Geography BSc level

Study Abroad Course List

Spring

Course title	Semester	Credits (ECTS)	Course code
Meteorology and Climatology	spring	4	ONFOL1-0501
Introduction to GIS II.	spring	4	AFOLNA0102
Geomorphology	spring	4	AFOLNA1401
Historical Geology and Paleontology	spring	3	ONFOL1-2701
Hydrogeography	spring	4	ONFOL1-0801
Population, Place and Identity	spring	6	ONFOL1-2801
Physical Geography of the Carpathian Basin	spring	6	ONFOL1-1901
Human Geography of Hungary	spring	6	ONFOL1-1801
Field Trip	spring	3	ONFOL1-0901
Introduction to ArcGIS	spring	4	AFOLNS-0101
Introduction to Remote Sensing	spring	3	AFOLNS-0201
Urban Development	spring	4	AFOLNS3-0501
Transport Geography and Planning	spring	3	AFOLNS3-0701
Regional Policies	spring	3	AFOLNS3-0301
Modeling and Simulations in Earth Sciences	spring	3	MNFOTN0501
Space, Society and Sustainability	spring	2	MNGEOA17
Regional Geography of the Continents I.	spring	6	ONFOLAK1-0501
Engineering and Anthropogenic Geomorphology	spring	3	ENMNGEOS1-04
Fieldwork in Geomorphology	spring	4	ENMNGEOS1-08

Meteorology and Climatology

Language of instruction:	English
Form of teaching:	Lecture
Class hours per week:	3 L
Credits (ECTS):	4
Course description:	This course aims to provide an understanding of the structure of the atmosphere, the physical processes which impact the weather and the climate. On successful completion of this course students are expected to understand the basic concepts about the atmosphere and they be familiar with phenomena occur in the atmosphere and are expected to be able to give explanation about the different atmospherical phenomena. They are able to involve critically in the debates about the climate changes. They are also able to apply their knowledge in the other fields of the earth sciences.
Assessment methods:	Oral exam
Teaching period:	Spring semester

Introduction to GIS II. (Laboratory)

Language of instruction:	English
Form of teaching:	Practice
Class hours per week:	3P
Credits (ECTS):	4
Course description:	This course aims to provide an understanding of geoinformatics and QGIS software and provides quantitative discussion of basic nomenclature of geoinformatics and methods of data analysis. On successful completion of this course students are expected to be able to comprehend fundamental concepts of GIS, to have an understanding of GIS techniques, to be familiar with QGIS software and vector and master geo data processing. At the end of the course, students are expected to be able to evaluate georeferencing tool of QGIS, to be able to digitize vector data and present thematic maps. Students should be able to comprehend basic field

	survey techniques and able to collect data.
Assessment methods:	Written tests
Teaching period:	Spring semester

Geomorphology

Language of instruction:	English
Form of teaching:	Lecture and practice
Class hours per week:	L + 2 P
Credits (ECTS):	4
Course description:	On successful completion of this course students are acquainted with the landscape of the Earth, the laws, interactions, processes which influence geomorphic evolution and are familiar their dynamics. On successful completion of the course, students are expected to be able to: interpret the impact of physical geographical processes on the Earth's surface, recognize surface landforms on which the everyday activities of humanity takes place, reveal their origin and to evaluate environmental changes (climate change, human impact) from a geomorphological perspective. In addition to have an understanding of phenomena and interrelationships, students in teacher training become able to apply the logic of transmitting geomorphological information, its variability and the incorporation of geomorphological knowledge in teaching geography. At the end of the course, students in earth sciences become capable of finding topics of contact between geology and geomorphology, recognizing and explaining the impact of geological processes on the Earth's surface. Students will be able to present the economic structure of a country.
Assessment methods:	Oral exam
Teaching period:	Spring semester

Historical Geology and Paleontology

Language of instruction:	English
Form of teaching:	Lecture and practice
Class hours per week:	3 L
Credits (ECTS):	3
Course description:	The aim of the course is to present the history of planet Earth, namely introducing into the periods and milestones of Earth history, describing the major events and eras, periods, epochs, ages; introducing the dynamic Earth concept and its continuously changing model; understanding the mutual dependencies of bio- and geodiversities and presenting the best examples; Presenting the evolution of life on Earth and its major steps. Learning that the evolutionary steps are not accidental but always based on the previous developments and always understandable from the previous developments of life. Students undertaking this the course should know the geologic time scale, the major moments/milestones of evolution of life on Earth. They should know the basics and principals of stratigraphy, faciology, and evolutionary theory; they should know the methods of geological timing, the names and durations of geologic eons, periods and epochs (only for Cenozoic) and the appropriate nomenclature and terms and are able to use them in right context. Moreover, students are expected that they know the scientists and their achievements who contributed the most to geology and palaeontology. Based on the acquired knowledge they should be able to understand and explain the development of Earth and its life forms and put the milestones of the development in right order and able to explain the evolution on Earth and recognize the turning points in evolution. On the field they must be able to recognize and understand the litho- and biofacies. They will be competent enough to explain the Darwinian evolutionary theory and are able to cite examples from the fossil record. They know the micro- and macroevolution and able to cite examples for both from the fossil record. They are able to explain the

	big five extinction events of the Phanerozoic and their possible causes and are able to explain their impacts on the further developments of life in Earth.
Assessment methods:	Oral exam
Teaching period:	Spring semester

Hydrogeography

Language of instruction:	English
Form of teaching:	Lecture and practice
Class hours per week:	L + 2 + FWP
Credits (ECTS):	4
Course description:	The course combines theoretical and experimental elements aimed at providing practical experience in the measurement and analysis of hydrological processes; methods of analysis applicable to solving practical problems related to environmental, land use, low input management problems. The main aims of the course are: to provide an understanding of the water cycle, to provide a quantitative discussion of water bodies, to apply water concepts to contemporary problems in water resources management This course familiarizes students with selected hydrological measurement and analytical techniques. Learning outcomes: Students are going obtain skills on different kind of investigation procedures.
Assessment methods:	Written tests, lab practice
Teaching period:	Spring semester

Population, Place and Identity

Language of instruction:	English
Form of teaching:	Lecture and practice
Class hours per week:	2 L + 2 P

Credits (ECTS):	6
Course description:	The main objectives of the course are to help the

	students acquire basic knowledge and skills used in modern population geography and adjacent disciplines. Students undertaking this course will know the basic definitions and concepts of population geography and can will be able to use the basic terminology of the field. With the knowledge of the context of population geography, students will be able to collect data, analyse demographic datasets, understand and prepare age structure diagrams etc. They will also pursue to analyse and evaluate the major concepts of population geography; and be able to individually analyse, understand and represent basic demographic processes with the help of relevant data. They will also be able to prepare figures, presentations, briefings and supporting materials for decision makers. Students will be able to present the economic structure of a country.
Assessment methods:	Series of written tests during the semester, final oral exam at the end of the semester
Teaching period:	Spring semester

Physical Geography of the Carpathian Basin

Language of instruction:	English
Form of teaching:	Lecture and practice
Class hours per week:	2 L + 2 P
Credits (ECTS):	6
Course description:	Although this course focuses on the area of Hungary, it also looks at the whole Carpathian Basin. Students will develop depth, breadth, and integration of learning in physical geography. Upon completion of the course on physical geography of Carpathian Basin students: • will be able to be familiar with fundamental concepts on physical geography of Carpathian Basin and its principles at the level of macro regions; • will be able to list and identify on blank maps core geographical names of Carpathian Basin; will have an understanding of core concepts around physical geography of Carpathian Basin. Upon successful completion of this course students are expected to be able:

	• to evaluate existing data in the context of physical geography; • to analyse with a thematic guide physical macro regions of Carpathian Basin; • to recognise individual types of landscapes and to assess their core properties; • to analyse the impact of Quaternary climate variations on Carpathian Basin and to assess its role in the landscape development; • to interpret and present the effects of society on natural factors. Upon completion of this course students • will be able to identify diverse viewpoints, including different geo-disciplinal perspectives; • will be able to identify scientific issues underlying global, national, local, and personal decisions and communicating positions that are scientifically and technologically informed.
Assessment methods:	Series of written tests during the semester, final oral exam at the end of the semester.
Teaching period:	Spring semester

Human Geography of Hungary

Language of instruction:	English
Form of teaching:	Lecture and practice
Class hours per week:	2 L + 2 P
Credits (ECTS):	6
Course description:	This course gives an insight into population and settlement geography of Hungary and the rapidly changing regional characteristics in the primary, secondary and tertiary sectors of economy. It also explains the factors behind Hungarian regional structure, through the basic characteristics of socio-economic system. It enables the students to understand the processes shaping the regional structure and encourages them to build relationships between physical and human geographical knowledge. It also informs students about the current social geographical problems so that they start analyzing the trends over the last few decades of regional economic development.

	On successful completion of this course students are expected to be familiar with the economic historical antecedents of Hungary's regional processes, analyse trends over the last few decades and outline present and future directions of development trends, as well as the underlying correlations of the regional economic development after the turn of millennium and the subsequent period. Students will gain theoretical knowledge of physical and social geography, be able to collect, organize and interpret social and economic geography data, create presentations, pointing out the practical problems arising from the current social, economic and regional processes and their potential solutions as well; to be open to learn about Hungarian social and regional inequalities; and be able to (building on the social sciences and the general human and economic geographical knowledge) evaluate the country's role and place in the world realistically, and show the practical problems arising from the current economic and social trends and interpret and discuss special content related to the human geography of Hungary.
Assessment methods:	Series of written tests during the semester, final oral exam at the end of the semester.
Teaching period:	Spring semester

Field Trip

Language of instruction:	English
Form of teaching:	Field work
Class hours per week:	3 days
Credits (ECTS):	3
Course description:	The purpose of the course is to synthesize the students' knowledge about physical geography, social geography, departmental and regional geography that they learned during four semesters. During the field trip, the students explore the physical and social geographical characteristics of the travelled landscape and settlements with the help of the teachers' lectures and they develop their geographical approach. The field trip serves the alignment of the student' knowledge with preparations, making of field diary and the ending report. The students who complete the course know the basic physical, social and regional

	geographical implications of the selected area. They know and use the characteristics of the geographical thinking and they use the terminology. They can see through the coherence of the physical, environmental, social and economic processes. The students are able to make field observations first with the guidance of the teachers then independently and they interpret the information obtained there. They are prepared to draw up logical and geographical statements about the observed phenomenon. During the field trip the eco-conscious approach of the student get a confirmation based on facts. The known phenomenon and processes make their commitment towards sustainability more pronounced and conscious. On the track of the strengthening of knowledge, they are able to raise their knowledge to a higher level and they are able to cooperate and be acquainted with the opinion of their teachers and teammates. The field trip takes three days and organised in the area around the Lake Balaton.
Assessment methods:	Written test
Teaching period:	Spring semester

Introduction to ArcGIS

Language of instruction:	English
Form of teaching:	Lecture
Class hours per week:	3 P
Credits (ECTS):	4
Course description:	The "Introduction to ArcGIS" will introduce you to geospatial information technology: how to create simple maps, how and where to access spatial data and statistics, how to open and analyze data types commonly used in geography. You will also learn how to use geospatial software: not just ArcGIS, but virtually all geospatial applications with graphical interfaces. The ArcGIS Basics course material will also help you in many other courses: you can create maps for presentations, for your thesis, or run human or physical geographic analyses that would take days in a spreadsheet.
Assessment methods:	Written test
Teaching period:	Spring semester

Introduction to remote sensing

Language of instruction:	English
Form of teaching:	Lecture
Class hours per week:	2 P
Credits (ECTS):	3
Course description:	The course aims to provide a comprehensive overview of the wide range of concepts in remote sensing and to act as a supporting, deepening and broadening seminar, integrating a number of practical elements. Students who successfully complete the course will: i) be familiar with the basic concepts of remote sensing and have a basic vocabulary in the field; ii) be able to independently download, pre-process, display optical and satellite radar images in a given IT environment, compose composites and visually interpret the resulting images.
Assessment methods:	Written test
Teaching period:	Spring semester

Urban development

Language of instruction:	English
Form of teaching:	Practice
Class hours per week:	2 P +FW
Credits (ECTS):	4
Course description:	By fulfilling this course, students get acquainted with the basic concepts and practice of urban development. Students successfully fulfilled this course will be able to overlook the theories and concepts in urban planning, to put concrete problems into conceptual frameworks, to analyse an evaluate the factors of urban development, to involve the interest reconciliation of different stakeholders, to reveal the economic and financial background of development, to interpret the documents and master plans used by this activity, and should have the skills and competence to contribute in creation analysis for decision support. In the frames of this course, students also

	will be introduced the structure, functions and everyday mechanism of settlements. The social and economic processes effecting the settlement operation will also be discussed, integrated in the stages of modern urbanisation. Successfully fulfilled this course, students will be able to interpret and analyse settlement development plans and structural plans and would be ready to join the planning work of local communities.
Assessment methods:	Essay, submitted before the end of the semester. Written test from the most important concepts in urban development. Oral evaluation of the essay. Active cooperation at the field trip
Teaching period:	Spring semester

Transport Geography and Planning

Language of instruction:	English
Form of teaching:	Lecture
Class hours per week:	2 L
Credits (ECTS):	3
Course description:	The aim of this course is to expand the students' human geographical knowledge into the direction to the topic of the flows in geographical space. The course focuses mainly to the general questions, concepts and connections of transportation geography. With successfully fulfilling this course, students will be able to the analyse and evaluate of transportation and communication networks, get knowledge about the different social and economic impact of the different types and branches of transportation.
Assessment methods:	Written test
Teaching period:	Spring semester

AFOLNS3-0301 Regional policies

Language of instruction:	English
Form of teaching:	Lecture
Class hours per week:	2 L
Credits (ECTS):	3

Course description:	Objectives of the course are to help the students acquire basic knowledge and skills used in modern regional development and adjacent disciplines. Students visiting the course: will know the basic definitions and concepts of regional development, can use the basic terminology of the field. Are able, with the knowledge of the context of regional development, to collect data, analyse regional development datasets, understand and prepare regional analysis etc.; are open to cultures and histories of different cultures and nations, have the basic knowledge to do so. pursue to analyse and evaluate the major concepts of development geography; are able to individually analyse, understand and represent basic demographic processes, are able with the help of relevant data, to prepare figures, presentations, briefings and supporting materials for decision makers.
Assessment methods:	Written test
Teaching period:	Spring semester

Geography MSc level

Study Abroad Course List

Spring

Modeling and Simulations in Earth Sciences

Language of instruction:	English
Form of teaching:	Practice
Class hours per week:	2 P
Credits (ECTS):	3
Course description:	Geoinformatics is not a theoretical science. If you thought you"d never get your hands dirty if you didn"t get soaked in the rain, you were wrong. Collecting data is indeed a painful process, but it is often a very important and essential one. Models are accurate, they describe the world around us well, if we fill them with as much complete data as possible and use as many advanced tools as possible to achieve our goals. Well, in this course we will do just that.
Assessment methods:	Written test
Teaching period:	Spring semester

Space, Society and Sustainability

Language of instruction:	English
Form of teaching:	Practice
Class hours per week:	2 P
Credits (ECTS):	2
Course description:	This course is an advanced level course in human geography. After students have learnt the fundamentals of several branches of geography, this course will inform them about some core questions of the connection between space and society. The course is organized about the abstract nature of space and the production of space. It provides a more complex understanding of geographical space, including the concept of space production and helps students to integrate the concept of sustainability into the discourse of space production. It also improves the students' skills in individual reading and processing papers in spatial sciences, including some classical reading of this field. On successful completion of this course, students are expected to be familiar with the leading concepts and terms of the contemporary human geography, including space production, place and space, region and city, (uneven) development, segregation, exclusion, polarisation, gentrification, globalisation, sustainable development, resilience and so on. They will be able to read, process and understand theoretical papers in spatial sciences, construct presentation and individual study about spatial phenomenons, based on wide-range of readings
Assessment methods:	Essay
Teaching period:	Spring semester

Regional Geography of the Continents I.

Language of instruction:	English
Form of teaching:	Lecture
Class hours per week:	2 L + 2 P
Credits (ECTS):	6

Course description:	On successful completion of this course, students are acquainted with the landscape of Asia and Australia, the laws, interactions, processes which influence geologic, hydrologic, and climatological geomorphic evolution and get familiar with their dynamics, as well as their basic human geographical features, including population dynamics, economic geography, political geography and their regional differences. On successful completion of the course students are expected to be able to: interpret the impact of physical geographical processes on the surface of the World, recognize surface landforms on which the everyday activities of humanity take place, reveal their origin and to evaluate environmental changes (climate change, human impact) from a physical geographical perspective. Moreover, they should be able to recognize and understand the basic social, political and economic place-based patterns, processes and problems of the continents. Students involved in the class become capable of finding topics of contact between geology, hydrology, climatology, geomorphology and social processes, recognizing and explaining the impact of geological processes on the surface of the continents, as well as the interaction between nature and society. On successful completion of the course students are expected to be able to assess and comprehend the physical characteristics of continents and socio-economic attributes of countries.
Assessment methods:	Oral exam
Teaching period:	Spring semester

Engineering and Anthropogenic Geomorphology

Language of instruction:	English
Form of teaching:	Practice
Class hours per week:	2 P
Credits (ECTS):	3
Course description:	It provides an understanding of the anthropogenic landforms and geomorphic hazards and risk. This course acquaints students with the key issues in engineering way of landforms. On successful completion of this course, students are expected to

	have an understanding of engineering approaches of natural and anthropogenic landforms so that they gain familiarity and confidence with some of the key methods used to evaluate slope stability and an ability to interpret anthropogenic landforms.
Assessment methods:	Written test
Teaching period:	Spring semester

Fieldwork in Geomorphology

Language of instruction:	English
Form of teaching:	Field work
Class hours per week:	1 L + 5 days FW
Credits (ECTS):	4
Course description:	The course will be based on field work and in the detailed study of sights of interest in relation to geomorphology. Through this training, students will develop observational and analytical skills allowing to better understand the interrelationships between landscape elements. Specific training on geomorphological and geological description and analysis will be the basis of the course, which will serve as a complement to in-class geomorphological and in general physical geography classes. On successful completion of this course students are expected to have an understanding of the basic geomorphological processes that impact our environment, and specifically, students will have the ability to design and plan field work based on target objectives and to relate the different components of the landscape in order to understand their dynamics and allowing to propose genetical hypothesis for their formation. They will also be able to assess, comprehend and be critically engaged with all subdisciplines of physical geography and related phenomena that influence geomorphological development and evolution of a given area such as: - ability of using different types of maps, ability of developing detailed field-based mapping (geomorphological and geoecological), ability to develop hypothesis and fieldwork methodologies to solve problems arising from geomorphological,

	geological, topographical knowledge in order to contribute to laboratory and office-based research.
Assessment methods:	Practical exam
Teaching period:	Spring semester