

COURSES IN FOREIGN LANGUAGES for ERASMUS INCOMING STUDENTS

at Sofia University

2018/2019 academic year

Faculty Geology and Geography

Faculty coordinator: Nikola Botoucharov

Programme - Geography

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
114	Geography of the World Economy	English	BA/BS	Winter	4	30	15		Assoc. Prof. Kosyo Stoychev, PhD	k_stoychev@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course "Geography of the World Economy" is a basic course in economic geography for Geography students. The course aims at acquainting students with the basic spatial-economic patterns in forming the modern structure and organization of the world economy. It presents the scientific essence of the theories of localization of economic sites in the geographic space, analyzes the factors and conditions for the territorial organization of the economic sectors, the differences in models of spatial organization of the economy in different regions of the world. Attention is paid to the production structure by sectors and regions of the most important raw material and energy resources and key industrial products and technologies. Basic definitions are given on the most important concepts, quantitative and qualitative indicators in the study of global economic processes. They formulate the main factors, regularities, problems and perspectives of contemporary economic development on a regional and global scale. Global problems and prospects for solving them on a regional and planetary scale are defined. Students acquire practical skills for independent work, analysis of statistical, cartographic and analytical sources.

Requirements for enrollment: YES/NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
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	Theory of Regional Development and Location analysis	English	MA/MS, PhD	Winter	5	30	15		Assoc. Prof. Kosyo Stoychev, PhD	k_stoychev@gea.uni-sofia.bg
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Short description of the course (in the language of instruction):

The topic of location theory has generally been associated with the descriptive characterization of observed patterns across geographic space typically associated with human settlement, industry siting, service competition, and, more generally, consumer behavior. Part of this was driven by wanting to better understand why places are where they were, but ultimately the goal was to gain a sound grasp on the factors associated with locational decision making and what makes a good location. Early literature and research focused on the notion of description and inference. This involved examining, characterizing, and better understanding observed spatial patterns and behavior. Certainly, urban and rural development and various types of public and private services were important areas of emphasis. As more understanding was achieved, there was a natural move to prescription. Thus late-20th- and early 21st-century work has focused on operational classes of locational selection, where specific geographic patterns can be prescribed for realizing stated goals and objectives. That is, location theory has operated on various principles derived from classic work to support planning and decision making using spatial models that encapsulate driving principles of locational choice.

Requirements for enrollment: YES/NO

If any, please describe the specific requirements:

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Faculty Geology and Geography

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Programme Geography

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
102	Climatology I	English	BA	Winter semester	4	30	15	15	Nina Nikolova	nina@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course of **Climatology I** clarifies the physical mechanisms of climate and interdependences among the elements of climate system. The factors for genesis of climate at global and regional scale are analysed. The peculiarities of the regime and spatial distribution of climate elements are presented. On the background of global and regional climate the microclimatic differences are analysed. Practical work is related to meteorological measurement and data base creation as well as to the application of statistical methods for climate analysis.

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
107	Climatology II	English	BA	Summer semester	4	30	15	15	Nina Nikolova	nina@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course of **Climatology II** extends the knowledge about climate systems with the accent on the impact of atmospheric circulation, earth surface and

anthropogenic activity on climate. The special attention is given to the climatic classification schemes of Koppen, Alissov and Thornthwaite. The physical bases of climate changes are clarified.
Practical work is related to the application of statistical methods for calculation of specific climate indices in order to study temporal variability of climate.

Requirements for enrollment: YES

If any, please describe the specific requirements:

Knowledge about climate factors and elements; basic computer skills

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
111	Hydrology 1	English, Polish	BA	Summer	4	30	15	15	Kalina Radeva	kradeva@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course “Hydrology 1” provide a basis for understanding the hydrologic processes of the hydrologic cycle, such as precipitation, evaporation and transpiration, runoff, infiltration and ground water and an exploration of anthropogenic effects on the water cycle. The course outline includes field excursions with practical data collections.

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
113	Hydrology 2	English, Polish	BA	Winter	4	30	15	15	Kalina Radeva	kradeva@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course “Hydrology 2” This course will present an overview of hydrological characteristics of rivers, lakes, swamps, glaciers, seas and oceans. The course also examines water management policies and prepares for a skillful and rational use of water resources in respect of the natural environment.

Requirements for enrollment: NO										
If any, please describe the specific requirements:										
Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
110	Geomorphology I	English	BA	winter	4	30	15	15	Ahinora Baltakova	abaltakova@gea.uni-sofia.bg
Short description of the course (in the language of instruction):										
The course of Geomorphology I aims to give students an introductory understanding of geomorphological concepts, process mechanics, and relationships between landforms and processes. The first part of this course consistently considers the mechanism and landforms variety (large-scale and small-scale tectonic and structural landforms) of endogenic processes: plate tectonic, diastrophic, volcanic and plutonic processes, as well as processes of folding, faulting, and jointing of rocks. Exercises are empirical and practical and follow the lectures topics.										
Requirements for enrollment: YES										
If any, please describe the specific requirements:										
Students should have some background in basic geological courses.										
Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
112	Geomorphology II	English	BA	summer	4	30	15	15	Ahinora Baltakova	abaltakova@gea.uni-sofia.bg
Short description of the course (in the language of instruction):										
The second part of the course Geomorphology II considers the exogenous processes of weathering, the chief types of sediment transport (fluvial, aeolian, coastal, glacial), and sediment deposition, which belong to the cycle of formation of sediment rocks and the landscape evolution. Exercises are empirical and practical and follow the lectures topics.										
Requirements for enrollment: YES										
If any, please describe the specific requirements:										
Students should have some background in basic geological courses or topics discussed in Geomorphology I course.										

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
	Geomorphology (field work)	English	BA	summer	1			15	Ahinora Baltakova	abaltakova@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The field work in Geomorphology follows the courses Geomorphology I and II and it aims to demonstrate some basic field techniques, used in geomorphological investigations. Geomorphological research is impossible without field observations and measurements, which are inseparable from the laboratory analyses and the morphometrical techniques. This course takes place outdoors during a field excursion and it is preceded from a pre-fieldwork taken during the exercises in the Geomorphology I and II (delineation of the studied area and preliminary morphometrical analysis using topographical maps, satellite images and DEM). Fieldwork involves investigation of the rock units, soil units, tectonic elements and active geomorphic processes; taking samples for laboratory analyses; complementing and updating the information obtained from the morphometrical analysis. The course ends with a field report with field data interpretation and relating to mass wasting weathering and erosion processes and geomorphological schemes preparation.

Requirements for enrollment: YES

If any, please describe the specific requirements:

Students should have some background in basic geological courses or topics discussed in **Geomorphology I and II**.

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
111	Climate change	English	MA	Winter semester	5	45		15	Nina Nikolova	nina@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course "Climate change" analyses the changes in the climatic system with the accent on the period of instrumental observation (from the end of 19 century to present days). The causes and consequences of climate change are clarified. It emphasizes on the following main issues: 1) Is there a global threat like irreversible climate change? 2) What are the causes of climate change - natural or anthropogenic? 3) What are the peculiarities of the variability of main climate elements on a regional scale? 4) Are the observed trends in the changes in air temperature and rainfall in Bulgaria consistent with the global climate change?

Requirements for enrollment: YES

If any, please describe the specific requirements: Knowledge in physical and socio-economic geography; basic computer skills

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
114	Methods of Climatic Research	English	MA	Winter semester	5	45		15	Nina Nikolova	nina@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course "Methods of climate research" provides knowledge about meteorological time-series and quality control of meteorological information. The general and specific statistical methods for processing meteorological data and analysis of temporal variations of meteorological characteristics of the main climatic parameters are considered. Students get acquainted with methods for calculating the number of climatic parameters (for individual meteorological elements and phenomena, complex indicators and extreme climate events). Spatial attention is given to the methods for studying climate change at regional and local scale

Requirements for enrollment: YES

If any, please describe the specific requirements: Basic knowledge in statistic; computer skills

COURSES IN FOREIGN LANGUAGES for ERASMUS INCOMING STUDENTS

at Sofia University

2018/2019 academic year

Faculty of Geology and Geography – Geography of Tourism Department

Faculty coordinator: N. Botoucharov

Tourism Programme

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
3012	ECONOMICS OF TOURISM	English	BA	summer	3	30	10	5	Assoc. Prof. Elena Petkova, PhD	epetkova@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The aim of the subject is that students acquire both knowledge in economics and skills in applying this knowledge in the field of tourism. In this regard students are offered an understanding of some theory and practicalities of macroeconomics and microeconomics, as well as of economic tools, which are applied to tourism sector and to the operation of tourism companies. Topics include: characteristics of economics of tourism, of tourism sector and tourism organizations, tourism markets, principles of supply and demand of tourism services, pricing of tourism companies, investments in tourism sector, balance of payments, economic impacts of tourism, economic analysis and economic indicators in tourism.

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
3014	TOURIST DEMAND & BEHAVIOR	English	BA	winter	5	45	15	15	Prof. Vasil Marinov, PhD	vasil@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The aim of the course is to introduce students in tourists' behavior as a key component of and determinant for the formation and functioning of the

tourism system, the models of tourism behavior, the factors that influence it as well as the key indicators and methods for analysis of tourism demand. Students have to complete an assignment demonstrating the acquisition of theoretical knowledge and skills for collecting, processing, analyzing and presenting information for tourist demand and behavior.

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
3015	HOTEL OPERATIONS	English	BA	winter	4	45	10	5	Assoc. Prof. Elena Petkova, PhD	epetkova@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The subject focuses on the management of operations of hotel companies. Students could gain understanding of some theory and practicalities of technology, economics and management of activities, processes and operations of companies in the lodging industry. Topics include: characteristics of lodging industry, hotel classification, terminology of hotel processes and operations, types and quality of hotel services, human and material resources in hotel industry, development and categorization of hotel companies, planning, organizing, leading and controlling lodging organizations, marketing and sales of hotel companies and management of hotel front office and back office operations of: service during the reservation, during the arrival, during the stay and during the departure of clients, housekeeping and laundry operations, food and beverage service, provision of additional services by hotel organizations, security, engineering and maintenance, human resources management, finance and accounting of lodging companies.

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
3017	RESTAURANT OPERATIONS	English	BA	summer	4	45	10	5	Assoc. Prof. Elena Petkova, PhD	epetkova@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The subject focuses on the management of operations of food and beverage companies. Topics include: characteristics of food service industry and types of food and beverage organizations, system of categorization of food and beverage establishments, furnishing and equipment of restaurant companies, menu planning, calculating costs, pricing, and principles of management of the activities of purchasing, receiving, storing and issuing food and beverage products, of food and beverage production, of food and beverage sales and of serving clients

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
3018	BUSINESS SIMULATIONS IN TOURISM	English	BA	summer	2	0	0	30	Assist. Prof. Atanas Kazakov, PhD	anatas@gea.uni-sofia.bg

Short description of the course (done in the language of instruction)

The course is based on Hotel Operations Training Simulation. It reveals students the essence of Hotel Business – Price strategies, Market segmentation, Product diversification, Promotion and Advertising. They learn how to write a Business strategy. The simulation is developed through fixed number of periods. Several student teams are created. They compete against each other. Students take their team decisions for each period. After that decisions are processed and results are announced. There are regular discussions of received results. The main purpose of simulation is to stabilize a financially ruined hotel and to make it profitable again. At the end an official ceremony for everybody is arranged.

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
3021	MARKETING IN TOURISM	English	BA	summer	4	30	20	10	Assoc. Prof. Mariana Assenova, PhD	mariana@gea.uni-sofia.bg

Short description of the course (done in the language of instruction)

The course aims to familiarize students with the modern understanding of marketing and its application in tourism. Students acquire basic knowledge about the process of marketing planning and basic tools of the marketing mix - tourism product, prices and pricing in tourism, distribution channels and communication activities. Significant attention is paid to advertising as the main tool of the communication policy and its role in tourism.

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		

3023	TRAVEL AGENTS AND TOUR OPERATORS ACTIVITY	English	BA	winter	5	45	20	10	Assoc. Prof. Mariana Assenova, PhD	mariana@gea.uni-sofia.bg
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Short description of the course (done in the language of instruction)

The aim of the course is to acquaint students with one of the most important sectors in the tourist servicing – the intermediary sector, as well as to prepare them to work in travel agencies. Knowledge on specific functions and activities of tour-operators and travel agents is provided. Specific skills are trained to elaborate and calculate tourist programs and terms of contracting of service suppliers are discussed. Special attention is paid to online sales.

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
3026	DEVELOPMENT AND CURRENT PROBLEMS OF TOURISM IN BULGARIA	English	BA	Winter	5	45	20	10	Assoc. Prof. Elka Dogramadjieva, PhD	elka@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course introduces the past development, recent trends and current problems of tourism in Bulgaria. Key factors of the country's tourism development and the main components of the tourism system at national and regional level are discussed as well as the different types of tourism products, and their resource and market potential.

Requirements for enrollment: NO

If any, please describe the specific requirements:

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
3029	WORLD TOURISM REGIONS AND DESTINATIONS	English	BA	winter	5	45	15	15	Assist. Prof. Atanas Kazakov, PhD	anatas@gea.uni-sofia.bg

Short description of the course (done in the language of instruction)

Students will learn about some of the most important tourism organizations like World Tourism Organization, World Travel & Tourism Council, Pacific Asia Travel Association, International Air Transport Association, International Hotel and Restaurant Association, etc. They will learn about the sources of tourism statistics. Knowledge about the main world tourism regions after United Federation of Travel Agents Associations is received and analyzed – area, statistic about international tourist arrivals, international tourism receipts, and international tourism expenditures. In the second part of the course we analyze tourism development in different chosen destination countries. There will be at least one country per tourist region. National specifics for different topics in tourism are discussed.

Requirements for enrollment: NO										
If any, please describe the specific requirements:										
Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
И017	GEOGRAPHY FOR TRAVEL AGENTS	English	BA	winter	3	30	10	5	Assist. Prof. Atanas Kazakov, PhD	anatas@gea.uni-sofia.bg
Short description of the course (done in the language of instruction)										
All the different sectors of tourism are examined during the course. We learn how to sell destinations with the help of world geography. The specifics of travel documentation, air and rail transport, rent a car and rent a camper, accommodation, ferries and cruises, and tours is studied. At the end we will make a test in order to verify the gained results and to learn how to analyze them.										
Requirements for enrollment: NO										
If any, please describe the specific requirements:										
Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
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И021	CUSTOMER CARE	English	BA	winter	3	30	10	5	Assist. Prof. Atanas Kazakov, PhD	anatas@gea.uni-sofia.bg
Short description of the course (done in the language of instruction)										
Students learn about tourist patterns of different nations. This will help them to serve better tourists from every source market. Beside these we will get to know the specifics of some distant and unknown but perspective nations like Chinese, Japanese and Indians. Part of the efforts would be aimed at analysis and discussion of gathered through different sources information. Team work would be used to get right to the results.										
Requirements for enrollment: NO										
If any, please describe the specific requirements:										
Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/M S, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
И022	SUSTAINABLE TOURISM DEVELOPMENT – STANDARDS AND	English	BA	winter	3	30	10	5	Assoc. Prof. Mariana Assenova, PhD	mariana@gea.uni-sofia.bg

CERTIFICATION										
Short description of the course (done in the language of instruction) The aim of the course is to form an understanding, knowledge and skills for sustainable tourism development - the essence, principles and aspects of sustainability. The course also examines a variety of international and national certification schemes and standards for sustainable tourism development at regional and company level – labels, award criteria, rules and certification mechanism and control.										
Requirements for enrollment: NO If any, please describe the specific requirements:										
Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
3030	TOURISM DESTINATIONS MANAGEMENT	English	BA	summer	3	30	10	5	Prof. Vasil Marinov, PhD; Assoc. Prof. Mariana Assenova, PhD	vasil@gea.uni-sofia.bg; mariana@gea.uni-sofia.bg
Short description of the course (in the language of instruction): The aim of the course is to develop knowledge, understanding and skills for management and marketing of tourism destinations. It examines the essence, the key elements, the evolution and attractiveness and competitiveness factors of the destination, the essence, legal forms and organizational structure of destinations management organisations, the role of partnership as well as the approaches and problems in establishing and functioning of destination management organisations.										
Requirements for enrollment: NO If any, please describe the specific requirements:										

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2018/2019 academic year

FacultyGeology and Geography

Faculty coordinator: N. Botoucharov

Programme ...Geochemistry.

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
639	Isotope Geology	English	MA, PhD	summer	2	30			M. Dyulgerov M. Georgieva	momchil@gea.uni-sofia.bg milena@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The radioactive decay of isotopes is the background of the precise dating methods (U-Pb, K-Ar, Rb-Sr, Sm-Nd , etc.) in the geology from the creation of the Earth. They are also used as the tracers of the evolution of the Crust, Mantle and the entire range of the geological processes: magmatism, volcanism, ore generation and etc. Radiogenic isotopes provide useful information about the genesis of rocks and ores and their origin: crustal, mantle or mixed.

Stable isotopes fractionate between mineral phases, fluids, organic matter, geochemical reservoirs, and etc. Fractionation depends on physic-chemical conditions of the environment, such as temperature, pressure, redox state, equilibrium and kinetic redistribution, operation of biological processes. The stable isotope information gives an opportunity to study the physic-chemical parameters of geological processes operated billion years ago: temperature of ancient oceans, biogenic processes and formation of the living organisms, fossil fuels, and etc. The course deals with stable isotopes of most widespread elements: (H, C, N, O и S), and gives information about other, less used elements (Li, B, Fe, Si).

Modern isotope methods and obtained information are widely used in all geological areas, ecology, biology, and archeometry.

The aim of the course of Isotope Geology is to provide of the students basic knowledge of isotope methods and their areas of application, including the objects in Bulgaria.

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at Sofia University

2018/2019 academic year

Faculty of Geology and Geography.

Faculty coordinator: ...N. Botoucharov....

Programme ...Geochemistry.....

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
627	Methods for analysis of geological materials	English	MA/MS	Winter semester	6	30		30	Tanja Julianova Stoilkova-Ilieva	tstoilkova@gea.uni-sofia.bg

Short description of the course (in the language of instruction): The students will acquaint with theoretical grounds of the main methods for chemical analysis of minerals, rocks and ore - principles and applications of classical methods –gravimetric and volumetric and instrumental methods for analysis – atomic absorption spectroscopy, atomic emission spectroscopy, infrared spectroscopy, X-ray spectrometry and scanning electron microscopy; mass spectrometry; radiochemical methods and neutron activation analysis; chromatographic methods for analysis of organic matter. The students will get an notion about application sphere and opportunity of new methods like ICP, mass spectrometry, electron probe microanalysis, photoelectron and auger spectroscopy. During the exercises in laboratory the students will gain labor-experimental experience.

Requirements for enrollment: YES

If any, please describe the specific requirements:

1. The students have to possess learning in area of general and inorganic chemistry.
2. The students have to possess some labor experience.

COURSES IN FOREIGN LANGUAGES for ERASMUS INCOMING STUDENTS

at Sofia University

2018/2019 academic year

Faculty Geology and Geography

Faculty coordinator: Nikola Botoucharov

Programme Geochemistry

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
631	Magma-fluid interaction	English	MA	Summer	3	30		15	Nedialkov R.	rned@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course is oriented towards student oriented in mineralogy, petrology and economic geology (Master degree of Geochemistry). The concept of magmatic-fluid system is determined and are explained the conditions of it functioning. Explanation of the role that plays fluids on the magmatic processes (melting, crystallization, differentiation, assimilation, mixing). The influence of fluids on physical properties of the magma and the dynamic of magmas and volcanic eruptions is explained. Explanations of the generation of orthomagmatic ore-bearing hydrothermal systems are given with demonstration of the favorable conditions of exsolution of ore components from the magma with the separation of the fluids.

Requirements for enrollment: YES/NO

If any, please describe the specific requirements:

Basic knowledge in igneous petrology.

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Exercises/ Seminars	Practical work		
	Volcanology	English	MA	winter	4	45		15	Nedialkov R.	rned@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course gives information about the main characteristics and peculiarities of the volcanic activity, the different types of volcanic eruptions, and the different types of volcanoes and the formation of the volcanic facieses. Detailed characteristic of the volcanic rocks (effusive, pyroclastic and epiclastic) is given. The methodic of field work in volcanic terrains and the laboratory investigation of volcanic rocks is explained. The formation and the morphology of volcanic bodies is explained. The processes of fragmentation of the magma and the formation of the pyroclastic deposits are studied. The transport and the deposition of the pyroclastic fragments are explained as a result of pyroclastic falls, flows or surge. The principles of the facial analyze are exposed. Special attention is paid on the work on contemporaneous active volcanoes and their monitoring and also on the paleovolcanologic reconstructions. The evolution of volcanism in space and time and in the different tectonic setting are studied. The history of the volcanic activity on the Bulgarian territory is also studied.

Requirements for enrollment: YES/NO

If any, please describe the specific requirements:

Basic knowledge in igneous petrology.

COURSES IN FOREIGN LANGUAGES for ERASMUS INCOMING STUDENTS

at Sofia University

2018/2019 academic year

Faculty of geology and geography

Faculty coordinator: Nikola Botoucharov

Programme: Geochemistry

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
642	Metamorphic crystallization and phase equilibrium	English	MA	winter	3	30		15	Philip Machev Milena Georgieva	machev@gea.un i-sofia.bg milena@gea.uni -sofia.bg

Short description of the course (in the language of instruction):

The course is an upgrade over the bachelor's course of Metamorphic petrology and is oriented towards students with a lasting interest in the field of the metamorphic petrology. Students are introduced to the mechanism and the kinetics of nucleation and crystal growth by nucleation and recrystallization of metamorphic minerals. Particular attention is paid to the relationship between metamorphic minerals formation and rock deformations over time, resulting in the structural and textural features of the metamorphic rocks. Basic metamorphic reactions and chemical equilibrium during the metamorphism are studied. Equilibrium mineral associations are examined in order to determine the peak metamorphic conditions and the whole P-T-t path of metamorphic rocks. Students are introduced to basic parameters of thermodynamically based software for modeling the phase equilibria in metamorphic rocks.

Requirements for enrollment: YES

If any, please describe the specific requirements: The students should have basic knowledge of metamorphic petrology.

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2018/2019 academic year

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Programme: Geochemistry

Course code	Course title (in English)	Language of instruction	Course offered to BA/BS, MA/MS, PhD	Semester	ECTS	Number of hours			Lecturer/s's name	Lecturer/s's E-mail
						Lectures	Seminars	Practical work		
624	Trace elements geochemistry	English	MA	winter	3	45			Milena Georgieva	milena@gea.uni-sofia.bg

Short description of the course (in the language of instruction):

The course introduces students to the growing role of trace-elements as geochemical indicators of source and evolution of the solid geological formations - sedimentary, igneous and metamorphic rocks. The course consists of a series of lectures introducing the field of trace element geochemistry including a review of partition coefficients and theoretical approaches to understanding trace element partitioning during partial melting and fractional crystallization. Throughout the course, lectures are interspersed with papers that are to be read by students and discussed during classes. Successful graduates in this course will know modern concepts of using trace-elements in geology. They will be prepared to solve problems in different earth-science fields related to the origin of the rocks and minerals.

Requirements for enrollment: YES

If any, please describe the specific requirements: Students should have a basic knowledge of geochemistry, crystal-chemistry, mineralogy, igneous and metamorphic petrology, and sedimentology.