		

12.	Elective Module: Adaptation of Animals to Habitats	h	ECTS-Credits
a.	**VO Ecophysiology of Animals** Physiological and behavioural biological adaptation of animal organisms to different habitats from the alpine region to the deep sea	2	3
b.	**PS Marine Biology** Fundamentals of marine biology: physicochemical properties of water, ocean currents and tides, characteristics of various marine habitats; the sea as a food source and the problem of pollution	2	3
c.	**EX Zoological Field Trips** Fauna of aquatic and terrestrial habitats	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: The students – recognise the diversity of marine ecosystems, their sensitivity and their importance to humans, – know the fauna of aquatic and terrestrial habitats, – know the determining factors for the species composition of these habitats.		
	Prerequisites: successful completion of compulsory module 1		

13.	Elective Module: Cell Physiology	h	ECTS-Credits
a.	**VO Cell Physiology** Selected physiological mechanisms of the cell; stress and repair mechanisms; signaling; cell homeostasis; cell culture	1	1.5
b.	**SE Cell Physiology** Discussion of current literature with reference to cellular mechanisms of stress response and signaling	1	1.5
c.	**UE Cell Physiology** Determination of cell viability due to environmental stressors; measurement of physiological parameters; sterile working with cell lines and primary cultures	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students – understand cell physiological mechanisms in cells, tissues and organisms, – can apply cell physiological principles practically, – can apply sterile and cell culture techniques to perform basic molecular biology methods in cell physiology.		
	Prerequisites: successful completion of compulsory module 2		

14.	Elective Module: Microscopy, Imaging and Image Analysis in Biology	h	ECTS-Credits
a.	**VU Introduction to Image Analysis** Fundamentals of image processing and the construction of imaging devices; application of image processing; image processing and editing; data processing and analysis	2	3

b.	**VU Applied Imaging of Biological Objects** Electron microscopy; confocal laser scanning microscopy; digital 2D and 3D imaging	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students – understand the structure and operation of modern microscopes, – can understand the basic imaging steps, – can extract and analyse data from images, – can process images and data for various publication formats.		
	Prerequisites: successful completion of compulsory module 2		

15.	**Elective Module: Techniques in Microbiology**	**h**	**ECTS-Credits**
a.	**VO Techniques in Microbiology** Safety aspects in the laboratory; microbiological culture and work techniques; essential micro and molecular biological analysis methods	1	1.5
b.	**UE Techniques in Microbiology** Independent experimental design and implementation; microbiological culture and analysis techniques; identification of microorganisms using cultural and molecular methods; effect of trace elements and heavy metals; inhibition and decimation of microorganisms; hygiene investigations of food	4	6
	Total	**5**	**7.5**
	Learning Outcome: Students can – plan, carry out and evaluate microbiological experiments independently and observing all safety aspects – apply various methods to cultivate, inhibit, quantify and decimate microorganisms as they are relevant in professional practice.		
	Prerequisites: successful completion of compulsory module 15		

16.	**Elective Module: Medical Microbiology**	**h**	**ECTS-Credits**
a.	**VO Medical Microbiology** General aspects and measures; immunizations; Antivirals, antibiotics, antifungal and antiparasitic drugs; nosocomial infections	2	3
b.	**VO Infectious Disease: Diagnostics** Microscopic and bacteriological diagnosis of infectious diseases; serology; molecular biological methods	1	1.5
c.	**VO Hygiene and Quality Management** Hygiene and quality management; contamination prevention; infection control; legal basis	1	1.5
d.	**VO The Humane Microbiome** Man and his microorganisms: commensals, pathogens; interactions human-microorganisms; composition and functions of the human microbiome; methods of microbiome research	1	1.5
	Total	**5**	**7.5**

	Learning Outcome: Students – know essential aspects of diagnostics, therapy and prevention of human infectious diseases, – the importance of an intact biocoenosis of man with his microorganisms, the human microbiome, – recognise the link between targeted hygiene measures and the prevention of disease and product contamination.
	Prerequisites: none

17.	Elective Module: Applied Microbiology	h	ECTS-Credits
a.	**SE Microbial Biotechnology** Development and presentation of the knowledge on a selected topic from microbial biotechnology (e.g. biological wastewater treatment)	1	1.5
b.	**UE Microbial Biotechnology** Planning, execution and evaluation of laboratory experiments on selected topics of microbial biotechnology (e.g. operation and monitoring of a laboratory wastewater treatment plant)	4	6
	Total	**5**	**7.5**
	Learning Outcome: Students – know the theoretical background and essential experimental methods for the investigation of a selected biotechnological process, – can critically reflect and discuss the chosen topic of microbial biotechnology.		
	Prerequisites: successful completion of compulsory module 15		

18.	Elective Module: Molecular Biotechnology	h	ECTS-Credits
a.	**SE Molecular Biotechnology** Development of the theoretical background for the identification of biotechnologically relevant genes and their expression in a model microorganism	1	1.5
b.	**UE Molecular Biotechnology** Identification of desired properties of selected microorganisms using physiological and genetic tests; locating biotechnologically relevant genes in the genome using bioinformatic data analysis; expression and quantification of a heterologous protein	4	6
	Total	**5**	**7.5**
	Learning Outcome: Students – can define the relationship between phenotype and genotype of a microorganism, – can use selected examples to identify and analyse biotechnologically interesting gene,s – understand how the biotechnological potential of microorganisms can be assessed and optimized.		
	Prerequisites: successful completion of compulsory module 15		

19.	Elective Module: Ecology of Microorganisms	h	ECTS-Credits
a.	**VO Ecology of Microorganisms** Importance of microorganisms in the environment and relationships with global climate change; nutrient cycles; overview of methodological approaches to the study of microbial nutrient pools and nutrient fluxes as well as the microbial biodiversity of different habitats	1	1.5
b.	**VO Microbial Symbiosis** Variety of microbial interactions in the environment; significance of symbiosis for the colonization of new habitats and for evolution (e.g. endosymbiont theory); defence and nutrition symbioses (e.g. C and N autotrophy)	2	3
c.	**VO Soil Microbiology** Abiotic and basic biotic components of soils; the main groups of bacteria, archaea and fungi; culturable and non-cultivable organisms and their functions in soils; biodiversity of soil microorganisms; C and N circulation in the soil	2	3
	Total	**5**	**7.5**
	Learning Outcome: Students – understand interactions between microorganisms and their relation to other organisms and to the environment, – understand material cycles and the importance of microbial biodiversity, – know microbiological investigation methods for soils and other habitats.		
	Prerequisites: none		

20.	Elective Module: Current Topics in Microbiology	h	ECTS-Credits
a.	**SE Current Topics in Microbiology** Developing and presenting the state of knowledge on a current microbiological topic; discussion of the scientific and social relevance of the topic	1	1.5
b.	**UE Current Topics in Microbiology** Planning, implementation and evaluation of laboratory experiments on a current microbiological topic	4	6
	Total	**5**	**7.5**
	Learning Outcome: Students can – develop and present the state of knowledge on a current research topic, – discuss the topic from a scientific and social perspective, – plan, conduct and evaluate laboratory experiments on the topic.		
	Prerequisites: successful completion of compulsory module 15		

21.	Elective Module: Basics of Ecology	h	ECTS-Credits
a.	**PJ Biodiversity of Central European Habitats** Limnological and terrestrial excursions and sampling in native habitats; quantification of collected biocoenoses in the laboratory; ecological claims and evolutionary adaptations of organisms to their respective habitats, taking into account their functional morphology and life-form	2	3

b.	**VU Analysing Ecological Data** Introduction to the digital collection, processing and evaluation of ecological data; methods of big data analysis and processing of spatial information	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students – can present and explain the diversity, the ecological demands, the annidation and function of selected native habitats and put this knowledge into practice, – have an overview of important methods of data analysis in current ecological research and have a basic understanding of the use of different software products.		
	Prerequisites: successful completion of compulsory module 1		

22.	**Elective Module: Applied Ecology**	**h**	**ECTS-Credits**
a.	**VO Applied Ecology – Aquatic Systems** Investigation, assessment and management of stagnant and flowing waters	2	3
b.	**VO Applied Ecology – Terrestrial Systems** Management of terrestrial habitats in the field of tension between economy and sustainable use	2	3
c.	**EU Applied Ecology** Advanced study and practical application of the contents of the two lecture of the module	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students – know the ecological basics for the management of ecosystems in theory and practice, – know methods, tools and guidelines for the investigation, assessment and management of habitats and landscapes, – understand complex relationships in the field of conflict ecology - sustainable use nature and water protection – forestry and agriculture.		
	Prerequisites: successful completion of compulsory module 1		

23.	**Elective Module: Functional Ecology**	**h**	**ECTS-Credits**
a.	**VO Organisms and Metabolic Cycles** Relationships between organisms and material cycles (C, N etc.)	1	1.5
b.	**VO Interactions Between Organisms and Environment** Individuals, populations and species communities in interplay with abiotic and biotic environmental factors	2	3
c.	**UE Functional Ecology** Exercises to advance the study of the contents of the two lectures of the module; learning of appropriate methods and interpretation of the measurement results	2	3
	Total	**5**	**7.5**

	Learning Outcome: Students have – an overview of relationships between organisms and material cycles, – advanced knowledge of the influence of abiotic and biotic environmental factors on individuals, populations and communities, – learned basic methodological knowledge on functional ecology issues.
	Prerequisites: successful completion of compulsory module 1

24.	**Elective Module: Ecological Field Project**	**h**	**ECTS-Credits**
a.	**PS Ecological Field Project** Theoretical background of advanced ecological methods as part of an ecological project study from the aquatic and terrestrial area	1	1.5
b.	**PJ Ecological Field Project** Practical application of advanced ecological methods in the context of an ecological project study from the aquatic or terrestrial area	4	6
	Total	**5**	**7.5**
	Learning Outcome: Students can – design an experimental strategy on ecological issues, – acquire appropriate measurement methods, – collect and evaluate measurement data, – present the results in the form of a lecture, – present the project in a structured manner in a scientific report.		
	Prerequisites: successful completion of compulsory module 1 and 9		

25.	**Elective Module: Ecology of Selected Organisms and Ecosystems**	**h**	**ECTS-Credits**
a.	**VU Selected Organisms and Ecosystems** Working out of the variety of forms and ecology of selected groups of organisms and/or ecosystems	4	6
b.	**EX Selected Organisms and Ecosystems** Excursion related to the ecology of selected groups of organisms and/or organic systems.	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students can – recognise, describe and explain the organisms and ecosystems worked with, – practically implement their acquired approach to groups of organisms and ecosystems and they can independently work out knowledge about other groups of organisms and ecosystems in the future.		
	Prerequisites: successful completion of compulsory module 1		

26.	Elective Module: Diversity and Evolution of Genomes	h	ECTS-Credits
a.	**VO Genome Evolution** Structural differences between pro- and eukaryotic genomes; evolutionary mechanisms of genome evolution and differences between domains	2	3
b.	**UE Genome Evolution** Laboratory and bioinformatic exercises to illustrate the differences in the structure and evolution of the genomes of pro- and eukaryotes; genome size measurements	2	3
c.	**SE Genome Evolution** Working out of background knowledge and analysis of current publications on genome evolution	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students – have advanced knowledge of the evolutionary mechanisms and processes involved in forming and modifying genomes of pro- and eukaryotes, – recognise the differences in the evolution of pro- and eukaryotic genomes, – know basic methods for analysing processes of genome evolution.		
	Prerequisites: successful completion of compulsory module 1 and 11		

27.	Elective Module: Advanced Molecular Biology	h	ECTS-Credits
a.	**VO Advanced Molecular Biology** Current techniques and methods of molecular biological laboratory work	1	1.5
b.	**UE Advanced Molecular Biology** Performing basic techniques for the isolation and analysis of DNA, RNA and proteins; cell disruption; DNA / RNA extraction; gel electrophoresis; restriction enzymes; PCR; cloning; use of bioinformatics databases	4	6
	Total	**5**	**7.5**
	Learning Outcome: Students – know complex current molecular biological methods and – can apply them practically.		
	Prerequisites: successful completion of compulsory module 11		

28.	Elective Module: Human Biology and Biomedicine	h	ECTS-Credits
a.	**VO Epigenetics and Gene Regulation** Organisation of DNA in the nucleus (nuclear architecture, chromosomes, chromatin); regulatory protein machinery; cooperative control (enhanceosomes); epigenetic modifications; locus control regions; non-coding RNAs	2	3
b.	**VO Structural Biology** Chemistry of amino acids; structure prediction; methods of protein purification and analysis; peptide synthesis; protein sequencing; crystallization and X-ray structure analysis; NMR analysis of protein structures	1	1.5

c.	**VO Cell Cycle and Tumour Biology** Biochemical, metabolic and transcriptional regulation of the cell cycle; molecular basics of cancer; characteristics of cancer, benign and malignant tumours, different tumour types; therapy strategies for cancer	1	1.5
d.	**VO Molecular Mechanisms of Disease and Therapy** Molecular basis of selected non-communicable human diseases and therapeutic strategies derived from them	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students – know the organisation of DNA in the nucleus as well as special aspects of gene and transcriptional regulation, – have knowledge in methods of protein purification and peptide synthesis as well as in the fields of structure prediction and analysis of proteins, – know specific aspects of cell cycle regulation and tumour biology, – know the pathophysiology of selected human diseases and the theoretical foundations of therapeutic approaches.		
	Prerequisites: none		

29.	**Elective Module: Cell Biology and Cell Culture**	**h**	**ECTS-Credits**
a.	**VO Cell Biology and Cell Culture** Techniques of cell culture; techniques of molecular cell biology such as transfection, lentiviral vectors, RNAi, CRISPR / CAS9; special topics of molecular cell biology	2	3
b.	**UE Cell Biology and Cell Culture** Culture of human and murine cells; various practical techniques of molecular cell biology	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students – master the sterile work with human and murine cells (cell culture), – can apply molecular biological methods to manipulate cells and to analyse selected aspects of cell biology.		
	Prerequisites: successful completion of compulsory module 9		

30.	**Elective Module: Genomics and Digital Biology**	**h**	**ECTS-Credits**
a.	**VO Genomics** Structural, functional and comparative genomics: omics technologies; single-cell biology; big data biology; bioinformatics strategies; machine learning and neural networks	2	3
b.	**UE Genomics** Exercises on omics technologies; single-cell biology; big data biology; bioinformatics strategies and machine learning	3	4.5
	Total	**5**	**7.5**

	Learning Outcome: Students – understand strategies of genome-wide analyses, – know basic principles of bioinformatics and apply them, – can understand and interpret results of single-cell biology and big data biology, – understand machine learning concepts, – are able to perform and interpret complex bioinformatic analyses of omics datasets.
	Prerequisites: successful completion of compulsory module 9 and 11

31.	**Elective Module: Advanced Biochemistry**	**h**	**ECTS-Credits**
a.	**VO Biochemical Analytics** Thermodynamic basics; mechanisms of catalysis; enzyme kinetics and inhibition; detailed presentation of selected enzymes; applications of enzyme technology	2	3
b.	**UE Biochemistry of Enzymes and Proteomics** Recombinant production and purification of enzymes; creating enzyme kinetics; experiments with enzyme inhibitors; characterization and purification of antibodies; protein analytical methods; antibody-based techniques	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: Students – understand the basics of enzyme kinetics and inhibition as well as their practical applications in medicine and related fields, – understand the most important principles and applications of protein biochemistry and protein analysis, – can independently determine the kinetic properties of an unknown enzyme as well as the inhibitory potential of selected inhibitor molecules, – can independently apply protein analysis techniques.		
	Prerequisites: successful completion of elective module 2		

32.	**Elective Module: Developmental Genetics of Vertebrates**	**h**	**ECTS-Credits**
a.	**VO Developmental Genetics of Vertebrates** Introduction to the topic and methodology of developmental biology and developmental genetics of vertebrates	1	1.5
b.	**UE Developmental Genetics of Vertebrates** Characterization of developmental biologically relevant genes; cloning; Analysis of expression; Methods for manipulating gene function and analysing induced phenotypes	4	6
	Total	**5**	**7.5**
	Learning Outcome: Students – understand the embryonic development of vertebrates, – are able to apply developmental biological methods on the basis of specific questions.		
	Prerequisites: successful completion of compulsory module 11		

33.	Elective Module: Gender Aspects in Biology throughout the Course of History	h	ECTS-Credits
a.	**VO History of Biology** Presentation and discussion of the history of biology from the point of view of evolutionary biology; consideration of gender-specific aspects and the social context of the history of biology	2	3
b.	**VO Gender Studies in Biology** Raising awareness of gender issues in science; highlighting of cultural and social conditions of gender aspects; elaboration of possible solution strategies	2	3
c.	**SE Women in Science** Highlighting difficult conditions for women in science based on historical bibliographical research; analysis of traditional and current, structural and symbolic barriers for women in these subjects	1	1.5
	Total	**5**	**7.5**
	Learning Outcome: Students – are aware of gender-specific aspects in the natural sciences and their causes, – know possible solution strategies and can work on new ones, – understand the discrimination of women in science in the course of the history of science.		
	Prerequisites: none		

34.	Elective Module: Interdisciplinary Skills I	h	ECTS-Credits
	Providing the availability of places, courses corresponding to 7.5 ECTS-Credits may be taken from the Bachelor's and/or Diploma programmes at the University of Innsbruck.		7.5
	Total		**7.5**
	Learning Outcome: This module serves the expansion of the study programme and the acquisition of additional qualifications.		
	Prerequisites: The registration requirements specified in the respective curricula must be met.		

35.	Elective Module: Interdisciplinary Skills II	h	ECTS-Credits
	Providing the availability of places, courses corresponding to 2.5 ECTS-Credits may be taken from the Bachelor's and/or Diploma programmes at the University of Innsbruck. It is particularly recommended to take courses considering gender aspects and subject-specific results in women's and gender research.		2.5
	Total		**2.5**
	Learning Outcome: This module serves the expansion of the study programme and the acquisition of additional qualifications.		
	Prerequisites: The registration requirements specified in the respective curricula must be met.		

36.	Elective Module: Specialised Topics in Biology I	h	ECTS-Credits
a.	**VO Specialised Topics in Biology I**	2	3
b.	**UE Specialised Topics in Biology I**	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: In this module, which is occasionally offered by guest lecturers, students gain insights into biological subdisciplines.		
	Prerequisites: successful completion of compulsory modules 1, 2 and 9		

37.	Elective Module: Specialised Topics in Biology II	h	ECTS-Credits
a.	**VO Specialised Topics in Biology II**	1	1.5
b.	**EU Specialised Topics in Biology II**	3	3.5
	Total	**4**	**5**
	Learning Outcome: In this module, which is occasionally offered by guest lecturers, students gain insights into biological subdisciplines.		
	Prerequisites: successful completion of compulsory module 1 and 2		

38.	Elective Module: Specialised Topics in Biology III	h	ECTS-Credits
a.	**VO Specialised Topics in Biology III**	1	1.5
b.	**SE Specialised Topics in Biology III**	1	1
	Total	**2**	**2.5**
	Learning Outcome: In this module, which is occasionally offered by guest lecturers, students gain insights into biological subdisciplines.		
	Prerequisites: successful completion of compulsory module 1 and 2		

39.	Elective Module: Specialised Topics in Biology IV	h	ECTS-Credits
a.	**SE Specialised Topics in Biology IV**	1	1.5
b.	**UE Specialised Topics in Biology IV**	4	6
	Total	**5**	**7.5**
	Learning Outcome: In this module, which is occasionally offered by guest lecturers, students gain insights into biological subdisciplines.		
	Prerequisites: successful completion of compulsory modules 1, 2 and 9		

40.	Elective Module: Specialised Topics in Biology V	h	ECTS-Credits
a.	**PS Specialised Topics in Biology V**	2	3
b.	**VU Specialised Topics in Biology V**	3	4.5
	Total	**5**	**7.5**
	Learning Outcome: In this module, which is occasionally offered by guest lecturers, students gain insights into biological subdisciplines.		
	Prerequisites: successful completion of compulsory modules 1, 2 and 9		

§ 9 Bachelor's Thesis

(1) The Bachelor's Thesis is an independently written scientific paper, written within the scope of a course with continuous performance assessment from compulsory modules 11 and 13 to 16 or from all elective modules with the exception of elective modules 34 to 40.

(2) The Bachelor's Thesis amounts to 15 ECTS-Credits. The performance of the Bachelor's Thesis must be delivered in addition to the lecture within the scope of which it is written.

(3) Students select the course. The selection requires the approval of the course lecturer.

(4) The Bachelor's Thesis is to be handed in the form specified by the Director of Studies.

§ 10 Examination regulations

(1) The performance of the courses from the modules is assessed by course examinations. Course examinations are

1. examinations which assess the knowledge and skills acquired in an individual course and which comprise a single examination held at the end of the course. The course lecturer has to fix and announce the examination method (written or oral) before the start of the course.
2. courses with continuous performance assessment, where evaluation is based on regular written and/or oral contributions of the participants.
3. The course instructors have to inform the students before the start of the course about the contents and the methods used in their course, as well as of the evaluation criteria and standards used in a suitable fashion.

§ 11 Academic degree

Graduates of the Bachelor's Programme Biology are awarded the academic degree "Bachelor of Science", abbreviated, "BSc".

§ 12 Coming into force

This curriculum comes into force as of 1st October 2019

§ 13 Transitional provisions

(1) This curriculum applies to all students beginning the study programme as of the 2019/20 winter semester.

(2) Regular degree students, who have started the Bachelor's Programme acc. to the curriculum of 2008 (published in the University of Innsbruck Bulletin of 29 April 2008, Issue 36, No. 265) before 1 October 2019, are entitled from this time on, to conclude their study programme within a maximum of eight semesters.

(3) If the Bachelor's Programme acc. to the curriculum of 2008 is not finished in time, the students are subject to the curriculum for the Bachelor's Programme Biology in the version of the University of Innsbruck Bulletin of 8 April 2019, Issue 32, No. 379 (curriculum 2019). Furthermore, students are entitled to voluntarily submit to the curriculum of 2019 at any time.