Note:

The following curriculum is a consolidated version. It is legally non-binding and for informational purposes only.

The legally binding versions are found in the University of Innsbruck Bulletins (in German).

Principal version published in the University of Innsbruck Bulletin of 27 March 2018, Issue 20, No 274

Equivalence list published in the University of Innsbruck Bulletin of 2 May 2018, Issue 30, No 327

Curriculum for the **Bachelor's Programme Earth Science** at the Faculty of Geo- and Atmospheric Sciences as the University of Innsbruck

§ 1 Qualification Profile

(1) The Bachelor's Programme Earth Science is grouped among the natural science study programmes.

(2) The Bachelor's Programme Earth Science is the basis for a wide range of Master's programmes at the University of Innsbruck and other universities. Moreover, the diversified education includes basic knowledge and skills for future professional work in this field. The Bachelor's programme gives a comprehensive insight into the nature and processes of the lithosphere, hydrosphere, cryosphere, atmosphere and anthroposphere and provides methods and tools for describing and understanding them in a system-oriented way.

(3) Based on the contents of the first two semesters, which focus on general natural science learning outcomes, the students acquire a broad general knowledge in earth science. Because of the University of Innsbruck's location in the middle of the Alps, the education has a special focus on regional alpine terrain and promotes the "geological way of thinking", i.e. to work on and understand complex scientific connections in space and time. In the two Bachelor's theses the students learn to independently work on, document and present selected problems in Earth Science. Independent compiling, managing and interpreting of a dataset in earth sciences adapted to the problem is an essential part of the Bachelor's theses.

(4) Career options for graduates lie in the field of basic research in the broad field of applied earth science (e.g. engineering geology, resources geology and technical mineralogy) as well as in the respective fields of economy (e.g. material industry, environment, energy, traffic), in authorities in the building and environment sector and in related sectors, engineering and planning offices. There is also the possibility to take up a career path without direct relation to the specialist training, but based on the acquired intellectual skills and the ability to engage in scientific-analytical networked and critical thinking.

§ 2 Scope and duration

The Bachelor's Programme Earth Science covers 180 ECTS-Credits. Compulsory modules corresponding to altogether 135 ECTS-Credits and elective modules corresponding to altogether 45 ECTS-Credits must be passed. This corresponds to a study duration of six semesters.

§ 3 Types of courses and maximum number of participants

(1) Courses without continuous performance assessment: **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 participants: 200.

(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: 20.
2. **Practical courses** (UE) focus on the practical treatment of concrete scientific tasks within an area. Maximum number of participants: 20.
3. **Seminars** (SE) provide in-depth treatment of scientific topics through students' presentations and discussion thereof. Maximum number of participants: 15.
4. **Lectures with 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: 20
5. **Practical training courses (**PR) provide practical experience with concrete scientific tasks, complementing occupational and academic training. Maximum number of participants: 15.
6. **Excursions with 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: 20 (in difficult terrain: 12)
7. **Excursions (**EX), conducted outside the premises of the university, serve to demonstrate and deepen course contents. Maximum number of participants: 20 (in difficult terrain: 12).

§ 4 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. Students for whom the study duration would be extended due to the postponement are to be given priority.
2. If the criteria in Z 1 do not suffice, first, students for whom this course is part of a compulsory module are to be given priority, and second, students for whom this course is part of an elective module.
3. If the criteria in Z 1 and 2 do not suffice, the available places are drawn by random.

§ 5 Compulsory and elective modules

(1) The following compulsory modules corresponding to 135 ECTS-Credits must be passed:

1.	**Compulsory Module: Solid Earth 1**	**h**	**ECTS-Credits**
a.	**VO System Earth 1** This lecture conveys the first part of the overview of the essential contents of the Earth Science study programme as well as its further course. It deals with the mineralogical and petrological basics and concepts (crystalline state, building blocks and solid earth, cycle of stones), plate tectonics, geological times and methods of age determination as well as the basics of geophysics (earthquake waves, magnetic and gravitational field).	2	4

b.	**VO System Earth 2** This lecture conveys the second part of the overview of the essential contents of the Earth Science study programme as well as its further course. This lecture focuses on processes at and near the surface of the Earth (weathering, erosion, sedimentation, deformation) and on the evolution of organisms.	2	4
c.	**UE Exercises in Earth Sciences** Advanced and complementing study of the contents dealt with in the two lectures; exercises on the quantitative calculation of mineralogical and geological processes; Based on concrete examples, questions and case studies of geoscientific topics are discussed. Brief introduction to the most important minerals and rock types, description and interpretation of hand-sized pieces, short excursions in and around Innsbruck.	1	2
	Total	**5**	**10**
	Learning Outcomes: Knowledge of the fundamentals and relations of the most important sub-disciplines in Earth Science; Students have an understanding of the most important concepts and processes that have contributed to the formation of the Earth and are contributing to its ongoing change.		
	Prerequisites: none		

2.	**Compulsory Module: Mathematics**	**h**	**ECTS-Credits**
	VO Introduction to Mathematics The lecture conveys basic tools of higher mathematics (e.g. functions, vectors, matrices, infinitesimal calculus). Particular emphasis is placed on applications in geoscience.	3	5
	Total	**3**	**5**
	Learning Outcomes: Students know the basic tools of higher mathematics and are able to apply them to problems in Earth Science.		
	Prerequisites: none		

3.	**Compulsory Module: Physics**	**h**	**ECTS-Credits**
	VO Introduction to Physics The lecture conveys basic concepts of measurement, dimensions, units, mechanics, electricity and magnetism, oscillations and waves, optics, heat and thermodynamics as well as of atoms and solids.	3	5
	Total	**3**	**5**
	Learning Outcomes: The students understand the basic concepts of physics and are able to conduct and analyse simple physical measurements.		
	Prerequisites: none		

4.	Compulsory Module: Chemistry	h	ECTS-Credits
a.	**VU General and Inorganic Chemistry** This lecture conveys the principles of general chemistry (e.g. structure of atoms, fundamentals of nuclear chemistry, periodic table, chemical bonds, fundamentals of chemical reactions, ideal gases, thermodynamics, chemical equilibrium) and of special inorganic chemistry with a focus on earth- and environment-relevant compounds.	3	5
	Total		
	Learning Outcomes: Students understand the basics of general and inorganic chemistry and know how to handle simple chemical analytical methods.		
	Prerequisites: none		

5.	Compulsory Module: Solid Earth 2	h	ECTS-Credits
a.	**EU Introduction to Geological Field Work** This course covers the practical basics of field work in earth science (macroscopic rock analysis, measurement of structure, decomposition description, geological sketching, recording of profiles, presentation or observations and measurements in the field). Moreover a first insight into the geology of the Alps is provided.	4	8
b.	**VU Introduction to Reporting in Earth Sciences** This course introduces and exercises the prehension and analysis of publications in Earth Science, the fundamentals of writing reports for field trips in earth sciences (structure, logic and quoting).	1	2
	Total	**5**	**10**
	Learning Outcomes: The students are able to independently carry out simple practical works in Earth Science in the field and to present observations and interpretations in a logically structured, revamped form using correct terms of Earth Sciences, illustrations and citations.		
	Prerequisites: none		

6.	Compulsory Module: Geology 1	h	ECTS-Credits
a.	**VU Sedimentology and Stratigraphy** This lecture provides basic knowledge of the formation, composition and genetic significance of sediments and sedimentary rocks (clastic, chemical organogenic sediments) as well as their stratigraphic correlations.	2	3
b.	**VU Palaontology** This lectures gives an insight into the basic systematics of organisms as well as blueprints of bodies, way of living and ecology of marine invertebrates, fossil formation, evolution and biodiversity of marine invertebrates in the history of the Earth and into the basics of biostratigraphy.	2	3
c.	**VO Quaternary Geology** This lecture provides an insight into the stratigraphic basics of the Quaternary, an overview of the Quaternary worldwide, the Quaternary in the Alps, quaternary sediments and facies, geomorphology and concludes with a	1	2

	methodological overview.		
d.	**EU Quaternary Geology** In this course, the theoretical content of the accompanying lecture, will be based on concrete field observations in the inner-Alpine region (focus: Inntal valley) advanced in exercises.	1	2
	Total	**6**	**10**
	Learning Outcomes: The students can apply the acquired basic knowledge on questions in sedimentary geology and quaternary geology.		
	Prerequisites: none		

7.	**Compulsory Module: Mineralogy 1**	**h**	**ECTS-Credits**
a.	**VU General Mineralogy and Crystallography** This lecture deals with general laws of crystalline solids such as long range order, morphology, symmetry theory, crystal chemistry, fundamentals of X-ray diffraction.	3	5
b.	**VU Systematic Mineralogy** This course introduces practical work with simple tools for the determination of minerals and for recognizing and describing the approx.. 100 most important minerals on the basis of their physical properties. (with emphasis on rock-forming minerals and ores). The conditions for formation and the economic use of minerals are discussed.	2	4
c.	**EU Mineralogical Excursion** In this course, the techniques learned in the accompanying lectures and exercises are demonstrated using selected examples in the field. Moreover, minerals are used as indicators for formation conditions and geological-petrological processes.	1	1
	Total	**6**	**10**
	Learning Outcomes: After completing the module, students will be able to explain and present the solid-state fundamentals of mineralogy and crystallography. They have an overview of the systematics of minerals and their properties and can independently determine the most important minerals and the symmetries of the crystals.		
	Prerequisites: none		

8.	**Compulsory Module: Geochemistry**	**h**	**ECTS-Credits**
a.	**VU Introduction to Geochemistry** This lecture provides an overview of selected chapters in solid-state and aquatic geochemistry. Important geochemical concepts (including chemical equilibrium, redox chemistry, stability and solubility diagrams) and calculation methods that can be used to obtain, analyse and graphically depict geochemical data or for solving (isotope)geochemical problems at the surface of the Earth as well as interior of the Earth. An understanding of the concepts and methods is promoted by concrete calculation examples.	2	3.5

b.	**VU Laboratory Methods** This course offers an overview of the measuring principles of the most important laboratory methods, starting with sampling and preparation, the analysis of main and trace elements (e.g. electron microprobe) and structural analysis (mineral spectroscopy and diffractometry). The course will be completed with safety instructions and stoichiometric calculations and synthesis methods.	1	1.5
	Total	**3**	**5**
	Learning Outcomes: After completing the module, students know the fundamentals of the geochemistry of solid states and liquids and understand fundamental geochemical concepts. They have acquired the ability to use important geochemical calculation and analysis methods as basis of quantitative analysis of geochemical processes on the surface of the Earth as well as in its interior. They are able to apply this theoretical knowledge in calculations and put it into practice for concrete questions.		
	Prerequisites: none		

9.	**Compulsory Module: Geophysics**	**h**	**ECTS-Credits**
a.	**VO Geophysics** This course offers an overview of general geophysical topics and accordingly the motions and shape of the Earth, the gravitation of Earth, geomagnetism, seismology of the Earth's interior, earthquakes and geodynamics. The students will be introduced to seismics, magneto- and gravimetry, geoelectrics and the concepts of applied geophysics.	2	3.5
b.	**UE Geophysics** In this course, correction techniques in gravimetry and magnetometry are practiced, seismograms are analysed and geoelectrics are interpreted.	1	1.5
	Total	**3**	**5**
	Learning Outcomes: After completing the module, the students are able to name fundamental geophysical concepts. They are able to process simple geophysical datasets and apply them on questions in Earth Science.		
	Prerequisites: none		

10.	**Compulsory Module: Geology 2**	**h**	**ECTS-Credits**
a.	**VO Structural Geology** This lecture teaches the basics of structural geology and tectonics and gives an introduction to deformation structures on different scales.	2	3.5
b.	**UE Structural Geology** This course introduces the orientation analysis of geological structures in geological maps and in Schmidt's net.	1	1.5
c.	**VO Introduction to Earth History and Regional Geology** This course offers an overview of the evolutionary history of the Earth and life with regard to the interacting Earth system processes of the geosphere, biosphere, hydrosphere and atmosphere. Moreover, a summary of the geological development of Austria is offered.	3	5

	Total	**6**	**10**
	Learning Outcomes: The students are able to recognize, describe and document deformations of rocks. They know about the most important events in the history of Earth and the developmental stages of life. Based on this, they can derive and describe the development of the Earth system and the system-relevant relations between the atmosphere, hydrosphere, biosphere and geosphere. Moreover, the students are familiar with the most important geological units and stages of geological development in Austria and can place them in the global history of the Earth.		
	Prerequisites: none		

11.	**Compulsory Module: Mineralogy 2**	**h**	**ECTS-Credits**
a.	**VO Petrology** The course introduces the physicochemical foundations of petrology (simple phase diagrams, differentiation trends, metamorphic facies), the classification of magmatic and metamorphic rocks, the formation of the solar system and the Earth, and considers them in the context of plate tectonic processes.	2	4
b.	**VU Microscopy** In this course the students get an introduction to crystal optics (concept and application of the indicatrix). In practical exercises, rock-forming minerals are identified on the basis of their optical properties with the polarizing microscope.	2	3
c.	**VU Rock Identification** In this course, hand-sized magmatic, metamorphic and sedimentary rocks are classified and identified on the basis of macroscopic properties.	2	3
	Total	**6**	**10**
	Learning Outcomes: Based on the acquired knowledge in module 1, Mineralogy 1, as well as the newly acquired basic knowledge in petrology of magmatic, metamorphic and sedimentary rocks, the students are able to identify rocks from their macroscopic properties as well as rock-forming minerals from their optical properties of thin sections.		
	Prerequisites: positive completion of compulsory module 7		

12.	**Compulsory Module: Scientific Working**	**h**	**ECTS-Credits**
a.	**VU Principles of Scientific Working** This course introduces to scientific working (*good scientific practice*). The fundamentals of rhetoric and presentation techniques, academic writing, fundamentals of scientific data preparation and presentation (incl. the application of statistic principles on geological/mineralogical problems) are introduced and exercised.	1	2
b.	**PS Scientific Writing, Phrasing and Presenting** In this course students research subject-specific literature and prepare the data in writing and orally.	2	3
	Total	**3**	**5**

	Learning Outcomes: After passing this module, the students are able to independently research and prepare a topic in Earth Science. They are able to critically evaluate the information acquired and to make correct citations. They have basic knowledge in the presentation, analysis and evaluation of datasets in Earth Science. The students are able to prepare and present a topic in Earth Science (e.g. Bachelor's Thesis).
	Prerequisites: none

13.	Compulsory Module: Geoinformatics	h	ECTS-Credits
a.	**VO Fundamentals of Geoinformatics** The students acquire the concepts and tools of digital processing of spatial data. The basics of data administration in data bases are dealt with.	1	2
b.	**UE Applied Geoinformatics** In this exercise, students will learn methods of computer-aided processing, visualization and analysis of spatial data in 2D and 3D. The evaluation of remote data is practiced in this context as well as the creation and management of databases.	2	3
	Total	**3**	**5**
	Learning Outcomes: Students can administrate, analyse and visualize spatial data in 2D and 3D. They are familiar with handling of remote sensing data. They are able to create databases and manage large amounts of data. They are able to select and use appropriate software tools for new questions.		
	Prerequisites: none		

14.	Compulsory Module: Geology 3	h	ECTS-Credits
a.	**UE Geological Maps and Cross Sections** In this course, students learn the interpretation of geological maps and the creation of geological profiles as well as various projection and interpolation methods for the construction of maps and profiles. Exercises based on synthetic and real datasets and maps are dealt with.	2	3
b.	**EU Field Course 1** Within the scope a multi-day field trip in small groups, students learn how to autonomously map an assigned area and how to create a geological map and construct various sections. The preparation of a report follows at the end of the course.	4	5.5
c.	**UE Microscopy of Rocks** Students learn to identify rocks with the microscope, accompanied by an introductory petrography of magmatic, metamorphic and sedimentary rocks.	1	1.5
	Total	**7**	**10**
	Learning Outcomes: Students have a three-dimensional spatial sense and the ability to depict things in three dimensions with regards to geology and are able to read, interpret and design geological maps and profiles. Students can identify rocks with the microscope and interpret their emergence in a geological context. They can derive and document the geological development of an area from		

	the combination of terrain findings, macroscopic and microscopic observation, maps and profiles.
	Prerequisites: none

15.	Compulsory Module: Introduction to Applied Earth Sciences	h	ECTS-Credits
a.	**VO Introduction to Engineering Geology and Hydrogeology** In the first part, this lecturer provides an overview of fields of activity, methods and case studies of engineering geology. The basics of mechanical properties of soil and rocks, their identification and significance, geotechnical properties and classification of soil and rock for construction purposes as well as exploration methods are presented. In the second part, the lecture covers the basics of occurrence, texture and movement of groundwater in loose and hard rocks (including hydrological circle, hydrological balance, regeneration of groundwater, catchment area, aquifer types, groundwater movements, Darcy equation, outflow regime and source types).	2	4
b.	**VO Introduction to Mineral Deposits and Technical Mineralogy** The first part of this lecture deals with the geological, mineralogical and geochemical processes of the formation of deposits of mineral raw materials based on examples from important metallogenetic systems. In the second part of the lecture, important systems and groups of substances in applied mineralogy are presented. Emphasis will be placed on binding agents, ceramic materials as well as aspects of environmental and biomineralogy.	2	4
c.	**EU Applied Earth Sciences** In excursions or field trips, topics from the two lectures are illustrated. Hydrogeological and engineering geological excursions introduce students to selected field methods. Excursions related to deposits illustrate the geology, mineralogy and ore genesis of the mining restricts in Central Europe (focus on the Eastern Alps). Guided tours to selected companies in the building materials and materials industry will introduce to industrial processes in technical mineralogy.	2	2
	Total	**6**	**10**
	Learning Outcomes: After successful completion of this compulsory module, students know the application-orientated concepts of Earth Science that are relevant to the economy and are able to work on theoretical problems.		
	Prerequisites: none		

16.	Compulsory Module: Seminar with Bachelor's Thesis 1	h	ECTS-Credits
	SE Seminar with Bachelor's Thesis 1 In this course, a research topic are dealt with using geoscientific methods and results are presented in writing and within the scope of a seminar presentation.	1	3+7
	Total	**1**	**10**

	Learning Outcomes: Students can deal with geoscientific questions within the scope of a small project and autonomously write a paper that meets the requirements of good scientific practice. They can present, evaluate and defend scientific results in the form of a presentation.
	Prerequisites: positive completion of compulsory modules 1 to 11

17.	Compulsory Module: Seminar with Bachelor's Thesis 2	h	ECTS-Credits
	SE Seminar with Bachelor's Thesis 2 In this course, a research topic are dealt with using geoscientific methods and results are presented in writing and within the scope of a seminar presentation.	1	3+7
	Total	**1**	**10**
	Learning Outcomes: Students can autonomously organize the course of a small geoscientific project and write a paper that meets the requirements of good scientific practice. They can present, evaluate and defend scientific results in the form of a presentation.		
	Prerequisites: positive completion of compulsory modules 1 to 11		

(2) Elective modules corresponding to altogether 45 ECTS-Credits must be passed. In any case, four elective modules must be passed in the field of Earth Science (elective modules 1 to 8) and one of which in geology (elective modules 1, 3 or 7) and one in mineralogy and petrology (elective modules 2, 4 or 6).

1.	Elective Module: Applied Geology	h	ECTS-Credits
a.	**VU Engineering Geology** This course offers an advanced study of engineering geology.	1	2
b.	**VU Hydrogeology** In this course students learn the basics and applications of hydrochemistry and karst hydrogeology as well as hydrogeological field tests.	2	3
	Total	**3**	**5**
	Learning Outcomes: Students have an advanced knowledge in the field of engineering geology and hydrogeology.		
	Prerequisites: positive completion of compulsory modules 1 to 11		

2.	Elective Module: Applied Mineralogy	h	ECTS-Credits
a.	**VO Technical Mineralogy** Building on the contents of the module of Applied Earth Science, the most important material groups (ceramic materials, inorganic glasses and binding materials) are presented and their industrial applications dealt with in detail.	2	3
b.	**EU Applied Mineralogy** During the excursion, companies from the mining and resource processing industries as well as selected outcrops of petrological interest are visited.	1	2
	Total	**3**	**5**

	Learning Outcomes: After successful completion of the elective module, the students have an overview of important basics of materials and material science in different technologically important systems and applied geoscientific fields.
	Prerequisites: positive completion of compulsory modules 1 to 11

3.	**Elective Module: Regional Geology**	**h**	**ECTS-Credits**
a.	**VO Geology of the Alps** This lecture provides an advanced overview of the geological-tectonic development of the Alps with a focus on the Eastern Alps.	1	2
b.	**EU Earth Science Field Trip** In this course, the contents dealt with in the lecture are advanced within the scope of exercises in the field.	2	3
	Total	**3**	**5**
	Learning Outcomes: The students know the most important phases of the Alps' geological development of the tectonic main units of the Alps and have furthermore an advanced knowledge of the structure of the Eastern Alps. They can transfer this knowledge to the terrain and classify observations of the terrain in this context.		
	Prerequisites: positive completion of compulsory modules 1 to 11		

4.	**Elective Module: Petrography**	**h**	**ECTS-Credits**
a.	**EU Magmatic, Metamorphic and Sedimentary Rocks** In addition to the modules "Mineralogy 2" and "Geology 3", samples are collected during thematic excursions on a topic of magmatic, metamorphic or sedimentary petrology in this course. The samples are macroscopically characterized and prepared for further examinations.	1	2
b.	**VU Advanced Rock Microscopy** In this course, the finds collected in the excursion are examined using microscopic methods. Literary research and additional samples are used to place the results in a geological-petrological context.	2	3
	Total	**3**	**5**
	Learning Outcomes: Students can deal with specific petrological questions by combining theoretical basics, literary research, field work and thin section microscopy and place them in a larger petrological-geodynamic context.		
	Prerequisites: positive completion of compulsory modules 1 to 11 and 14		

5.	Elective Module: Earth Science Practice	h	ECTS-Credits
	To test and apply the acquired knowledge and skills or to learn about the conditions of professional practice and to acquire additional qualifications resp., a practice corresponding to 5 ECTS-Credits (or 120 hour resp.) must be passed. The practice can also be made during the lecture-free period. Before starting the practice it must be approved by the University Director of Studies. The duration, scope and contents of the practice must be confirmed by the resp. institution with a certificate. Moreover, a report must be written.		5
	Total		**5**
	Learning Outcomes: The students can successfully apply the knowledge and skills acquired during the Bachelor's programme in practice.		
	Prerequisites: positive completion of compulsory modules 1 to 11		

6.	Elective Module: Mineralogy 3 – Ores and Meteorites	h	ECTS-Credits
a.	**VU Ore Petrography** Through lecture-based introductory presentations and constructive exercises on hand-sized pieces and polished sections, the understanding of mineralization textures and processes is advanced and methods for ore identification and ore petrography are exercised. Regional focus lies on the alpine area.	2	3
b.	**VO Meteorites** Within the scope of this course, students get an overview of the systematics of meteorites as examples for extraterrestrial rocks. Based on the age spectrum and the (isiotopic) geochemical and mineralogical composition, theories on the emergence and origin of meteorites inside and outside our solar system are presented. The role of meteorites as a source of natural disasters is also highlighted.	1	2
	Total	**3**	**5**
	Learning Outcomes: Students know the important ore minerals and their occurrences and have a command of the fundamental techniques of ore petrography (hand-sized pieces and microscopy). The students know the most important classes of meteorites and their chemical and mineralogical properties. They have a basic understanding of extraterrestrial mineral or rock creating processes.		
	Prerequisites: positive completion of compulsory modules 1 to 11 and 15		

7.	Elective Module: Field Course 2	h	ECTS-Credits
	EU Field Course Within the scope of a multi-day field trip, students advance their skills in independent mapping. The mapping is supported by the interpretation of remote-sensing data and sample taking (including processing and interpretation). The course is completed by the designing of a geological map, the construction of various profile sections and the writing of a report.	4	5

	Total	**4**	**5**
	Learning Outcomes: The students have advanced competences in mapping also in geologically complex areas and are able to present them in writing and orally and to argue for them in a scientific discussion. They can confidently describe rocks in the field. They can a independently carry out a geological field project of a limited scope in a targeted manner.		
	Prerequisites: positive completion of compulsory modules 1 to 11 and 14		

8.	**Elective Module: Earth Science Field Trip**	**h**	**ECTS-Credits**
a.	**SE Seminar with Earth Science Field Trip** This course provides advanced knowledge through case studies of geosciences. To prepare for the field trip, the students independently research and familiarize themselves with literature for the topical areas relevant to the excursion and deliver short presentations of their results.	1	2
b.	**EX Advanced Science Fieldtrip** This excursion deals with selected locations predominantly in Central Europe with a focus on aspects of regional geology, palaeontology, sedimentology, mineralogy and/or petrology.	3	3
	Total	**3**	**5**
	Learning Outcomes: After successful completion of this elective module, the students have acquired advanced knowledge in the fields of regional geology, palaeontology, mineralogy or petrology based on selected regional examples and can place them in a larger geoscientific context.		
	Prerequisites: positive completion of compulsory modules 1 to 11		

9.	**Elective Module: Interdisciplinary Skills**	**h**	**ECTS-Credits**
	Courses covering 5 ECTS-Credits can be freely chosen from the Bachelor's and/or Diploma programmes at the University of Innsbruck. It is recommended to take a course in the field of gender research.		5
	Total		**5**
	Learning Outcomes: Acquisition of additional and advanced competences and skills from other scientific disciplines.		
	Prerequisites: The prerequisites specified by the respective curricula must be met.		

(3) Individual choice of specialization

For individual specialization, modules from the curricula of the Bachelor's programmes at the University of Innsbruck amounting to a maximum of 20 ECTS-Credits can be freely chosen. The prerequisites specified by the respective curricula must be met.

§ 6 Studies induction and orientation stage

(1) Within the scope of the Studies Induction and Orientation Stage, which takes place in the first semester, the following course examinations must be passed:

1. VO System Earth 1 (CM 1 lit. a/2 hrs. /4 ECTS-Credits),
2. VO System Earth 2 (CM 1 lit. b/2 hrs. /4 ECTS-Credits),

(2) Successful passing of all examination of the Studies Induction and Orientation Stage entitles to passing all further courses and exams.

(3) Before the completion of the Studies Induction and Orientation Stage, courses corresponding to up to 22 ECTS-Credits may be passed. The prerequisites specified in the curriculum must be met.

§ 7 Bachelor's Theses

(1) Two Bachelor's Thesis corresponding to 7 ECTS-Credits each must be written. One of the theses must be written in the field of geology and one in the field of mineralogy/petrology.

(2) The Bachelor's Theses must be handed in in written form as well as in the electronic form specified by the Director of Studies.

§ 8 Examination regulations

(1) Courses of modules are evaluated by course examinations. Course examinations are:

1. Examinations that assess the knowledge and skills covered in the lectures in which course assessment is based on a single examination at the end of the course. The course instructor has to define and communicate the method of examination (written and/or oral) before the course begins.
2. Courses with continuous assessment, for which course assessment is based on regular written or oral contribution by participants. The course instructor has to define the assessment criteria before the course begins.

(2) Elective module 5 is evaluated by the Director of Studies. Positive evaluation reads '"participated with success", negative evaluation "participated without success".

§ 9 Academic degree

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

§ 10 Coming into force

This curriculum comes into force on 1 October 2018.

§ 11 Transitional provisions

(1) This curriculum applies to all students who are admitted to the Bachelor's Programme Earth Science as of the 2018/2019 winter semester.

(2) Regular students, who have started the Bachelor's Programme Earth Science according to the curriculum 2010, published in the University of Innsbruck bulletin of 21 June 2010, Issue 32, No. 317 before the 2018/19 winter semester, are entitled to finish their studies within a maximum of seven semesters from then on.

(3) If the Bachelor's Programme Earth Science according ot the curriculum of 2010 is not completed within the period prescribed, then the students are subject to the curriculum of the Bachelor's Programme Earth Science, University of Innsbruck Bulletin of 27 March 2018, Issue 20, No. 274 (curriculum 2018). Furthermore, students are entitled to change to the curriculum of 2018 on a voluntary basis.