

**QUALIFICATION CHARACTERIZATION OF MAJOR FIELD OF STUDY “GEOGRAPHY  
AND REGIONAL POLICY”  
FOR “BACHELOR OF SCIENCE” DEGREE WITH PROFESSIONAL QUALIFICATION  
“GEOGRAPHER”**

Purpose of the major field of science Geography and regional policy

The Qualification characterization of Major field of study “Geography and regional policy” for BSc degree is a basic document that determines the rules for developing the curriculum. This qualification characterization is conformed with the legislation in the area of higher education in the Republic of Bulgaria.

Graduates received Bachelor of Science (BSc) degree in Geography and regional policy, can successfully realize themselves as scientists in scientific and educational institutions and as experts in regional policy in different administrations (state, regional and municipal), production companies and service offices.

Students from all regions of the country and from other countries are trained.

The curriculum provides:

Educational goals

The training in the specialty must provide:

In-depth scientific-theoretical and specialized training in the specialty;

Mastering the basics of research and applied science;

Conditions for educational mobility of students, including international comparability of acquired knowledge and acquired skills;

Development of abilities for adaptation in the conditions of social, economic and technological changes.

The main goal of the training in this bachelor's program is to provide graduates with extended and in-depth theoretical and factual knowledge in the field of geography and regional policy, in accordance with the modern achievements of geographical science and practice.

Organization of training

The main prerequisite for achieving the educational goals is the structure and content of the curriculum. It includes compulsory and optional disciplines structured in 8 semesters.

Compulsory courses are related to the acquisition of general and specialized training, providing professional competencies in the field of geography and geographical research. Fundamental theoretical and professional-practical training is carried out in basic natural and socio-economic disciplines - geomorphology, cartography, climatology, hydrology, soil science, biogeography, landscape science, geography of population and settlements, production and service, political geography, basics of economic and social geography, theoretical foundations of geographical research, geography of countries, etc.

Optional courses are related to specific areas and problems of natural and socio-economic geography of Bulgaria and the world; the geographical information systems and the thematic cartography, the planning, the regional policy and the territorial organization, the policy on the use and protection of the natural resources; assessment of the conditions and risk of natural disasters and risk management, regional policy in solving global problems and changes, etc.

The optional disciplines are 180 hours and provide an opportunity to obtain additional knowledge in all other scientific fields.

Students graduate after passing a state exam - written or the development and defence of a thesis.

The educational documentation is periodically updated, in unison with the modern tendencies in the development of the geographical science, theory and practice. The students have the opportunities for international and interuniversity mobility.

Scope of professional competencies

The bachelor's program provides an opportunity for the formation of personal and professional competencies:

Independence and responsibility - ability for administrative management; responsibility in making decisions in complex conditions; creativity and initiative in management; assessment of the need to train others in order to increase team effectiveness.

For learning - self-assessment of one's own qualification, by assessing the knowledge and skills acquired so far, and expanding and updating one's professional qualification;

Communicative and social - formulates and presents clearly and understandably ideas, problems and solutions; expresses attitude and understanding on issues discussed; uses methods based on qualitative and quantitative descriptions and evaluations; shows a broad personal worldview and shows understanding and solidarity with others;

Professional - collects, classifies, evaluates and interprets information from their professional field

in order to solve specific tasks and problems. The student can apply the acquired knowledge and skills in new or unknown situations; demonstrates the ability to analyse in a broader or interdisciplinary context; forms and expresses own opinion on issues of public and ethical nature; formulates proposals for management decisions and policies at regional and local level.

#### Opportunities for realization

There are various job opportunities for B.Sc Hons Geography and Regional Policy graduates. They can realise as geographers, teachers in universities and colleges, managers and experts at all levels of public administration (departments of European integration, regional development and resource management), tourist information, visitor and cultural centers etc. Graduates can participate in the development of strategic documents, programs and plans in the field of regional development and policy, projects, analyses and forecasts for the resource security of regional socio-economic development, the dynamics of natural processes. Environment at local and regional level, in the preparation of environmental impact assessments at national, regional and local level. They can hold positions in the state, regional and municipal administration related to the management of demographic and natural resources (land, water, and bio resources), environmental protection and management of protected areas, in scientific institutions, non-governmental organizations, specialized companies and services. (research, design, tourism, hydrometeorology, etc.), dealing with analysis and management of territorial resources, research on the structure and organization of society, the interaction between human activity and the natural environment and its results and consequences, with consultations on regarding the practical application of demographic, economic and social policies. The acquired knowledge and skills in the training course provide an opportunity for successful realization as teachers of geography and economics in the secondary and high schools.

## CURRICULUM

Field of Study: Geography and regional policy, Period of Study: 4 years (8 semesters)

First Semester	ECTS credits	Second Semester	ECTS credits
<p><b><u>Compulsory Courses:</u></b></p> <ol style="list-style-type: none"> <li>1) Cartography – Part I</li> <li>2) Climatology</li> <li>3) Informatics</li> <li>4) Geomorphology - Part I</li> </ol> <p><b><u>Optional Courses</u></b></p> <p><i>Subgroup I.1</i> (1 course)</p> <ol style="list-style-type: none"> <li>1) Geology</li> <li>2) Geophysics</li> <li>3) Geochemistry</li> <li>4) Statistics</li> </ol> <p><i>Subgroup I.2.</i> (1 course)</p> <ol style="list-style-type: none"> <li>1) Foreign language</li> <li>2) Language culture</li> </ol>	<p>4,5</p> <p>10</p> <p>4,5</p> <p>4,5</p> <p>4,5</p> <p>4,5</p> <p>4,5</p> <p>4,5</p> <p>2</p> <p>2</p>	<p><b><u>Compulsory Courses:</u></b></p> <ol style="list-style-type: none"> <li>1) Cartography – Part II</li> <li>2) Geomorphology – Part II</li> <li>3) Biogeography – Part I</li> <li>4) Geography of population and settlements</li> </ol> <p><b><u>Optional Courses</u></b></p> <p><i>Subgroup II.1</i>(1 course)</p> <ol style="list-style-type: none"> <li>1) Medical geography</li> <li>2) Geocological monitoring</li> </ol>	<p>6,5</p> <p>4,5</p> <p>4,5</p> <p>10</p>  <p>4,5</p> <p>4,5</p>
	<b>Total 30</b>		<b>Total 30</b>
Third Semester	ECTS credits	Fourth Semester	ECTS credits
<p><b><u>Compulsory Courses:</u></b></p> <ol style="list-style-type: none"> <li>1) Hydrology</li> <li>2) Biogeography – Part II</li> <li>3) Geography of the countries Part I</li> <li>4) Theoretical background of geographical researches</li> </ol>	<p>10</p> <p>4,5</p> <p>6,5</p> <p>4,5</p>	<p><b><u>Compulsory Courses:</u></b></p> <ol style="list-style-type: none"> <li>1) General and regional physical geography of the continents– Part I</li> <li>2) Soil science</li> </ol>	<p>10</p> <p>8</p>

<u>Optional Courses</u> <i>Subgroup III.1</i>		<u>Optional Courses</u> <i>Subgroup IV.1</i> (1course)	
1) Geography of ethnicities and religions	4,5	1) Quaternary geomorphology and paleogeography	4,5
2) Fundamentals of economic and social geography	4,5	2) Glaciology	4,5
3) Fundamentals of the territorial organization of economic development	4,5	<i>Subgroup IV.2</i> (1 course)	3
4) Social development of the regions	4,5	1) Geography of forests in Bulgariq	3
		2) Forestry of Bulgaria	3
		<i>Subgroup IV.3</i> (1 course)	
		1) Geography of tourism	4,5
		2) Geography of transport	4,5
	<b>Total 30</b>		<b>Total 30</b>
<b>Fifth Semester</b>	<b>ECTS credits</b>	<b>Sixth Semester</b>	<b>ECTS credits</b>
<u>Compulsory Courses;</u>		<u>Compulsory Courses;</u>	
1) Political geography and geopolitics	6,5	1) Regional physical geography of Bulgaria	10
2) Geography of manufacturing and service sector	10	2) Socio-economic geography of Bulgaria	10
3) General and regional physical geography of the continents– Part II	4,5	3) Lanfscap knowledge	10
<u>Optional Courses</u> <i>Subgroup V.1</i> (1 course)			
1) Climatology of Bulgaria	4,5		
2) Hydrology of Bulgaria	4,5		
3) Geomorphology of Bulgaria	4,5		
4) Oceanology			
<i>Subgroup V.2.</i> (1 course)	4,5		
1) Themathic cartography	4,5		
2) Tourist mapping			
	<b>Total 30</b>		<b>Total 30</b>
<b>Seventh Semester</b>	<b>ECTS credits</b>	<b>Eighth Semester</b>	<b>ECTS credits</b>

<b><u>Compulsory Courses:</u></b>		<b><u>Optional Courses</u></b>	
1) Geographyc information systems	8	<b><u>Subgroup VIII.1</u></b>	
2) Geography of the countries – Part II	6,5	1) Soils of Bulgaria	4,5
<b><u>Optional Courses</u></b>		2) Land resurces	4,5
<b><u>Subgroup VII.1</u></b> (1 course)	4,5	<b><u>Subgroup VIII.2</u></b> (1 course)	
1) Environmental protection policy in Bulgaria	4,5	1) Geography of agribusiness	4,5
2) Regional geocological problems in Bulgaria	4,5	2) Geography of Balkan countries	4,5
3) Global climate changes	4,5	3) Alternative tourism	4,5
<b><u>Subgroup VII.2</u></b> (1 course)		<b><u>Subgroup VIII.3</u></b> (1 course)	
1) Conservation of biological diversity	6,5	1) Regional geography of Bulgaria	4,5
2) Protected areas in Bulgaria	6,5	2) Planning and regional policy of Bulgaria	4,5
<b><u>Subgroup VII.3</u></b> (1 course)		3) European integration of regions	4,5
1) Territorial structure of Bulgaria	4,5	<b><u>Subgroup VIII.4</u></b> (1 course)	
2) Geography of the population and settlement of Bulgaria	4,5	1. Air pollution	4,5
3) Georurbanistics	4,5	2. Water pollution	4,5
		3. General ecology	4,5
		Defense of thesis or written state exam	10
	<b>Total 30</b>		<b>Total 30</b>

**TOTAL FOR 4 ACADEMIC YEARS: 240 CREDITS**

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## ANNOTATIONS OF ACADEMIC DISCIPLINES

### CARTOGRAPHY – PART I

**ECTScredits:** 4.5

**Weekly workload:** 2л+0cy+0лы+1пы+p

**Form for verification of knowledge:** exam

Type of exam: written

**Semester:** I

**Under methodical guidance of:**

Department of Geography and Ecology and Environmental Protection

Faculty of Mathematics and Natural Science

**Lecturers:** Assoc prof. Penka Kastreva, PhD,

E-mail: [penkakastreva@swu.bg](mailto:penkakastreva@swu.bg)

#### **Annotation:**

The course "Cartography - Part I" is taken by the students with subject "Geography and Regional Policy ". The main objective of the course is to familiarize students with the mathematical nature of the maps, the basic principles for the creation and use.

The practical exercises are intended to elaborate the students' skills and habits of reading, understanding, complex description and analysis of cartographic works. Further aim during the course is for the students to develop their ability of working with the software for creation and use of such cartographic works.

#### **Course content:**

The first part of the course Cartography is addressing key theoretical issues which regardless of the environment in which are design and drawn the maps, these remain unchanged - the concepts related to the calculation and construction of the mathematical basis of the map. The academic material includes:

- Introduction to the concepts and definitions in cartography, the relation of cartography to the geography and other earth sciences, the relation of cartography to the geo-informatics, art and design, and the opportunities for the further development of the cartographic science and the creation of maps;
- Introduction to the terminology of the mathematical cartography related to the concepts map, scale, coordinate systems, patterns which define the figure of the Earth and map projections used for its mapping;
- The projections are considered in detail - classification, image of the graticule, map deformations and practical application in mapping;
- Selection of projection in GIS;
- Map projections used in Bulgaria .

The practical exercises develop the ability of the students to apply the introduced theoretical mathematical foundations in order to be able to calculate a map projection or to choose the appropriate coordinate system (map projection) in a GIS environment while creating maps. In addition with the exercises the students will be able to perform transformation from a single map projection to another.

#### **Teaching technology and assessment:**

The lectures and exercises are conducted solely on the equipment basis of the Department „Geography Ecology and Environmental Protection”. To illustrate the lecture material are used: computer with video – projector, study videos, specialized software (ArcGIS), additional materials (tables, diagrams and maps), some of which have been developed as students' course and diploma works. For the practical exercises is used a multimedia computer lab. For the normal conduct of the exercises the students are divided into groups and each student has a separate computer.

During the semester periodically the students are assigned individual tasks.or testing. The tasks are fully related to digital work environment with specialized software for mapping and using of maps. The students are admitted to the exam with a minimal note of 3, which is formed as the average of all notes received during the semester. The final note is 40% of the periodic evaluation and 60% of the semester exam according to the department's developed and adopted system for control of the students' knowledge and skills.

## CLIMATOLOGY

**ECTS credits:** 10

Form of control: in-term control and exam

**Semester:** I

**Leading organization:**

Department of Geography, Ecology and Environmental Protection

Faculty of Mathematics and Natural Sciences

**Lectors:** Assoc. Prof. Dr. Krasimir Stoyanov, PhD; Chief Assistant Miroslav Ivanov, PhD

E-mail: [krasi\\_sto@swu.bg](mailto:krasi_sto@swu.bg); [m\\_ivanov@swu.bg](mailto:m_ivanov@swu.bg)

**Hours per week:** 4 les. + 2 pract.

**Examination type:** written

### **Annotation:**

Climatology is a fundamental discipline within physical geography. The course is closely related to the other branches of physical geography: hydrology, geomorphology, as well as to meteorology, which is a physical science. Knowledge gained from the course are of crucial importance for the further understanding of the main driving principles of Earth's nature and environment, and its constituting components.

### **Content of the teaching course:**

Climatology is taught by the students from the profile "Geography" in order to provide competences in the principles of formation, spatial diversity and temporal dynamics of climate. Main subject of study is the climatic system and their constituents: atmosphere, ocean, cryosphere, land surface and biomass.

Students gain knowledge about the factors that determine the characteristics of climates and climatic elements and parameters. A special accent is put on weather, the factors that determine weather and their characteristics. Students receive basic skills to prepare synoptic forecasts.

During the course students are introduced to the genesis of climate and climate diversity on Earth. Attention is also paid to microclimate and urban climate, Earth's past climates and current climate variations and change. In the practice seminars students learn to work with climatic measurement instruments and analyze climatic data.

### **Technology of teaching and ranking:**

Teaching in climatology is performed in concordance with the current teaching plan of the profile "Geography and regional politic", B. Sc. degree.

Lessons are taught in a lecture hall, where theoretical facts, processes and phenomena are discussed. Then practical tasks are appointed to students to do them individually. A large number of practical works is included in the plan.

During the teaching course students develop a thesis or make a presentation on issues related to geomorphology.

Examination procedure comprises a test or a written exam following a conspectus that has been preliminarily supplied to students. The relative share of the exam in the final mark is about 60%.

## INFORMATICS

ECTScredits: 4.5

Assessment type: ongoing evaluation and final exam in form of computer-based test in e-learning environment.

Semester: I

Classed per week: 11+0s+3p

Course type: compulsory

Course coordinating department:

Department of Informatics

Faculty of Mathematics and Natural Sciences

Lecturer: Prof. Daniela Tuparova, PhD

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### **Annotation:**

The course is aimed at improving the digital competencies of students according to their future realization. After completing the course, students should be able to: apply basic principles and applications of information technology in the relevant professional field; work with modern word processing tools; data processing with spreadsheets; present information to the public through computer presentation systems.

### **Course content:**

Introduction; Computer System; Software; Operating systems; Copyrights and licenses in IT; Application software – word processing, spreadsheets, presentations; Multimedia formats; Internet services; Computer security – computer viruses and antivirus software

### **Course organization and assessment:**

The lectures are presented with a video projector while seminars are conducted in a computer lab with Internet access. During the lectures students are given assignments, which shall be evaluated by the assistant professor. The learning materials are provided in e-learning environment based on Moodle at [www.e-learning.swu.bg](http://www.e-learning.swu.bg) during the semester students will be evaluated in two control practical works – word processing and spreadsheets and one simple project in MS Power Point.

The final evaluation/grade is formed on the basis of the ongoing evaluation and the final exam – test in e-learning environment..

Only students whose assessment of the current control is not lower than the average (3.00) should be allowed to take the final written exam. The ratio between ongoing evaluation and final test is 50% - for ongoing evaluation and 50% for final test.



## GEOMORPHOLOGY – I PART

**ECTS credits:** 4.5

Form of control: in-term control and exam

**Semester:** I

**Leading organization:**

Department of Geography, Ecology and Environmental Protection

Faculty of Mathematics and Natural Sciences

**Lectors:** Assoc.Prof. Krasimir Stoyanov, PhD; Galina Bezinska, PhD

E-mail: [krasi\\_sto@swu.bg](mailto:krasi_sto@swu.bg); [galinabezinska@swu.bg](mailto:galinabezinska@swu.bg);

**Hours per week:** 2 les. + 1 pract.

**Examination type:** written

### **Annotation:**

The teaching course in geomorphology aims to make students from the profile “Geography” familiar to the genesis, evolution and processes that have formed the features of Earth’s relief. The course is closely related to geology, geodesy, topography, archeology, soil science, etc.

### **Content of the teaching course:**

Geomorphology lies on the transition between geology and geography. It uses a number of geographical and geological research methods, and it thus dependent on the rate of their development and advance.

Relief is formed under the combined action of two groups of processes: endogenic (tectonic movements and volcanism) and exogenic (weathering, mass movement, erosion, exaration, karstification, deflation, abrasion). In result relief’s morphoscluptural and morphostructural features are developed.

During practices a special attention is paid to obtain fundamental practical skills in fieldwork and laboratory techniques of research in geomorphology, more particularly on geomorphological mapping in various scales. Other practiced skills are: work with a geological compass, field determination of the main types of rocks and minerals, discovery and determination of landforms related to tectonics, barometric nivelation and others, which are described in the Guidebook, especially published for this purposes. Students gain also competences in creation and analysis of landform profiles, landform morphometry etc.

### **Technology of teaching and ranking:**

Teaching in geomorphology is performed in concordance with the current teaching plan of the profile “Geography and regional politic”, B. Sc. degree.

Lessons are taught in a lecture hall, where theoretical facts, processes and phenomena are discussed. Then practical tasks are appointed to students to do them individually. A large number of practical works is included in the plan.

During the teaching course students develop a thesis or make a presentation on issues related to geomorphology.

Examination procedure comprises a test or a written exam following a conspect that has been preliminarily supplied to students. The relative share of the exam in the final mark is about 60%.

## GEOLOGY

**ECTS credits:** 4.5

**Form of control:** in-term control and exam

Semester: I

**Leading organization:**

Department of Geography, Ecology and Environmental Protection

Faculty of Mathematics and Natural Sciences

**Lectors:** Assoc. Prof. Emil Gachev, PhD

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**Hours per week:** 2 les. + 1 pract.

**Examination type:** written

### **Annotation:**

The teaching course in Geology aims to introduce beginner bachelor undergraduates in Geography and Regional Politics to the subject, objects and main methods applied in Geology and Environmental science, to the main knowledge issues of these research fields, which represent one of the fundamentals of Physical Geography.

### **Content of the teaching course:**

The lessons provide general knowledge about the genesis, content and more in particular about the structure of Earth's interior, its inherent dynamics and other characteristic features of the lithosphere. Special attention is paid to the impacts of geological structure and rock composition on landform and landscape diversity. Some insights, although not in a great detail, are provided concerning geological fieldwork, interpretation of geological maps and profiles, essence of geological mapping and related auxiliary activities.

### **Technology of teaching and ranking:**

Teaching is accomplished through lectures, seminars and home activities. Modern interactive practices are involved in teaching.

Periodic control is done through the semester through course projects and presentations. Usually at least one test must be passed before the exam session. In-term ranking is based on the quality and rate of task performance (projects, tests): knowledge competences, analytical thinking, understanding.

The exam comprises a test or written exam (or both) following a list of topics given to students in advance. The relative share of the final exam in the overall mark is 60%.

## GEOCHEMISTRY

**ECTS credits:** 4.5

**Form of control:** in-term control and exam

**Semester:** I

**Leading organization:**

Department: "Chemistry"

Faculty of Mathematics and Natural Sciences

**Lectors:** Prof. Mario Mitov, DSc; Assist. Prof. Elitsa Chorbazhiyska, PhD

E-mail: [mitovmario@swu.bg](mailto:mitovmario@swu.bg); [elitsa@swu.bg](mailto:elitsa@swu.bg)

**Hours per week:** 2 les. + 1 pract.

**Examination type:** written

### Annotation:

Modern geochemistry studies the origin and evolution of chemical elements, their distribution and migration in the main geochemical reservoirs on Earth. From this perspective, the course "Geochemistry" for students in "Geography and Regional Policy" provides the necessary knowledge of the chemical composition of rocks, minerals, the atmosphere, oceans and surface formations - soil, water, river sediments, as well as processes and conditions for their formation and transformation.

### Content of the teaching course:

1. Purpose and content of geochemistry.
2. Origin and evolution of chemical elements in the universe.
3. Chemical composition of the Earth as cosmic body.
4. Modern ideas about the structure of the atom.
5. Radioactive elements. Methods of nuclear geochronology.
6. Chemical bond.
7. Intermolecular interactions.
8. Chemical processes.
9. Chemical thermodynamics.
10. Chemical kinetics.
11. Chemical equilibrium.
12. Contents of the most common elements in minerals and rocks.
13. Chemical composition of the atmosphere and oceans.
14. Types of migration of elements and their compounds.
15. Environmental aspects of geochemistry.

### Literature:

Стефанова, М. 2005. Основи на геохимията. Университетско издателство "Св. Климент Охридски", София, 367 с.

White, W.M. 2007. Geochemistry. An on-line textbook. <http://geoweb.gg.uwyo.edu/geol4490/>

Лазаров, Д. 1999. Неорганична химия. Университетско издателство "Св. Климент Охридски", София, 632 с.

### Technology of teaching and ranking:

Teaching Methods: lectures and practical exercises. Requirements/Prerequisites: The basic knowledge on General Chemistry.

Exam: final written exam

Assessment: 2 tests on the lecture material D1, D2; 2 tests on practical material K1, K2; written final exam.

Rating: = 0,2 .[(D1 + D2)/2] + 0,2[(K1 + K2)/2] + 0,6. (Exam)

Registration for the exam: Coordinated with lecturer and Students Service Department

## **GEOFYSICS**

**ECTS credits:** 4.5

**Form of control:** in-term control and exam

**Semester:** I

**Leading organization:**

Department: "Geography, ecology and protected area"

Faculty of Mathematics and Natural Sciences

**Lectors:** **Assoc. Prof. Dimitrina Kerina, PhD,**

Assist. Prof. Vladimir Gaberov, Assist. Prof. Krasimir Damov

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**Hours per week:** 2 les. + 1 pract.

**Examination type:** written

**Annotation**

**Content of the teaching course:**

**Technology of teaching and ranking:**

## LANGUAGE CULTURE

**ECTS:** 2

**Form of assessment:** exam

**Course coordinating department:**

Department of Bulgarian language

Philological Faculty

**Lecturer:**

Prof. Antoni Stoilov, PhD

E-mail: [antony100@swu.bg](mailto:antony100@swu.bg)

Тел. 0894 426 026

**Weekly classes:** L-2; S-0; IL-2

**Course type:** Select

### **Annotation**

Students learn spelling and pronouncing rules in modern Bulgarian.

### **Course content**

Rules for writing titles and subtitles. Rules for writing capital letters. Rules for merged, semi-merged and separate writing of nouns, adjectives, numerals, adverbs and complex prepositions. Rules for writing a comma. Rules for writing variable Я. Rules for writing articles. Syntactic agreement. Rules of the utterance verb endings of the definite articles and prepositions.

### **Teaching and grading methods**

Lectures and practical classes.

Written exam. Students need to eliminate spelling and punctuation errors in a text. Grading is done according to a specific scale.

## CARTOGRAPHY – PART II

**ECTScredits:** 6.5

Form for verification of knowledge: exam

**Semester:** II

**Under methodical guidance of:**

Department of Geography and Ecology and Environmental Protection

Faculty of Mathematics and Natural Science

**Lecturers:**

Assoc. Prof. Penka Kastreva, PhD, Assist. Eng. Galina Bezinska PhD

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**Weekly workload:** 2Л+0cy+0Лy+2Пy+p

**Type of exam:** written

### **Annotation:**

The course "Cartography - Part II" is studied by students in "Geography and Regional Policy" in order to get acquainted with the basic principles of creating and using of the maps. Since modern mapping information is in digital form, it requires examination of the cartography in the context of the computer cartography and geographic information systems.

The main objective of the course is to form students' skills and habits of reading, understanding, comprehensive description and analysis of cartographic works, the ability to use maps and atlases for educational and scientific learning objectives;

The practical exercises develop students' ability to draw their own general geographic map to structure the content in maps layers to select the appropriate mapping symbols to shape the final project with all the elements of the map and accomplish cartographic measurements on it.

### **Course content:**

The subject includes concepts from the main sections of the cartography - "Theoretical cartography", "Topographic Mapping" and "Computer Cartography", the issues addressed in them are oriented to the processes taking place in the digital environment.

The fundamental issues explaining the theory of cartographic representation, the design and mapping, the principles of cartographic generalization and producing maps are included in the theoretical cartography.

In the theory of topographic mapping the topics are considered which are related to the nature of topographic maps - classification, function, mathematical basis, elements of their content and how to display them on the map. An attention for the construction of modern topographic information systems as a result of the creation of topographic maps in the digital environment is paid.

In the section "Computer Cartography" new concepts are explained widely penetrated into our daily lives, such as media maps, internet maps and others.

Practical classes provide preparation course project in which students apply the knowledge and skills in editing, compilation and layout maps in the digital environment, and the ability to work with GIS software.

### **Teaching technology and assessment:**

The lectures and exercises are conducted solely on the equipment basis of the Department „Geography Ecology and Environmental Protection“. To illustrate the lecture material are used: computer with video – projector, study videos, specialized software (ArcGIS), additional materials (tables, diagrams and maps), some of which have been developed as students' course and diploma works.

For the practical exercises is used a multimedia computer lab. For the normal conduct of the seminars the students are divided into groups and each student has a separate computer. During the semester periodically the students are assigned individual tasks or testing.

The tasks are fully related to digital work environment with specialized software for mapping and using of maps.

The students are admitted to the exam with a minimal note of 3, which is formed as the average of all notes received during the semester. The final note is 40% of the periodic evaluation and 60% of the semester exam according to the department's developed and adopted system for control of the students' knowledge and skills.

## GEOMORPHOLOGY – II PART

**ECTS credits:** 4.5

Form of control: in-term control and exam

**Semester:** II

**Leading organization:**

Department of Geography, Ecology and Environmental Protection

Faculty of Mathematics and Natural Sciences

**Lectors:** Assoc. Prof. Krasimir Stoyanov, PhD

E-mail: [krasi\\_sto@swu.bg](mailto:krasi_sto@swu.bg)

**Hours per week:** 2 les. + 1 pract.

**Examination type:** written

### **Annotation:**

The teaching course in geomorphology aims to make students from the profile “Geography” familiar to the genesis, evolution and processes that have formed the features of Earth’s relief. The course is closely related to geology, geodesy, topography, archeology, soil science, etc.

### **Content of the teaching course:**

Geomorphology lies on the transition between geology and geography. It uses a number of geographical and geological research methods, and it thus dependent on the rate of their development and advance.

Relief is formed under the combined action of two groups of processes: endogenic (tectonic movements and volcanism) and exogenic (weathering, mass movement, erosion, exaration, karstification, deflation, abrasion). In result relief’s morphoscluptural and morphostructural features are developed.

During practices a special attention is paid to obtain fundamental practical skills in fieldwork and laboratory techniques of research in geomorphology, more particularly on geomorphological mapping in various scales.

It is recommended to organize one-day or several day field visits for the direct observation of geological and geomorphological features – Stobs pyramids, Kozuh, Sedemte ezera in Rila, Iskar’s gorge, Belogradchishki skali, Rodopi, Pirin, the valleys of Struma and Mesta, Vlahina mountain etc. Geological guidebooks can be used in support of such visits.

### **Technology of teaching and ranking:**

Teaching in geomorphology is performed in concordance with the current teaching plan of the profile “Geography and regional politic”, B. Sc. degree.

Lessons are taught in a lecture hall, where theoretical facts, processes and phenomena are discussed. Then practical tasks are appointed to students to do them individually. A large number of practical works is included in the plan.

During the teaching course students develop a thesis or make a presentation on issues related to geomorphology.

Examination procedure comprises a test or a written exam following a conspect that has been preliminarily supplied to students. The relative share of the exam in the final mark is about 60%.

## BIOGEOGRAPHY – I PART

**ECTS credits:** 4,5

**Hours per week:** 2 les.+ 0 sem. + 0 lab. + 1 pract.

**Instrument for control:** examination

**Type of examination:** written

**Semester:** II

**Organization guidance:**

Department: "Geography, ecology and environmental protection" Polk. Dimov str. No.3,

Faculty of Mathematics and Natural Sciences

**Course status in teaching plan:** Optional course for profile "Geography".

Lecturers: **Assistant Professor Nadezhda Nikolova, PhD**

**E-mail:** [nin@swu.bg](mailto:nin@swu.bg)

### **Annotation:**

The teaching course "Biogeography" is among the fundamental courses in geography. It aims to provide students with knowledge about the history and development of the living organisms, as well as about the factors that determine their contemporary distribution in the geographic space.

As a science that studies the spatial distribution of vegetation cover and animals, it also gives the fundamental knowledge needed for the development of regional branches of geography such as Natural Geography of the Continents, Geography of foreign countries and Geography of Bulgaria.

Teaching paragenetic relations and ecological characteristics of species, the current environmental settings, as well as facts from paleogeomorphology, paleoclimate and paleontology, biogeography is bound to also forecast the future development of the areals of individual species and whole biotic communities on the basis of the creation of various prognostic models and thematic maps.

Biogeography also deals with problems related to human activity, among which are the protection and utilization of biospheric resources.

### **Content of the teaching course:**

The lecture course in Biogeography is taught to the students in the first year of the profile „Geography and history”. Its goal is to provide knowledge, related to:

- Reasons for distribution and scatter of organisms.
- The extent of the main dryland biomes, defined on the basis of geographical laws.
- Biogeography features of World ocean and oceanic islands;
- The biodiversity of Bulgaria.
- Theoretical and practical issues related to the biogeography regionalization of the World and Bulgaria;

### **Technology of teaching and ranking:**

The lecture course has its goal to provide students with abilities to fluently use the knowledge gained for creation of biogeography maps, to classify different biocenoses and have basic competences in the determination of plants and animals on a given territory.

In result of studying this course students have to know:

- the main species of flora and fauna in the biomes on land and in the ocean.
- the reasons and factors that determine the distribution of present-day organisms.
- the principles of biogeography regionalization.

Lessons and seminars are facilitated by the material base of Department "Geography, ecology and environmental protection", as well as outdoors, on the territory on the National parks „Rila” and „Pirin” and the Nature park „Belasitsa”. For education purposes are used also the base of the Bulgarian Academy of Sciences: Botanical garden, the Natural History Museum and some stationeries of the Institute of Forestry. For a visualization of the lectures taught a computer equipped with multimedia is used, also educational films, a specialized software, Geographic Information Systems (ArcGIS), demonstrative materials (boards, schemes, maps etc.), part of which have been created as students' theses.

The out-of-auditory activities of students comprise mainly search in library and in the Internet, individual and group consultancies.

During the teaching course an ongoing control is exerted on the students to evaluate the level of knowledge gained. It comprises the elaboration of a report, a short thesis and/or a presentation, on topics relative to the content of the lecture material. Each student develops a vocabulary of terminology, while the knowledge and skills gained are ranked through colloquiums in test form. Ranking is made following



the six grade system, depending on the quality of performance: Excellent 6 – above 89% , Very good 5 – 70% - 89 % , Good 4 – 50%

-70%, Fair 3– 30% - 50%, Poor 2 – below 30%. Allowed for the exam are only students who have fulfilled the requirements of SWU's Education Regulations Act, who have met the requirements for assimilation of the content of the course, which are set in the program of their auditory and out-of-auditory activities, and who have their final mark from the ongoing control not lower than Fair 3.

## **GEOGRAPHY OF POPULATION AND SETTLEMENTS**

**ECTS credits:** 10

**Form of assessment:** exam

**Semester:** II

**Methodical guidance:**

Department: "Geography, Ecology and Environmental Protection"

FMNS

**Lecturer:**

Chief Assistant Professor Vladimir Karadzhev, PhD

E-mail: [karadzhev@swu.bg](mailto:karadzhev@swu.bg)

**Weekly classes:** 4 lectures + 2 practical exercises

**Type of exam:** written

### **Annotation:**

The lecture course "Geography of Population and Settlements" is a mandatory discipline for students majoring in Geography and Regional Policy. With this lecture course students get acquainted with the scientific and theoretical foundations of demography and the philosophy of origin and development of settlements. The macrostructure of the lecture course includes two sections. The course "Geography of Population and Settlements" aims to provide basic knowledge in this field to students and to provide scientific and practical training and competence for their participation in regional research and forecasting, as well as in management programs of the territory / population and settlements.

### **Course content:**

The first section is devoted to the geography of the population, focusing on basic terminological concepts, methods in demography, the laws of the population in different societies and the main characteristics and trends of population development by continents and individual countries.

The second section - geography of settlements, discusses topics with both methodological content and tracking the emergence of settlements, their evolution, the processes that take place in them, the settlement network and the latest requirements for their development, according to major international documents.

### **Teaching technology and assessment:**

The lecture course is conducted on the basis of advance planning of each lecture, which includes: topic, connections between the previous and the new lecture, connections with other disciplinary areas, introduction, plan, presentation, discussion and summary. The lecture material is developed on Power point and is presented with a multimedia projector. The process of teaching the lecture material is related to the use of visual aids - graphics, printed and web-based materials, videos.

The practical classes are held in subgroups. Classes are held in the classroom, where theoretical facts, processes and phenomena are discussed, followed by practical tasks that students perform individually. At the end of each lesson, the questions for preliminary preparation of the students for the next exercise are asked.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## MEDICAL GEOGRAPHY

**ECTS credits:** 4.5

**Form of assessment:** on-going control and exam

**Hours per week:** 21+1pe

Examination type: written

**Semester:** II

**Methodological guidance:**

Department: "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturers:** Assistant Professor Nadezhda Nikolova, PhD

E-mail: [nin@swu.bg](mailto:nin@swu.bg)

### **Annotation:**

Medical geography, sometimes called health geography, is an area of medical research that incorporates geographic techniques into the study of health around the world and the spread of diseases. In addition, medical geography studies the impact of climate and location on an individual's health as well as the distribution of health services. Medical geography is an important field because it aims to provide an understanding of health problems and improve the health of people worldwide based on the various geographic factors influencing them.

### **Discipline content:**

The first module includes: Introduction to Medical Geography. History of the formation of medical and geographical concepts. Development of medical-geographical studies in Ancient Rome. Maps and GIS in medical geography.

The second module includes: Impact factors of space and planets on organisms. Regularities in the geographical distribution of diseases (nozogeografiya). Pandemics. Epidemiological and medical geography of imported parasitic and somatic diseases in Bulgaria.

The third module includes Therapeutic and recreational resources. Anthropogenic environmental changes and their relation to health. National Action Plan on Environment and Health.

### **Literature:**

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#### **Technology of education and grading:**

Lessons and seminars are facilitated by the material base of Department “Geography, ecology and environmental protection”. Lecture material is visualized with a computer and multimedia, education films, specialized software (Google Earth, ArcGIS), illustrative materials such as maps, schemes, satellite images, atlases, posters etc.), part of which have been created as students’ diploma theses.

During the course an ongoing control of the knowledge of students is performed. It includes development and defense of a report or a presentation relative to lesson content. Each student prepares a set of maps. The skills and knowledge gained is ranked through a colloquium in the form of a test. Ranking is executed following the six mark system in dependence of the quality of performance: Excellent 6 – above 89% , Very good 5 – 70% - 89 % , Good 4 – 50% -70%, Fair 3– 30% - 50%, Poor 2 – below 30%. Students are allowed for the examination only if they meet the requirements of SWU’s Regulation of teaching activities, and if they have fulfilled the tasks related to course contents, programmed to be done

during their auditory or out-of-auditory hours, when the average mark of the ongoing control is not lower than Fair 3.

## GEOECOLOGICAL MONITORING

**ECTS credits:** 4.5

**Form of knowledge evaluation:** Examination

**Semester:** II

**Methodological guidance:**

Chair: "Geography, Ecology and Environment Protection"

Faculty: " Mathematics and Natural Sciences"

**Lecturers:** Assistant Professor Nadezhda Nikolova, PhD

E-mail: [nin@swu.bg](mailto:nin@swu.bg)

**Hours per week:** 21+0se+0le+1pe+p

**Examination type:** written

### **Annotation:**

As a result of over-exploitative activities of natural resources, environmental pollution reaches such rate and scale that problem for its protection becomes a very important issue. Consequently, there was a strong need for objective and comprehensive assessment of its condition which to be achieved through a unified methodical system, such as monitoring system.

Geomonitoring environmental information system for monitoring, registration and control of the condition, quality and changes in key components of the natural environment due to the impact of anthropogenic factors.

The purpose of discipline "geo-ecological monitoring" is to give students knowledge of current national legislation based on the requirements of the EU Directives, methods, ways and means of organizing the system for geo-ecological environment components monitoring. Students learn practical methods for processing information from the monitoring system.

### **Course content:**

Course "geo-ecological monitoring" is studied by students third year Geography and aims the acquisition of knowledge related to:

- Introduces students to the objectives and scope of geo-ecological monitoring, the general legislative framework related to the duties of operators to introduce monitoring control, tendencies in environmental science in the XXI century and the methodology for the development of geographic forecasts for developmental changes in the natural and anthropogenic climate system;

- Theoretical and practical exercises to monitor the environmental components;

- Old contaminants and their impact on the geological environment.

### **Teaching and assessment:**

In the process of training are provided lectures and practical exercises. In lectures, students are introduced to the theoretical basis of the course. Lectures are conducted in a traditional way, they are illustrated with graphic material, TLV (Threshold Limit Value) for the various pollutants of the environmental components, comment on best practices in the world. The workshops are conducted in the laboratory, the students under the teacher guidance mark on the map base of Bulgaria points for environmental monitoring of different components of the environment, identifying the most polluted areas, take water samples from the river Bistritza and analyze them, get acquainted with location and type of existing old dirt on the territory of Blagoevgrad.

Extramural training of students is mainly related to work in libraries and on the Internet, individual and group consultations. During the course of study is an ongoing review of the evaluation of knowledge - the development and defense of paper that corresponds to the content of the lectures and assessment of knowledge at the time of exercise. Criterion for assessing the degree of implementation of tasks, taking into account the levels of competence and analytical skills. The assessment is carried out on six-point scale, depending on the task: Excellent 6 - more than 89%, Very Good 5 - 70% - 89%, Good 4 - 50% - 70%, Satisfactory 3 - 30% - 50% Off 2 - below 30%. To the exam to be admitted only students who have fulfilled the requirements of the Rules of the educational activities of the SWU, have met the requirements for mastering the content of the course set out in their audience, and individual employment as well as overall assessment of the current control but not less than the Middle 3.

## HYDROLOGY

**ECTS credits: 10**

**Form of knowledge evaluation:** Examination

**Semester: III**

**Methodological guidance:**

Chair: "Geography, Ecology and Environment Protection"

Faculty: " Mathematics and Natural Sciences"

**Lectors:** Assoc. Prof. Emil Gachev, PhD

E-mail: [emil.gachev@swu.bg](mailto:emil.gachev@swu.bg)

**Hours per week:** 4l+0se+0e+2pr

**Examination type:** written

### **Annotation**

Hydrology is among the major and obligatory scientific disciplines for the undergraduates in B. Sc, in Geography and Regional Politics. Its main purpose is to upgrade and deepen the knowledge about hydrosphere and hydrological processes, and their relations to other environmental processes and phenomena, to provide knowledge about mostly used methods and approaches in the studies of the various parametres (qualitative and quantitative) for the variety of water bodies (rivers, lakes, seas, oceans).

More particular attention is given to the formation of the various types of waters, and the peculiarities in their genesis, on their various classifications and divisions, to the factors for runoff formation. The teaching programme provides knowledge for the global processes and phenomena in hydrosphere, for conducting observations, hydrography and hydrometry measurements and procedures for particular area (rivers, water catchments), for the requirements and prespectives of water use and protection.

### **Content of the teaching course:**

The following topics are addressed in the course: Water as a substance: physical and chemical properties; Water cycle and water balance, Hydrosphere; World Ocean (spatial structure, composition of ocean water, structure of ocean basins, motion of water, ocean resources), ground waters, lakes, swamps, glaciers, river hydrology (hydrography, formation of river flow, erosion and accumulation), human impact on waters, hydrological hazards and their prevention, water resource management, waters and global change.

### **Technology of teaching and ranking:**

"Hydrology" is taught in 60 lecture hours and 30 seminary hours. The lectures encompass all topics of theoretical knowledge, while seminaries accent on practical issues, such as measurements, analyses, demonstration of equipment, calculations. Lectures are conducted with the support of presentations, videofilms, demonstration software, illustrative materials (boards and schemes), part of which have been made by students.

Ongoing control is done during practical seminaries. Students prepare individual tasks during the term in form of course projects and presentations. At least one test should be passed by students to qualify for the final exam.

Study process ends with a final exam, which provides 70% of the final mark, while the resting 30% are provided by the performance during the term.

## BIOGEOGRAPHY – PART II

**ECTS credits:** 4,5

**Form of knowledge evaluation:** exam

**Semester:** III

**Departments involved:**

Department “Geography, Ecology and Environmental Protection”

Mathematic and Natural Sciences Faculty

**Lecturers:** Ass. Prof. Konstantin Tyufekchiev, PhD

E-mail: konstantinat@swu.bg

**Weekly workload:** 2L +0 S +0 Lab +1 P + q

**Type of exam:** written

### **Annotation:**

Course "Biogeography - Part II" is studied by students in "Geography" in order to gain an understanding of biotic zoning of land and the position of Bulgaria biome system, the historical development of its flora and vegetation and biodiversity laws in spatial distribution. It solves problems of practical human activity - detection, protection and rational use of the resources of the biosphere, forecasting the development of the organic areas and the areas of the organism communities and reclamation.

### **Course content:**

The course is divided into four parts. The first considered biotic realms of the land and the place of Bulgaria in the biome system on land. The second and third parts comprise the floral and faunal characteristics of Bulgaria. The fourth part describes in detail the biogeographical zones of Bulgaria, giving information about the phytogeographical and zoogeographical perspective and its biogeographical characteristics.

### **Teaching and assessment:**

Course includes theoretical instruction based on lectures on key topics from the content of the curriculum through the use of interactive methods, combined with self-study discussion of important topics in the cold of course. Some of the topics taught using the interactive mode. Absorption of the educational content is supported by the use of visual aids (tables, presentations, printed copies, software) and hardware (computer, multimedia, etc.).

Each student creates herbarium collection of typical Bulgarian plant species. The final assessment of the current control of the student participates view of other students..

The final evaluation is based on periodic evaluation of control (40%) and 60% of the estimated semester examination under developed and adopted in the Department GEEP "system for monitoring and evaluation of the students' knowledge“.

Takes place during the semester and a control test. Exam is a written



## GEOGRAPHY OF THE COUNTRIES - PART I

Code: 06.90.2.10.3-16

**ECTS credits:** 6,5

**Course hours per week:** 3l+0se+1pe

**Form of assessment:** ongoing assessment and papers      **Exam:** written

**Semester:** III

**Methodological guidance:**

Department "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturer:**

Assoc. Prof. Dr. Ivan Drenovski

Department "Geography, Ecology and Environmental Protection"

E-mail: idri@swu.bg

### **Annotation:**

The course "Geography of countries Part I" is of the fundamental ones in the training of students in specialty "Geography". It aims to give them the most extensive knowledge of the socio-political and socio-economic development of the countries of the world (excluding Europe). Characteristics of each country includes an assessment of environmental conditions and resources, detect specific population (number, structure, movement, ethnic and religious composition, spatial distribution) and the development of the settlement network, the characteristics of the economy (origin and development of economic sectors spatial location, forming a major economic regions, the development of international economic relations).

### **Course content:**

During the lectures are given knowledge about the importance of natural-resource and demographic potential for the development of the economy of the country, tracing its chronological stages of this development. It reveals the geopolitical importance of each country in its region and its place in the world economy. In addition to the specific knowledge and skills students learn to apply the methods of comparison and spatial and temporal analysis in the characterization of the holding of different groups of countries. Emphasis is placed on the relationship between political development among regions and their economic prosperity. The formation, resources potential, cultural and religious characteristics, and the extent and trends of anthropogenic modification are discussed. The workshops students build and improve skills to gather information from various sources for its analysis and synthesis, comparison and interpretation of teamwork.

### **Expected results:**

Formation of competencies for analysis and evaluation of geography, natural-resource potential, demographics, characteristics of the holding of sectors and industries and making presentations to the parties. Increase the students' theoretical knowledge and build skills for conducting independent research on current issues of economic development and environmental protection in different countries and for their overall geographical feature in set algorithm. Education of moral and aesthetic values of ethnic and religious tolerance, respect for cultural diversity in the process of globalization is made.

### **Technology of teaching and evaluation:**

Training is conducted through 45 hours of lectures, 15 hours practical training and 135 hours individual work. Teaching is based on modern interactive teaching methods - extensive use of multimedia forms, and e-learning platform. The current control includes assessment of prepared schematic map, one written thesis / presentation and one semester test. Exam to be admitted only students who have received a minimum grade of Satisfactory 3.00 from current control. The final evaluation reports the results of the ongoing assessment and the performance of the semester exam in the ratio 40%:60%.

## THEORETICAL BACKGROUND OF GEOGRAPHICAL RESEARCHES

Code: 06.90.2.10.3-17

**ECTS credits:** 4,5

**Course hours per week:** 3l+0se+0pe

**Form of assessment:** ongoing assessment and papers

**Exam:** written

**Semester:** III

**Methodological guidance:** Department "Geography, Ecology and Environmental Protection"  
Faculty of Mathematics and Natural Sciences

**Lecturer:** Assoc. Prof. Dr. Ivan Drenovski"

E-mail: [idri@swu.bg](mailto:idri@swu.bg)

### **Annotation:**

Course "Theoretical background of geographical researches" is one of the introductory for the students in specific specialty. It aims to provide basic knowledge about the history and stages of formation of geography as a science. Analysis of the most important theoretical concepts in geography is made.

### **Course content:**

Consider the location, nature, structure and tasks of geography in the science system. The development of the most famous contemporary geographical schools is followed. The basic knowledge about the nature of scientific explanation, the methodology of science, the sequence of construction and the theoretical apparatus is given. The basic methodological approaches and types of scientific explanation in geography are discussed. The nature of the different stages of development of the theory of geography, the specificity of the language and an overview of the research methods in geography is clarified.

### **Expected results:**

Acquiring of many new specific geographic terms. Formation of competencies for formal logical analysis of concepts, hypotheses, scientific laws. Increasing the students' theoretical knowledge and build skills for organization and conducting independent geographical research using modern scientific methods. Obtaining the corresponding models of academic behavior and correct citation in accordance with the norms of scientific ethics.

### **Technology of teaching and evaluation:**

Training is conducted through 45 hours of lectures and 90 hours individual work. Teaching is based on modern interactive teaching methods - extensive use of multimedia forms, and e- learning platform. The current control includes a written thesis / presentation and a semester test. Exam to be admitted only students have received a minimum grade of Satisfactory 3 from current control. The final evaluation reports the results of the ongoing assessment and the performance of the semester exam in the ratio 40%:60%.

## **GEOGRAPHY OF ETHNICITIES AND RELIGIONS**

**ECTS credits:** 4.5

**Form of assessment:** exam

**Semester:** III

**Departments involved:**

Department: "Geography, Ecology and Environmental Protection" FMNS

**Lecturer:**

Assoc. Prof. Emilia Patarchanova, PhD

E-mail: emilia\_patarchanova@swu.bg

**Weekly classes:** 21+1pe

**Type of exam:** written

### **Annotation:**

The course "Geography of ethnicities and religions" is an elective for students in "Geography and Regional Policy." The main objective of the course is to familiarize the students with the process of ethnogenesis, with the main factors influencing its passing, with the criteria for distinguishing ethnicities, ethnic processes and ethnicities classifications. Special attention was devoted to the geographical distribution of ethnicities and religions and their influence on political and socio-economic development of territories, countries and regions.

### **Course content:**

The course is structured in three sections. The first is theoretical in nature and introduces students to basic categories and concepts specific to the discipline. Clarified are the factors influencing the process of ethnogenesis- the formed main cores of ethnogenesis, which stand out among natural, economic and social factors, ethnic processes etc. The second section is devoted to the peculiarities of territorial distribution of ethnicities. It is used to enrich and expand students' knowledge about the formation, development in time and distribution of ethnic groups in territorial aspect. Concerned are the specifics of the individual nations, ethnic and ethnographic groups. Significant place in the course is devoted to the main ethnic communities in the world. The third part of lectures is devoted to the geography of religions. It aims to show the role of religion and its importance to society. The emphasis is on contemporary confessional structure of the population globally. Traced is the relationship and influence between the environment, religion and the peculiarities of the socio-economic development of the territory and its population.

### **Teaching technology and assessment:**

The course "Social Development of the Regions" is done under the current academic curriculum of the specialty "Geography and Regional Policy", degree "Bachelor" and prepared and approved curriculum. The lecture material was developed into power point and presented with a multimedia projector. The process of teaching the lectures is connected also by using visualizations - maps, graphics, charts, and more. At the exercises students discuss the basic concepts related to the process of ethnogenesis, the main ethnic characteristics and processes the confessional peculiarities of the peoples and their impact on the reproductive patterns, cultural peculiarities, economic development and specialization. Students learn to differentiate trends in the geographical distribution of the nations, to recognize ethnic traits to visualize trends in demographic development of the certain territories. Students prepare and defend papers.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%.

%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## FUNDAMENTALS OF ECONOMIC AND SOCIAL GEOGRAPHY

**ECTS credits:** 4.5      **Weekly classes:** 2lectures+1practical exercises  
**Form of assessment:** exam      **Type of exam:** written  
**Semester:** III  
**Methodical guidance:**  
Department: "Geography, Ecology and Environmental Protection"  
FMNS  
**Lecturer:**  
Chief Assistant Professor Vladimir Karadzhov, PhD  
E-mail: [karadzhov@swu.bg](mailto:karadzhov@swu.bg)

### **Annotation:**

The course "Fundamentals of Economic and Social Geography" is optional for students majoring in "Geography and Regional Policy". The course "Fundamentals of Economic and Social Geography" aims to provide basic knowledge in this area to students and to provide scientific training and competence for their participation in regional research and development, as well as in management programs.

### **Course content:**

The lecture course "Fundamentals of Economic and Social Geography" is a mandatory discipline for students majoring in Geography and Regional Policy. The theoretical course introduces students to the scientific and theoretical foundations of economic and social geography. The macrostructure of the lecture course includes four main sections. He studies the essence of basic concepts, of social and economic geography. Its development and evolution in time and space enrich the ideas of students in this discipline. Tracks the upgrading in the different localization schools in the different stages of socio-economic development. In this way the students are acquainted with the evolution, with the conditions and the factors influencing the development of the localization. Develops the dialectical essence - growth, development, valorization. Introduces to the world of scientific and technological development, globalization and globalization. The second section is oriented to give basic knowledge separately about economic geography. The third section of lectures provides basic knowledge separately on social geography, social infrastructure, the non-manufacturing sector and the tertiary sector. The fourth section introduces the requirements of Eurostat and the main social and economic indicators in our country.

### **Teaching technology and assessment:**

The applied significance of the lecture course consists in providing extended scientific preparation, culture and competence of the students, with which they could upgrade in their education in socio - economic geography. The practical exercises aim to consolidate the acquired knowledge and expand the experimental knowledge and skills for work in modern practice and science.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## SOCIAL DEVELOPMENT OF REGIONS

**ECTS credits:** 4.5

**Form of assessment:** exam

**Semester:** III

**Departments involved:**

Department: "Geography, Ecology and Environmental Protection" FMNS

**Lecturer:**

Assoc. Prof. Emilia Patarchanova, PhD

E-mail: [emilia\\_patarchanova@swu.bg](mailto:emilia_patarchanova@swu.bg)

**Weekly classes:** 21+1pe

**Type of exam:** written

### **Annotation:**

The course "Social Development of Regions" is an elective for the students in the specialty "Geography and Regional Policy." The aim is familiarizing the students in this specialty with the basic parameters of social development indicators for identifying them and their conditioning factor. Discussed are the basic theories of social and human development, for the human and social capital, indicators of social development and their regional dimension etc. Emphasized is on different mechanisms to mitigate the differences in the social development of the regions.

The main purpose of the course is to give the necessary knowledge of the nature and importance of social development as part of the overall social and economic development of the territory. To outline its parameters, the main factors from which it is influenced and to show the regional disparities in social development in Bulgaria.

### **Course content:**

The course is structured in two sections. In the first section is examined the theoretical basis (theories and concepts) on which is built the social development, its elements and indicators of development. Clarified is the content of the basic concepts and conceptual basis of the examined problematics. The second section provides knowledge mainly by practical character. Introduction with the basic elements of social development, their significance, features, mechanisms of functioning, regional differences and policies for overcoming the adverse effects of development. Aimed is to clarify the nature and the characteristics, advantages and importance of the social development of the regions and the impact on the population and social development.

### **Teaching technology and assessment:**

The course "Social Development of the Regions" is done under the current academic curriculum of the specialty "Geography and Regional Policy", degree "Bachelor" and prepared and approved curriculum. The lecture material was developed into power point and presented with a multimedia projector. The process of teaching the lectures is connected also by using visualizations - maps, graphics, charts, and more. Practical classes give students the opportunity to connect their knowledge with practical activities. They are performed by assigning and implementation of group tasks related with working with statistical information, analysis and commentary on the regional disparities in social development in various indicators. In the training course students work on a paper or a presentation on topics linked to the considered problematics.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## GENERAL AND REGIONAL PHYSICAL GEOGRAPHY OF THE CONTINENTS-PART I

**ECTS credits:** 10

**Hours per week:** 4 les.+ 0 sem. + 0 lab. +2 practice

**Instrument for control:** examination

**Type of examination:** written

**Semester:** IV

**Organization guidance:**

Department: "Geography, ecology and environmental protection"

Faculty of Mathematics and Natural Sciences

Course status in teaching plan: Compulsory course for profile " Geography and Regional Policy".

**Lectors:**

Assistant Professor Dr. Nadezhda Nikolova

E-mail: nin@swu.bg

**Annotation:**

The course " GENERAL AND REGIONAL PHYSICAL GEOGRAPHY OF THE CONTINENTS-PART II" aims to provide students with basic knowledge about environmental conditions and natural resources of the continents as a whole and of particular regional entities, revealing the principles of the spatial diversity of environmental components and the peculiarities of their combination into complexes. The course builds up an overall vision of environmental conditions and natural resources, of the continents in general, as well as of their subdivisions – environmental regions, subregions and localities, with an accent on tourist potential.

The course provides great possibilities to obtain practical skills, such as: working with geography maps, elaboration of tourist routes to various natural features, creation of schemes, diagrams, map sketches and various graphic materials, which will enable the students to broaden their geographic insights of the world and the tourist natural resources of the continents.

**Content of the teaching course:**

The first module includes component-by-component characteristics of all the continents: relief, climate, waters, soils, vegetation and fauna. The accent is put on geographic logic and specifics.

In the second module students are introduced to the principles and methods of environmental regionalization, as well as to the peculiarities of the integral natural regional entities of various taxonomic order. Various indexes, parameters and criteria for the classification of these territories are summarized.

**Technology of teaching and ranking:**

The lecture course has its goal to build up competences for analysis and assessment of natural objects, processes and phenomena in the students, to make them able to characterize environmental regions of various magnitude. An important moment is the increase of the levels of theoretical knowledge in the student audience, through a creation of skills for spatial analysis and decision making while conducting research of various up-to-date problems related to environment and its protection.

Lessons and seminars are facilitated by the material base of Department "Geography, ecology and environmental protection". Lecture material is visualized with a computer and multimedia, education films, specialized software (Google Earth, ArcGIS), illustrative materials such as maps, schemes, satellite images, atlases, posters etc.), part of which have been created as students' diploma theses.

The study course contents 125 out-of-auditory hours, including such for self preparation of students and consultancies with teachers. The self preparation comprises:

Research of additional literature sources in libraries, Internet etc.,

Analysis and assessment of the results obtained, technical aspects of the performance of course tasks, maps, presentations, reports, etc.,

Presentation and defense of the completed tasks.

During the course an ongoing control of the knowledge of students is performed. It includes development and defense of a report or a presentation relative to lesson content. Each student prepares a set of maps of various natural features from the seven continents. The skills and knowledge gained is ranked through a colloquium in the form of a test. Ranking is executed following the six mark system in dependence of the quality of performance: Excellent 6 – above 89% , Very good 5 – 70% - 89 % , Good 4 – 50% -70%, Fair 3– 30% - 50%, Poor 2 – below 30%. Students are allowed for the examination only if they meet the requirements of SWU's Regulation of teaching activities, and if they have fulfilled the tasks related to course contents, programmed to be done during their auditory or out-of-auditory hours, when the average mark of the ongoing control is not lower than Fair 3.

## SOIL SCIENCE

**ECTS credits:** 8.0

**Weekly workload:** 3L+0se+0le+2pe+p

**Form for verification of knowledge:** continuous assessment

**Type of exam:** written

**Semester:** IV

**Departments involved:**

Geography, Ecology and Environment Department Faculty of Natural Sciences

**Lecturers:**

Assoc. Prof. Ph.D. Boyko Ivanov Kolev,

E-mail: [bkolev@swu.bg](mailto:bkolev@swu.bg)

### **Abstract:**

Soil Science is one of the compulsory subjects for students in bachelor's program in 'Geography'. The course provides students with basic knowledge of the origin and development of soils. Raised issues relating to soil science as a science and discipline, studying the soil as a natural body, and an important part of the ecosystem in which to spread and develop living terrestrial organisms, as well as the basic means of production in agriculture.

The aim of the course is to familiarize students with contemporary productions in soil science worldwide and some changes in recent years in Bulgarian agriculture. The most common task of soil science as science is based on scientific knowledge of soil to ensure the rational use and protection, with a view to maximizing yields of all crops and increase the productivity of livestock must comply with the principles of sustainable development in the industry.

### **Content subjects:**

Soil formation and soil development. Soil Properties. Soil fertility and soil classification.

### **Teaching and assessment technology:**

Students make two control tests during the semester. Requirements for the semester are regularly visited classes; perform the tasks required GPA and test average 3.00.

A periodical control is held in the semester by assigning course papers (K) and/ or papers (R) and/ or by solving tests (T).

The final grade constitutes 40% of the periodical control grade and 60% of the grade from the semestrial examination according to developed and approved in GEEP Chair system of control and grading students' competence.

## QUATERNARY GEOMORPHOLOGY AND PALEOGEOGRAPHY

**ECTS credits:** 4.5      **Weekly hours:** 2 lec. + 1 sem.  
**Knowledge checked in for of:** in-term mark and exam mark      **Examination type:** written  
**Semestre:** IV  
**Supervising entity:**  
Department of Geography, Ecology and Environmental Protection,  
FMNS  
**Lecturers:**  
Assoc. Prof. Krasimir Stoyanov, PhD  
E-mail: [krasi\\_sto@swu.bg](mailto:krasi_sto@swu.bg)

### **Annotation:**

The course "Quaternary Geomorphology and Paleogeography" aims to acquaint students majoring in "Geography" with the evolution of the terrain and the natural environment in general during the last geological period - the Quaternary. Quaternary geomorphology and paleogeography is an interdisciplinary science and uses the methods and techniques of many related natural sciences.

### **Course content:**

The study of the course "Quaternary Geomorphology and Paleogeography" deepens students' knowledge in the field of physical geography, due to the wide range of methods used in research.

A characteristic feature of the Quaternary is the emergence of humanity as the first biosocial system. Quite primitive and close to other natural populations in the beginning, it gradually became a very strong geomorphological factor that was able to transform the entire modern natural environment.

### **Teaching technology and assessment:**

The training is carried out through lectures, practical exercises and independent work. Modern interactive teaching methods are used.

During the semester, periodic control is performed by assigning a paper or presentation. Solving a test is also included. Evaluation criterion is the degree of performance of the tasks (abstract, test) taking into account: the levels of competence, analytical, understanding.

The examination procedure includes a test or a written examination after a previously distributed syllabus. The relative share of the exam in the total grade is 60%.



## GLACIOLOGY

**ECTS credits: 4.5**

**Weekly hours: 2 lec. + 1 sem.**

Knowledge checked in for of: in-term mark and exam mark

**Examination type:** written

**Semestre: IV**

Supervising entity:

Department of Geography, Ecology and Environmental Protection,

FMNS

**Lecturers:**

Assoc. Prof Dr. Emil Gachev E-mail: emil.gachev@swu.bg

### **Annotation:**

“Glaciology” is an optional discipline for specialized knowledge that aims to upgrade fundamental disciplines such as „Hydrology“ and „Climatology“ with more detail knowledge about Earth’s cryosphere, which covers about 30% of the surface of our planet. The teaching programme includes topics from classical glaciology – snow line and hionosphere, continental and mountain glaciation, small glaciers, as well as issues concerning cryosphere as a feature of a broader scale: sea ice, permafrost, history of ice ages, with an accent on Pleistocene. Attention is paid on the present and relict landforms, related to glaciation in its various forms. Mentioned is also the important problem of global warming and its impacts on glaciers around the globe.

### **Content of the teaching programme:**

The programme is divided into five parts. The first part is of introductory character: it presents glaciology as a science, cryosphere as a fundamental element of global environment, and the factors for the formation of glaciers on Earth. The second part treats the contemporary glaciation on the continents that covers 10% of dryland surface. The most prominent continental and mountain glaciers are discussed, special attention is paid on small glaciers and glacierets in Southeastern Europe and especially on the Balkan Peninsula. The third part is dedicated to cryohidrosphere – the sea ice, and the fourth on permafrost in high latitudes and altitudes of Earth. The fifth part accentuates on the history of ice ages and related landforms, preserved in many parts of the world.

The discipline corresponds with the subjects of the disciplines „Hydrology”, „Climatology”, „Oceanology“, „Quaternary paleogeography“, “Geology“ and others included in the teaching plan of the undergraduate programmes in Geography and Ecology and Environmental Protection.

### **Education techniques and evaluation principles:**

Teaching is done through lectures, seminars and work for home. Teaching is based on up-to-date methods for interactive teaching: wide use of multimedia forms and e-learning platforms. The programme includes a field visit to Vihren peak and Snezhnika glacieret in Pirin – the southernmost glacial mass in Europe.

In-term control comprises a test and elaboration of individual projects defended in front of public. Access to the final exam is granted only to students who have had at least 3.00 from in-term control, and at least 3.00 on the test. The final mark takes into account results of the in-term control, and the exam, with a ratio of 35:65.

## **GEOGRAPHY OF FORESTS IN BULGARIA**

**ECTS credits: 3**

**Form of assessment:** on-going control and exam

**Semester: IV**

**Methodological guidance:**

Department: "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturers:** Assoc. Prof. Eng. Konstantin Tyufekchiev, PhD

E-mail: [konstantinat@swu.bg](mailto:konstantinat@swu.bg)

**Hours per week:** 11+1pe

**Examination type:** written

### **Annotation:**

Course "Geography of forests in Bulgaria" is studied by students in "Geography and Regional Policy" in order to obtain the necessary knowledge of forest resources in Bulgaria, their diversity, productivity, economic and environmental importance. The course examines the historical development of forests in Bulgaria, types of business activities carried out in them and possible perspectives of development. It is an integrated approach to knowledge, protection and management of forest ecosystems in the country that uses the appropriate principles and knowledge of basic biological, managerial and social fields, such as biology, ecology, forest management, economics, sociology and others.

### **Course content:**

The course is divided into two parts. The first part deals with biology and the importance of the forest, the history of the development of the world's forests and in Bulgaria and distribution and productivity of their territory. The second part examines the anthropogenic influence on vegetation, soil and wildlife at economic activity in the forests and the types of economic activities and ecological approach to their implementation.

### **Technology of education and grading:**

The lecture was developed on Power point and presented with a video projector. The process of teaching lectures include the use of visualizations - graphics, print and copy materials, slides. The practical exercises are conducted in a laboratory, or as field trips. The continuous control takes place during the semester and includes assignments and tests. Criteria for assessing the degree of implementation of tasks, taking into account: the levels of competence, analytical, understanding. The relative weight of the continuous control from the final grade is 40%. The final grade is formed if the student' grade on the final examination is at least 3.00. The examination process includes a test or written exam on a topic of the first and second section of the contents of the course syllabus given in advance.

## FORESTRY OF BULGARIA

ECTS credits: 3

**Form of assessment:** on-going control and exam

**Semester:** IV

**Methodological guidance:**

Department: "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

Lecturers: Assoc. Prof. Eng. Konstantin Tyufekchiev, PhD

E-mail: [konstantinat@swu.bg](mailto:konstantinat@swu.bg)

Hours per week: 11+1pe

**Examination type:** written

### **Annotation:**

Course "Forestry in Bulgaria" provides the necessary knowledge of forest resources, their diversity, productivity, ecological importance and methods and ecological approach to the management of forest ecosystems in Bulgaria. It is an integrated approach to knowledge, protection and management of forest ecosystems in the country, using appropriate principles and knowledge of basic biological, managerial and social fields, such as biology, ecology, forest management, economics, sociology, etc. .

### **Course content:**

The course is taught one semester. It is divided into two parts. The first regarded biology and the importance of the forest, the history of the development of the world's forests and in Bulgaria and distribution and productivity of their territory. The second part covers the types of business activities carried out in the forest fund of Bulgaria and ecological approach to their implementation. This knowledge will enable students to gain insight into the biogeographical wealth of Bulgaria and correct approach to the management and sustainable use of the most important biological resource in the country, occupying 1/3 of its territory. This will enrich them with additional practical skills in the study of the condition and forecasting the development of bioresources in the country.

### **Technology of education and grading:**

The lecture was developed on Power point and presented with a video projector The process of teaching lectures include the use of visualizations - graphics, print and copy materials, slides. The practical exercises are conducted in a laboratory, or as field trips. The continuous control takes place during the semester and includes assignments and tests. Criteria for assessing the degree of implementation of tasks, taking into account: the levels of competence, analytical, understanding. The relative weight of the continuous control from the final grade is 40%. The final grade is formed if the student' grade on the final examination is at least 3.00. The examination process includes a test or written exam on a topic of the first and second section of the contents of the course syllabus given in advance.

## GEOGRAPHY OF TOURISM

ECTS credits: 4.5

**Form of Assessment:** exam

**Semester:** IV

**Departments involved:**

Department of Geography, Ecology and Environmental Protection

FMNS

**Lecturer:** Assoc. Prof. Emilia Patarchanova, PhD

e-mail: [emilia\\_patarchanova@swu.bg](mailto:emilia_patarchanova@swu.bg)

**Weekly workload:** 2L +1E

**Type of exam:** written

### **Annotation:**

The course "Geography of Tourism" is optional for students majoring in "Geography and Regional Policy". The main goal of the course is to provide the necessary basic knowledge about the nature and scientific and theoretical foundations of tourism as an economic sector of the tertiary sector. Emphasis is placed on the prerequisites for its emergence and development, on its peculiarities and its transformation into a mass phenomenon in society. The current state of the industry in Europe and Bulgaria is considered.

### **Course content :**

The learning content is structured in four sections. The first section is devoted to the theory and development of tourism over the centuries, the basic concepts and information resources. The second

section focuses on the factors for the development of tourism and tourist resources - classifications and features. The third section examines in detail the evolution of the enrichment of the industry with new different types and forms of tourism. The essence of each of the species and their characteristic features are clarified. The last section examines the current state of the industry in Bulgaria, the regulatory framework for its operation, material and technical base, personnel in tourism and tourist zoning of the country.

**Teaching technology and assessment:**

The training includes lectures and practical exercises. The lecture course is conducted on the basis of preliminary planning of each lecture, including an exposition, summary and discussion, as well as connections between the previous and the new lecture, connections with other disciplines and other scientific fields. The teaching process is also related to the use of visual aids - presentations, maps, graphics, flyers and more. In the exercises students also acquire skills for applying the methods of comparison and analysis in the characterization of individual tourist destinations or groups of such. Emphasis is placed on the connection between the different forms of tourism, the possibilities for their combination in specific territories and their economic effect. Students develop and defend papers. Some of the classes are held in a practical environment. Students follow pre-designed routes, which include sites with different forms of tourism. The knowledge gained in the field successfully complements and illustrates the information from the lectures, emphasizing the practical side of the issue. Each student receives a practical task that they perform individually.

The examination procedure includes a written exam – on two themes from pre-defined conspectus corresponding to the content of the curriculum. The relative weight of the total test mark is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## GEOGRAPHY OF TRANSPORT

**ECTS credits:** 4.5

**Form of Assessment:** exam

**Semester:** IV

**Departments involved:**

Department of Geography, Ecology and Environmental Protection  
FMNS

**Lecturer:** Assoc. Prof. Emilia Patarchanova, PhD

e-mail: [emilia\\_patarchanova@swu.bg](mailto:emilia_patarchanova@swu.bg)

**Weekly workload:** 2L +1E

**Type of exam:** written

### **Annotation:**

The course "Geography of Transport" is optional for students majoring in "Geography and Regional Policy". The main goal of the course is to provide the necessary basic knowledge about the nature and scientific and theoretical foundations of transport as an economic sector of the tertiary sector. Emphasis is placed on the prerequisites for its emergence and development, on its peculiarities and its transformation into a mass phenomenon in society. The current state of the industry in Europe and Bulgaria is considered.

### **Course content :**

The learning content is structured in three sections. The first section is devoted to the theory and development of transport over the centuries, the basic concepts and information resources. The second section focuses on the factors for the development of transport and the types of transport - classifications and features. The essence of each type of transport and its characteristic features, the indicators for analysis and the territorial structure are clarified. The last section examines the current state of the industry in Europe and Bulgaria. The focus is on the regulatory framework for its operation, material and technical base and infrastructure, logistics network, locations of major transport routes and more. European strategic documents and policies for the development of the transport system, intermodal routes and connections, transport corridors, etc. are commented.

### **Teaching technology and assessment:**

The training includes lectures and practical exercises. The lecture course is conducted on the basis of preliminary planning of each lecture, including an exposition, summary and discussion, as well as connections between the previous and the new lecture, connections with other disciplines and other scientific fields. The teaching process is also related to the use of visual aids - presentations, maps, graphics, flyers and more. In the exercises the students acquire skills for application of the methods of comparison and analysis in the characterization of the transport - branch and territorial structure. Emphasis is placed on the connection between the different types of transport, the possibilities for their combination in specific territories and their economic effect. Students develop and defend papers. Some of the classes are held in a practical environment. Each student receives a practical task that they perform individually. The exam procedure consists of solving a test that includes both free-answer and optional-answer questions. The relative weight of the exam from the total grade is 60%. The assessment is performed on a six-point assessment scale, according to the Higher Education Act and Ordinance № 21 of the Ministry of Education and Science / 30.09.2004. Credits are awarded only if the overall assessment is equal to or higher than Average 3, according to the credit accumulation and transfer system.

## GEOGRAPHY OF MANUFACTURING AND SERVICE SECTOR

**ECTS credits:** 10

**Form of Assessment:** exam

**Semester:** V

**Departments involved:**

Department of Geography, Ecology and Environmental Protection

FMNS

**Lecturer:** Assoc. Prof. Emilia Patarchanova, PhD

e-mail: [emilia\\_patarchanova@swu.bg](mailto:emilia_patarchanova@swu.bg)

**Weekly workload:** 4L +2E

**Type of exam:** written

### **Annotation:**

The course "Geography of manufacturing and service sector" is one of the main subjects in the training of students in "Geography and Regional Policy". The aim of the course is to make the necessary conceptual and terminological apparatus to explain the scientific nature of the theory of localization of economic sectors, industries and businesses in the geographic space, to introduce the students with the regularities in the spatial organization of economic sectors and factors for their development, to explain the regional differences in the organization and localization of production and service activities in the world economy, to clarify the meaning of geographical studies of industrial sectors.

### **Course content :**

The lectures are structured in four sections. The first section explains the subject, objectives and methods of the course. Analyzed are the main categories and terms in the socio-economic geography related to production and service, the formation of the national and world economy, its structure, the social division of labor. The section ends with a presentation of the main localization theories and schools. The next three sections are devoted to each of the three sectors of the world economy. The basic industries are studied. Clarified is the importance and influence of different groups of factors on their contemporary development, considered is the sectoral and territorial structure, revealed are the characteristics and regional differences. Highlighted are the guidelines of development.

### **Teaching technology and assessment:**

The course includes lectures and practical exercises. The course is conducted on the basis of pre-planning of each lecture, including an exposition, a summary and a discussion, as well as links between the previous and the new lecture and connections with other disciplines and other scientific fields. The process of teaching is connected with the use of visualizations

- presentations, maps, graphics, print materials and more. During the exercises students learn to analyze statistical information, to visualize trends in demographic and socio-economic development. Discussed are the trends in territorial or historical development of certain industries and sectors to provoke students' thinking about innovative ideas. Students develop and defend papers.

The examination procedure includes a written exam – on two themes from pre-defined conspectus corresponding to the content of the curriculum. The relative weight of the total test mark is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## GENERAL AND REGIONAL PHYSICAL GEOGRAPHY OF THE CONTINENTS-PART II

**ECTS credits:** 4,5

**Hours per week:** 2 les.+ 0 sem. + 0 lab. +1 practice

**Instrument for control:** examination

**Type of examination:** written

**Semester:** V

**Organization guidance:**

Department: "Geography, ecology and environmental protection

**Lectors:** Assistant Professor Dr. Nadezhda Nikolova

E-mail: [nin@swu.bg](mailto:nin@swu.bg)

### **Annotation:**

The course "GENERAL AND REGIONAL PHYSICAL GEOGRAPHY OF THE CONTINENTS-PART II" aims to provide students with basic knowledge about environmental conditions and natural resources of the continents as a whole and of particular regional entities, revealing the principles of the spatial diversity of environmental components and the peculiarities of their combination into complexes. The course builds up an overall vision of environmental conditions and natural resources, of the continents in general, as well as of their subdivisions – environmental regions, subregions and localities, with an accent on tourist potential.

The course provides great possibilities to obtain practical skills, such as: working with geography maps, elaboration of tourist routes to various natural features, creation of schemes, diagrams, map sketches and various graphic materials, which will enable the students to broaden their geographic insights of the world and the tourist natural resources of the continents.

### **Content of the teaching course:**

The first module includes component-by-component characteristics of all the continents: relief, climate, waters, soils, vegetation and fauna. The accent is put on geographic logic and specifics.

In the second module students are introduced to the principles and methods of environmental regionalization, as well as to the peculiarities of the integral natural regional entities of various taxonomic order. Various indexes, parameters and criteria for the classification of these territories are summarized.

### **Technology of teaching and ranking:**

The lecture course has its goal to build up competences for analysis and assessment of natural objects, processes and phenomena in the students, to make them able to characterize environmental regions of various magnitude. An important moment is the increase of the levels of theoretical knowledge in the student audience, through a creation of skills for spatial analysis and decision making while conducting research of various up-to-date problems related to environment and its protection.

Lessons and seminars are facilitated by the material base of Department "Geography, ecology and environmental protection". Lecture material is visualized with a computer and multimedia, education films, specialized software (Google Earth, ArcGIS), illustrative materials such as maps, schemes, satellite images, atlases, posters etc.), part of which have been created as students' diploma theses.

The study course contents 125 out-of-auditory hours, including such for self preparation of students and consultancies with teachers.

The self preparation comprises:

Research of additional literature sources in libraries, Internet etc.,

Analysis and assessment of the results obtained, technical aspects of the performance of course tasks, maps, presentations, reports, etc.,

Presentation and defense of the completed tasks.

During the course an ongoing control of the knowledge of students is performed. It includes development and defense of a report or a presentation relative to lesson content. Each student prepares a set of maps of various natural features from the seven continents. The skills and knowledge gained is ranked through a colloquium in the form of a test. Ranking is executed following the six mark system in dependence of the quality of performance: Excellent 6 – above 89% , Very good 5 – 70% - 89 % , Good 4 – 50% -70%, Fair 3– 30% - 50%, Poor 2 – below 30%. Students are allowed for the examination only if they meet the requirements of SWU's Regulation of teaching activities, and if they have fulfilled the tasks related to course contents, programmed to be done during their auditory or out-of-auditory hours, when the average mark of the ongoing control is not lower than Fair 3.

## POLITICAL GEOGRAPHY AND GEOPOLITICS

**ECTS credits:** 6.5      **Weekly classes:** 3L +1E  
**Form of Assessment:** exam      Type of exam: written  
**Semester:** V Departments involved:  
Department of Geography, Ecology and Environmental Protection  
FMNS  
Lecturer: Assoc. Prof. Emilia Patarchanova, PhD  
e-mail: [emilia\\_patarchanova@swu.bg](mailto:emilia_patarchanova@swu.bg)

### **Annotation:**

The course "Political Geography and Geopolitics" is one of the compulsory subjects in the training of students in "Geography and Regional Policy". The main aim of the course is to introduce students to the emergence and consolidation of political geography and geopolitics, as a scientific field in the system of geographical sciences; the stages through which it develops; the basic theories and geopolitical schools etc. Special attention is paid to the global and regional geopolitical patterns and their impact on contemporary international relations and the relationship between political geography, geopolitics, geostrategic and national security. It plays a key role in the formation of the political culture. It draws the attention of students to the practical application of scientific geopolitical analysis and forecasts.

### **Course content:**

Structurally the topics are grouped into three sections. The first covers the development and the periodization of political geography and geopolitics. It traces the evolution of the basic concepts, theories and schools associated with politic-geographical knowledge. It focuses on the more progressive scholars and the established by them directions, which have had a significant impact not only on the development of political geography, but also on the political culture and behavior of the mankind. The second section focuses on the emergence and development of the state in geographic space, types, functions and stability of state borders. It is justified on the geopolitical classification of the states in the world. Included are also themes about the problems of the geopolitical balance of the modern world, international organizations, the protection of national interests and national security of the state. The third section analyzes the politic-geographical and geopolitical term basic and key regions of the world.

### **Teaching technology and assessment**

The course includes lectures and practical exercises. The course is conducted on the basis of pre planning of each lecture, including an exposition, a summary and a discussion, as well as links between the previous and the new lecture and connections with other disciplines and other scientific fields. The process of teaching is connected with the use of visualizations, presentations, maps, graphics, print materials and more. During the exercises students learn to apply the algorithm for political and geographical analysis, to objectively assess the existing global and regional political and geographical structure of the world and to map studied processes and phenomena, etc. Discussed are geopolitical trends in the development of global community and individual regions. Students develop and defend papers.

The examination procedure includes a written exam – on two themes from pre-defined conspectus corresponding to the content of the curriculum. The relative weight of the total test mark is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.



## GENERAL AND REGIONAL PHYSICAL GEOGRAPHY OF THE CONTINENTS – II PART

**ECTS credits:** 4,5

**Hours per week:** 2 les.+ 0 sem. + 0 lab. +1 practice

**Instrument for control:** examination

**Type of examination:** written

**Semester:** V

**Organization guidance:**

Department: "Geography, ecology and environmental protection

**Lectors:** Assistant Professor Dr. Nadezhda Nikolova

E-mail: [nin@swu.bg](mailto:nin@swu.bg)

### **Annotation:**

The course "General and regional physical geography of the continents – II part" aims to provide students with basic knowledge about environmental conditions and natural resources of the continents as a whole and of particular regional entities, revealing the principles of the spatial diversity of environmental components and the peculiarities of their combination into complexes. The course builds up an overall vision of environmental conditions and natural resources, of the continents in general, as well as of their subdivisions – environmental regions, subregions and localities, with an accent on tourist potential.

The course provides great possibilities to obtain practical skills, such as: working with geography maps, elaboration of tourist routes to various natural features, creation of schemes, diagrams, map sketches and various graphic materials, which will enable the students to broaden their geographic insights of the world and the tourist natural resources of the continents.

### **Content of the teaching course:**

The first module includes component-by-component characteristics of all the continents: relief, climate, waters, soils, vegetation and fauna. The accent is put on geographic logic and specifics.

In the second module students are introduced to the principles and methods of environmental regionalization, as well as to the peculiarities of the integral natural regional entities of various taxonomic order. Various indexes, parameters and criteria for the classification of these territories are summarized.

### **Technology of teaching and ranking:**

The lecture course has its goal to build up competences for analysis and assessment of natural objects, processes and phenomena in the students, to make them able to characterize environmental regions of various magnitude. An important moment is the increase of the levels of theoretical knowledge in the student audience, through a creation of skills for spatial analysis and decision making while conducting research of various up-to-date problems related to environment and its protection.

Lessons and seminars are facilitated by the material base of Department "Geography, ecology and environmental protection". Lecture material is visualized with a computer and multimedia, education films, specialized software (Google Earth, ArcGIS), illustrative materials such as maps, schemes, satellite images, atlases, posters etc.), part of which have been created as students' diploma theses.

The study course contents 125 out-of-auditory hours, including such for self preparation of students and consultancies with teachers.

The self preparation comprises:

- Research of additional literature sources in libraries, Internet etc.,
- Analysis and assessment of the results obtained, technical aspects of the performance of course tasks, maps, presentations, reports, etc.,
- Presentation and defense of the completed tasks.

During the course an ongoing control of the knowledge of students is performed. It includes development and defense of a report or a presentation relative to lesson content. Each student prepares a set of maps of various natural features from the seven continents. The skills and knowledge gained is ranked through a colloquium in the form of a test. Ranking is executed following the six mark system in dependence of the quality of performance: Excellent 6 – above 89% , Very good 5 – 70% - 89 % , Good 4 – 50% -70%, Fair 3– 30% - 50%, Poor 2 – below 30%. Students are allowed for the examination only if they meet the requirements of SWU's Regulation of teaching activities, and if they have fulfilled the tasks related to course contents, programmed to be done during their auditory or out-of-auditory hours, when the average mark of the ongoing control is not lower than Fair 3.

## CLIMATOLOGY OF BULGARIA

**ECTS credits:** 4.5

**Form of control:** in-term control and exam

**Semester:** V

**Leading organization:**

Department of Geography, Ecology and Environmental Protection

Faculty of Mathematics and Natural Sciences

**Lectors:** Associated Professor Dr. Krasimir Stoyanov

e-mail: [krasi\\_sto@swu.bg](mailto:krasi_sto@swu.bg)

**Hours per week:** 2 les. + 1 pract.

**Examination type:** written

### **Annotation:**

The teaching course in "Climatology of Bulgaria" aims to acquaint the students of "Geography and regional policy" with the peculiarities of formation and territorial differentiation of climate of Bulgaria. The course is directly related to the course "Climatology" studied in the first semester.

### **Content of the teaching course:**

In the course "Climatology of Bulgaria" study the factors shaping the climate of the country and a detailed review of the regime and the geographic distribution of the main climatic elements - temperature, rainfall, winds, atmospheric pressure, humidity, snow and more.

Special attention is paid to the weather, factors that define it and their characteristics.

During the course students get acquainted with the peculiarities of the climate division of the country.

Significant space is dedicated to the contemporary climate fluctuations and the impact of changes on the economic life of the country.

### **Technology of teaching and ranking:**

Teaching in climatology is performed in concordance with the current teaching plan of the profile "Geography and regional politic", B. Sc. degree.

Lessons are taught in a lecture hall, where theoretical facts, processes and phenomena are discussed. Then practical tasks are appointed to students to do them individually. A large number of practical works is included in the plan.

During the teaching course students develop a thesis or make a presentation on issues related to climatology.

Examination procedure comprises a test or a written exam following a conspectus that has been preliminarily supplied to students. The relative share of the exam in the final mark is about 60%.

## HYDROLOGY OF BULGARIA

**ECTS credits:** 4.5

**Control of study:** in-term control and examination

**Semester:** V

**Organizational guidance:**

Department of Geography, Ecology and Environmental Protection

Faculty of Mathematics and Natural Sciences

**Lectors:** Assoc. Prof. Dr. Emil Gachev

e-mail: [emil.gachev@swu.bg](mailto:emil.gachev@swu.bg);

**Weekly hours:** 2 les. + 1 pract.

**Examination type:** written

### **Annotation:**

The teaching course “Hydrology of Bulgaria” is an optional subject, which introduces students to the climate of Bulgaria – factors for the formation of waters, types of waters: underground, river, lake, Bulgarian territorial waters in the Black sea. The course treats issues related to water resources and their protection and management. The subject appears as a continuation and upgrade of the knowledge gained in the fundamental subject “Hydrology“. In sets up the foundations of the obligatory competences needed by any specialist in Physical geography in Bulgaria.

### **Content of the teaching course:**

In general the teaching course “Hydrology of Bulgaria” is constituted of several thematic parts. The first part accentuates on the factors controlling the formation of waters in Bulgaria and the water diversity in our country. The second, largest part, focuses on river waters: hydrography, hydrometry, river regimes, genesis of flow, hydrological regionalization. The third part is dedicated to underground waters: ground, fissure, mineral, karst waters. The fourth part is about lakes: factors for their formation, lake types, a review of the most prominent lakes in Bulgaria. The fifth part includes issues from the hydrology of the Black sea: dynamics and quality of sea water, thermal and chemical stratifications etc. The last part deals with problems of water resources, their use and protection, and risk assessment related to water hazards.

Obtaining of practical skills also takes part in the teaching course. Students make individually a set of hydrology maps of Bulgaria, where the spatial diversity of the main water types is shown. Hydrogrammes are also drawn for representative stations of each hydrological region.

### **Teaching and ranking technology**

Teaching process in the subject “Hydrology of Bulgaria” is performed in concordance with the operating teaching plan of the undergraduate programme in «Geography and Regional Policy».

Lectures are taught in a hall where theoretical facts, processes and phenomena are discussed. Individual tasks are appointed to each student during the practice seminars.

An in-term control mark is evaluating the results of student's activities during the term.

Allowed for the exam are only students whose in-term control mark is at least Fair 3.

Examination procedure comprises a written exam on a conspect preliminarily supplied to students. Each student individually demonstrates knowledge on two topics from the conspect, which are selected by the teacher. The share of the examination mark in the final mark of the course is 65%.

## GEOMORPHOLOGY OF BULGARIA

**ECTS credits: 4.5**

**Hours per week: 2 les. + 1 pract.**

**Form of control:** in-term control and exam

**Examination type:** written

**Semester: V**

**Leading organization:**

Department of Geography, Ecology and Environmental Protection Faculty of Mathematics and Natural Sciences

**Lectors: Associated Professor Dr. Krasimir Stoyanov, PhD**

e-mail: [krasi\\_sto@swu.bg](mailto:krasi_sto@swu.bg)

### **Annotation:**

The teaching course in Geomorphology of Bulgaria aims to make students from the profile “Geography and regional politic” familiar to the genesis, evolution and processes that have formed the features of Earth’s relief. The course is closely related to geology, geodesy, topography, archeology, soil science, etc.

### **Content of the teaching course:**

Relief is formed under the combined action of two groups of processes: endogenic (tectonic movements and volcanism) and exogenic (weathering, mass movement, erosion, exaration, karstification, deflation, abrasion). In result relief’s morphosculptural and morphostructural features are developed.

During practices a special attention is paid to obtain fundamental practical skills in fieldwork and laboratory techniques of research in geomorphology, more particularly on geomorphological mapping in various scales. Other practiced skills are: work with a geological compass, field determination of the main types of rocks and minerals, discovery and determination of landforms related to tectonics, barometric nivelation and others, which are described in the Guidebook, especially published for this purposes. Students gain also competences in creation and analysis of landform profiles, landform morphometry etc.

It is recommended to organize one-day or several day field visits for the direct observation of geological and geomorphological features – Stobs pyramids, Kozuh, Sedemte ezera in Rila, Iskar’s gorge, Belogradchishki skali, Rodopi, Pirin, the valleys of Struma and Mesta, Vlahina mountain etc. Geological guidebooks can be used in support of such visits.

### **Technology of teaching and ranking:**

Teaching in Geomorphology of Bulgaria is performed in concordance with the current teaching plan of the profile “Geography and regional politic”, B. Sc. degree.

Lessons are taught in a lecture hall, where theoretical facts, processes and phenomena are discussed. Then practical tasks are appointed to students to do them individually. A large number of practical works is included in the plan.

During the teaching course students develop a thesis or make a presentation on issues related to geomorphology.

Examination procedure comprises a test or a written exam following a conspect that has been preliminarily supplied to students. The relative share of the exam in the final mark is about 60%.

## OCEANOLOGY

**ECTS credits** 4.5

**Weekly hours:** 2 lec + 1p

**Knowledge control in form of:** in-term control and final exam    **Exam type:** written

**Semestre:** V

**Entity in charge of education:**

Department of Geography, Ecology and Environmental Protection,  
FMNS

**Lecturers:** Assoc. Prof. Dr. Emil Gachev

e-mail: [emil.gachev@swu.bg](mailto:emil.gachev@swu.bg);

### **Annotation:**

The teaching course in Oceanography provides special knowledge with the aim to upgrade knowledge obtained in the fundamental discipline “Hydrology”, adding particular and detail knowledge about World Ocean. As the programme of the fundamental discipline is focused most of all on river waters, there the extensive topic of the ocean, its processes, resources and ecological problems it has been facing, remains almost uncovered. It is the main object of the present discipline to fulfill this gap. Oceanology is extraordinary important in recent times, as the ocean occupies more than two thirds of Earth’s surface, and is still far not enough researched. Another issue of global importance is still unsolved – how will the ocean react to progressing climate change?

The discipline corresponds with the subject of the disciplines „Hydrology“, „Climatology“, “Glaciology”, “Physical Geography of Bulgaria” and others, which are comprised in the teaching plan of the undergraduate programme.

### **Discipline contents:**

The teaching material is structured in four parts:

The largest, first part (21 lecture hours) is dedicated to World Ocean. A detail reference is made to the spatial division, structure and evolution of World Ocean. Sea water properties and motion: waves, currents, tides, are studied in detail. Specialized knowledge is provided of the configuration and structure of ocean bottom, of the interactions between ocean and Earth’s climatic system. Special attention is paid on the impact of sea on landforms.

The second part contains information about ocean resources – hydro and bioresources, and how extremely important they are for Nature and people.

The third, regional part, is dedicated to the Black sea, and in particular the Bulgarian coast, and to the Mediterranean, as a sea with increasing economical and social importance for Bulgaria and Bulgarian people.

The fourth, conclusion part, is dedicated to the utilization and protection of the sea. Introduction is also done to the international sea and ocean legislation, in general and for particular areas.

During practice hours student educate about sea maps and loci, draw maps of seas and oceans, study in detail types of shores, and present to the course results of individual course projects. Terrain practice is not assumed in the course, but in case students have the desire it is possible to organize a several day terrain activity on the Aegean coast, near the town of Kavala (Greece).

### **Teaching and evaluation techniques**

Teaching in Oceanology is done according to the actual teaching plan of the undergraduate programme in Ecology and Environmental Protection.

Studies are organized in a lecture hall, where theoretical facts, processes and phenomena are discussed. Film projections are also included. The core of the examination procedure is the written final exam that follows preliminarily given question list. Each student individually writes on two topics from the list.

On the basis of the course task and the other tasks during seminary practices, students are awarded in-term control marks between 6.00 (excellent) and 2.00 (poor). Only students with an in-term mark not lower than 3.00 are allowed to the final exam. The final mark is calculated from the values for in-term control and the final exam, following a ratio of 40/60.

## THEMATIC CARTOGRAPHY

**ECTScredits:** 4.5

**Weekly workload:** 2л+0cy+0лy+1пy+p

**Form for verification of knowledge:** exam

**Type of exam:** written

**Semester:** V

**Under methodical guidance of:** Department of Geography and Ecology and Environmental Protection

Faculty of Mathematics and Natural Science

**Lectures:**

Assist. Eng. Galina Bezinska, PhD

E-mail: [galinabezinska@swu.bg](mailto:galinabezinska@swu.bg)

### **Annotation:**

The course "Thematic Cartography" is optional and it is studied by the students in "Geography and Regional Policy". Its aim is the students to get acquainted with the increasing role of the thematic cartography in the planning, management and protection of the environment in various scientific fields. The course will help future professionals of geography to read and interpret correctly the thematic content of different maps with natural geographic and socio-economic nature. The practical exercises are meant to ensure the students gain skills to make thematic maps in a digital environment alone and skills for working with GIS software.

### **Course content:**

The lectures are structured in two parts: "Nature of the thematic cartography" and "Basic thematic maps".

Material studied in the first part includes the following: 1) Introduction to thematic cartography with examining questions about the nature, objects, methods, purpose and classification of the thematic maps; 2) Methods for classification and processing of thematic data; 3) Thematic mapping processes discussed in the context of digital procedures for planning and compilation of the maps; 4) Cartographic methods for visualisation of the thematic content.

The second part emphasizes the basic types of thematic maps - natural and socioeconomic maps. Discussed are issues related to the subclassification of maps, objects of mapping and features for their designing, editing and compilation.

The lectures in the second part are provided as a seminar with the participation of the students. The aim is to apply their knowledge in various geographical disciplines (natural and socio-economic) and give cartographic expression of the geographic objects and phenomena.

The practical exercises include working on a course project in which the students apply the acquired theoretical knowledge and skills for editing, compilation and designing of thematic maps on their chosen theme.

### **Teaching technology and assessment:**

The lectures and exercises are conducted solely on the equipment basis of the Department „Geography Ecology and Environmental Protection”. To illustrate the lecture material are used: computer with video – projector, study videos, specialized software (ArcGIS), additional materials (tables, diagrams and maps), some of which have been developed as students’ course and diploma works.

For the practical exercises is used a multimedia computer lab. For the normal conduct of the seminars the students are divided into groups and each student has a separate computer.

During the semester periodically the students are assigned individual tasks or testing. The tasks are fully related to digital work environment with specialized software for mapping and using of maps.

The students are admitted to the exam with a minimal note of 3, which is formed as the average of all notes received during the semester. The final note is 40% of the periodic evaluation and 60% of the semester exam according to the department’s developed and adopted system for control of the students’ knowledge and skills.

## TOURIST MAPPING

**ECTScredits:** 4.5

**Weekly workload:** 2л+0cy+0лy+1пy+p

**Form for verification of knowledge:** exam

**Type of exam:** written

**Semester:** V

Under methodical guidance of: Department of Geography and Ecology and Environmental Protection

Faculty of Mathematics and Natural Science

**Lecturers:**

Assist. Eng. Galina Bezinska, PhD

E-mail: [galinabezinska@swu.bg](mailto:galinabezinska@swu.bg)

### **Annotation:**

The course "Thematic Cartography" is optional and it is studied by the students in "Geography and Regional Policy". Its aim is the students to get acquainted with the increasing role of the tourist cartography.

The course will help future professionals to read and interpret correctly the contents of different types of tourist maps that they will use in their future work. The practical exercises are meant to ensure the students gain skills to make tourist maps in the digital environment alone and skills for working with GIS software.

### **Course content:**

The tourist maps represent big part of the thematic maps that are more available to users. Due to their diversity and specificity, they are considered separately from the course "Thematic Cartography" but in the context of digital procedures for the design and preparation of thematic maps.

The lectures are structured in two parts: "Nature tourist cartography" and "Tourist maps". The lectures in the first part include: 1) Introduction to tourist cartography - nature, object methods, purpose and classification of tourist maps. 2) Processes in the tourist mapping: planning, preparation, symbol systems at the tourist maps, design and publish of the maps features of their mapping. 3) Data sources for the tourist maps and their processing.

In the second part "Tourist maps" are considered the main groups of tourist maps (road maps for road and hiking maps, mountain maps, health and holiday resorts, etc.) and a variety of cartographic methods for visualisation of their content. Attention is also paid to the construction of tourist information systems and their features - mapping procedures, content and structure of the database.

The practical exercises include working on a course project in which the students apply their theoretical knowledge and skills for editing, compiling and designing their chosen tourist map.

### **Teaching technology and assessment:**

The lectures and exercises are conducted solely on the equipment basis of the Department „Geography Ecology and Environmental Protection”. To illustrate the lecture material are used: computer with video – projector, study videos, specialized software (ArcGIS), additional materials (tables, diagrams and maps), some of which have been developed as students' course and diploma works.

For the practical exercises is used a multimedia computer lab. For the normal conduct of the seminars the students are divided into groups and each student has a separate computer. During the semester periodically the students are assigned individual tasks or testing.

The tasks are fully related to digital work environment with specialized software for mapping and using of maps.

The students are admitted to the exam with a minimal note of 3, which is formed as the average of all notes received during the semester. The final note is 40% of the periodic evaluation and 60% of the semester exam according to the department's developed and adopted system for control of the students' knowledge and skills.



## REGIONAL PHYSICAL GEOGRAPHY OF BULGARIA

Code: 06.90.2.10.3-31

**ECTS credits:** 10

**Course hours per week:** 4l+0se+2pe

**Form of assessment:** ongoing assessment and papers

**Exam:** written

**Semester:** VI

**Methodological guidance:**

Department "Geography, Ecology and Environmental Protection" Faculty of Mathematics and Natural Sciences

**Lecturer:**

Assoc. Prof. Dr. Ivan Drenovski

E-mail: idri@swu.bg

### **Annotation:**

Course "Physical Geography of Bulgaria" is one of the fundamental in the preparation of students from the specialty. It aims to provide basic knowledge about the history and formation factors, and specific characteristics of the components of the natural environment in Bulgaria - topography, climate, water, vegetation, animals, soils, and the peculiarities of their regional differentiation in the country.

### **Course content:**

Regularities of genesis, spatial distribution and characteristics of major morphostructures and forms of relief, climate elements in groundwater and surface water, soil, vegetation cover and wildlife in the country are explained, against the background of general geographic patterns occurring in European and global scale. Students get acquainted with the methods and principles of physical geography regionalization, and the individual characteristics of complex regional units of different taxonomic rank. Their genesis, structure, natural resources potential and the extent and trends of anthropogenic modification are interpreted. During practical works students build and improve their skills to gather information from various sources for its analysis and synthesis, comparison and interpretation, and for teamwork.

### **Expected results:**

Building competencies for evaluating objects, processes, events, to take decisions, substantiated presentation of landmarks. Appropriate behaviours and moral and aesthetic values for the protection of the environment are formed. This helps to increase the level of preparation of students to perform independent research on topical issues of the preservation of natural heritage, in order to achieve sustainable socio-economic development of the regions in the country.

### **Technology of teaching and evaluation:**

Training is conducted through 60 hours of lectures, 30 hours practical training and 210 hours individual work. Teaching is based on modern interactive teaching methods - extensive use of multimedia forms, and e-learning platform. The current control includes assessment of prepared schematic map, one written thesis / presentation and one semester test. Exam to be admitted only students who have received a minimum Satisfactory 3.00 from current control. The final evaluation reports the results of the ongoing assessment and the performance of the semester exam in the ratio 40%:60%.

## **SOCIO-ECONOMIC GEOGRAPHY OF BULGARIA**

**ECTS credits:** 10      **Weekly classes:** 4lectures+2practical exercises  
**Form of assessment:** exam      **Type of exam:** written  
**Semester:** VI  
**Methodical guidance:**  
Department: "Geography, Ecology and Environmental Protection"  
FMNS  
**Lecturer:**  
Chief Assistant Professor Vladimir Karadzhev, PhD  
E-mail: [karadzhev@swu.bg](mailto:karadzhev@swu.bg)

### **Annotation:**

The course "Socio-economic geography of Bulgaria" is a mandatory discipline for students majoring in Geography and Regional Policy. Its scientific and educational content is developed and applied in Bulgaria, which allows in the educational process to consider, explain and study the general and above all regional geopolitical, socio-economic and environmental problems of the country. In this sense, the course "Socio-economic geography of Bulgaria" is fundamental to the professional competence and practical skills of graduates of higher geographical education.

### **Course content:**

The course "Socio-economic geography of Bulgaria" aims to provide basic knowledge in this field to students and to provide scientific training and competence for their participation in regional research and forecasting, as well as in management programs..

### **Teaching technology and assessment:**

The training includes lectures and practical exercises. The applied significance of the lecture course is to provide extended scientific training, culture and competence of the students, with which they could upgrade over time in this field.

The practical exercises aim to consolidate the acquired knowledge and expand experimental knowledge and skills for work in modern practice and science..

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## LANDSCAPE KNOWLEDGE

Code: 06.90.2.10.3-33

**ECTS credits:** 10

**Course hours per week:** 41+0se+2pe

**Form of assessment:** ongoing assessment and papers

**Exam:** written

**Semester:** VI

**Methodological guidance:**

Department "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturer:**

Assoc. Prof. Dr. Ivan Drenovski

Department "Geography, Ecology and Environmental Protection"

E-mail: idri@swu.bg

### **Annotation:**

Course "Landscape knowledge" is designed to provide students with basic theoretical knowledge about the structure and functioning of the landscape sphere of the Earth and its constituting natural complexes - landscapes as an interconnected whole, as a result of the combination of all natural components in a given area. Acquired knowledge can be put in practical use in management of natural resources, assessment of environmental impact assessment (EIA), Territorial and Urban Landscape planning.

### **Course content:**

The information about the genetic order of occurrence and the hierarchy of natural components (factors) is given. Clarifies the nature, characteristics and differences between the main geographical regularities of the Earth - zonality and azonality. Particular attention is paid to the nature and direction of relationships between the different components as a prerequisite to follow the sequence of changes in the landscape and predict the expected changes. To provide basic knowledge about the sustainability of natural components and systems against various types of human activities as a prerequisite for evaluating and limiting the negative changes in the landscape and the manifestations and consequences of certain unfavourable processes in nature. Students get acquainted with the methods and principles of landscape classification and regionalization, as well as differences in the characteristics of the typology and individual (regional) units from different taxonomic rank. The genesis, structure, natural resources potential and the extent and trends of anthropogenic modification are discussed. During the practical exercises students build and improve skills to gather information from various sources for its analysis and synthesis, comparison and interpretation of teamwork.

### **Expected results:**

Building up of competencies for analysis of links between natural components and complexes, for characteristic of landscape types and individuals, for assessment of the landscape's potential and sustainability and evaluating the degree of anthropogenic stress and change. Increasing the students' theoretical knowledge and formation of skills for the preparation of landscape profiles, read the legend of the landscape maps, and to perform independent research on current issues of environmental protection, in order to achieve sustainable socio-economic region development in the country. Building competencies for evaluating objects, processes, events, to take decisions, substantiated presentation of landmarks. Appropriate behaviours and moral and aesthetic values for the protection of the environment are formed.

### **Technology of teaching and evaluation:**

Training is conducted through 60 hours of lectures, 30 hours practical training and 210 hours individual work. Teaching is based on modern interactive teaching methods - extensive use of multimedia forms, and e-learning platform. The current control includes assessment of prepared schematic map, one written thesis / presentation and one semester test. Exam to be admitted only students who have received a minimum Satisfactory 3.00 from current control. The final evaluation reports the results of the ongoing assessment and the performance of the semester exam in the ratio 40%:60%.

## **GEOGRAPHY OF THE COUNTRY - PART II (EUROPEAN UNION)**

**ECTS credits:** 6.5

**Form of Assessment:** exam

**Semester:** VII

**Departments involved:**

Department of Geography, Ecology and Environmental Protection

FMNS

**Lecturer:**

Assoc. Prof. Emilia Patarchanova, PhD

e-mail: [emilia\\_patarchanova@swu.bg](mailto:emilia_patarchanova@swu.bg)

**Weekly classes:** 3L +1E

**Type of exam:** written

### **Annotation:**

The course "Geography of countries - II (European Union)," is one of the main subjects in the training of students in "Geography and Regional Policy". The aim of the course is to acquaint students with the greatest political and economic organization in Europe

the European Union, its main institutions and policies. Studied are selected European countries by an approved algorithm, their resource potential, political and administrative structure, socio-economic development and regional structure.

### **Course content:**

Lectures are structured in two sections. The first examines the occurrence and stages of the EU enlargement, principles, the aims and mechanisms by which it operates. Special attention is paid to the institutions with coordinating and management functions in the EU, as well as geo-demographic and ethno-religious characteristic and structure of the EU countries. The issues and trends in the EU are highlighted, particularly those related to his recent enlargements. Evaluated is the importance of the common European policy as a significant stabilizing geopolitical factor.

The second part introduces students to European countries. Special attention is paid to regional differences in the level of socio-economic development between the countries, to the characteristics of natural conditions and resources of the demographic potential and polity. Analyzed is the effectiveness of measures and programs to overcome the internal regional differences between the EU member countries. Evaluated is the importance of the overall European economy in the world economy, and is made a comparison with other global economic centers and regions. The development trends are outlined.

### **Teaching technology and assessment**

The course includes lectures and practical exercises. The course is conducted on the basis of pre planning of each lecture, including an exposition, a summary and a discussion, as well as links between the previous and the new lecture and connections with other disciplines and other scientific fields. The process of teaching is connected with the use of visualizations

- presentations, maps, graphics, print materials and more. During the exercises students learn to analyze statistical information, to visualize trends in demographic and socio-economic development of the countries. Discussed are the trends in territorial or historical development of the countries and is predicted their future. Students develop and defend papers.

The examination procedure includes a written exam – on two themes from pre-defined conspectus corresponding to the content of the curriculum. The relative weight of the total test mark is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## GEOGRAPHIC INFORMATION SYSTEMS

**ECTS credits:** 8

**Form for verification of knowledge:** exam

**Semester:** VII

**Weekly workload:** 3л+0cy+0ly+2py+p

Type of exam: **written**

Under methodical guidance of: Department of Geography and Ecology and Environmental Protection

Faculty of Mathematics and Natural Science

**Lecturers:**

Assoc prof. Penka Kastreva, PhD, Assist. Galina Bezinska, PhD

E-mail: [penkakastreva@swu.bg](mailto:penkakastreva@swu.bg), [galinabezinska@swu.bg](mailto:galinabezinska@swu.bg)

### **Annotation:**

The course "Geographic Information Systems" for the specialty "Geography and Regional Policy" is compulsory. The course presents the general concepts of construction and implementation of GIS. The studied material is directly oriented to the systems for mapping, management, analysis and decision support in the management of geographical objects and areas that have local, regional and global distribution.

The practical exercises are intended to provide specific knowledge and skills to work with custom GIS software.

### **Course content:**

*GIS Basics:* types of systems, GIS components, advantages, technical and software service; Database: Types of GIS data; Spatial data - Vector & Raster Data Models and File Formats, Coordinate systems and map projections, the time factor in GIS; Non spatial data - Attribute data models & Attribute Data Management, metadata; Key features of GIS database; *Basic Operations Data:* Spatial Data Input. Joining Spatial Data and Attribute Data.

Coordinate transformations. Data anagement. Data Display;

*Geographical analysis:* Concept of geographical analysis. Cartographic algebra.

Spatial, network, raster and tabular analyzes;

*GIS Applications.*

The practical exercises include: 1) introduction to the interface and functionality of ArcGIS; 2) selection of data types and structure of data; 3) the application of modern methods of storage and data management - input, processing and presentation of graphics and quantitative and qualitative attribute data; 4) examples to perform geographic analysis in the solving of various problems in the management of economic life in the country

### **Teaching technology and assessment:**

The lectures and exercises are conducted solely on the equipment basis of the Department „Geography Ecology and Environmental Protection”. To illustrate the lecture material are used: computer with video – projector, study videos, specialized software (ArcGIS), additional materials (tables, diagrams and maps), some of which have been developed as students’ course and diploma works.

For the practical exercises is used a multimedia computer lab. For the normal conduct of the seminars the students are divided into groups and each student has a separate computer. During the semester periodically the students are assigned individual tasks.or testing.

The tasks are fully related to digital work environment with specialized software for mapping and using of maps.

The students are admitted to the exam with a minimal note of 3, which is formed as the average of all notes received during the semester. The final note is 40% of the periodic evaluation and 60% of the semester exam according to the department’s developed and adopted system for control of the students’ knowledge and skills.

## ENVIRONMENTAL PROTECTION POLICY IN BULGARIA

Code: 06.90.2.10.II.36 - VII.1 - 1

**ECTS credits:** 4,5

**Course hours per week:**21+0se+1pe

**Form of assessment:** ongoing assessment and papers

**Exam:** written

**Semester:** VII

**Methodological guidance:**

Department "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturer:**

Assoc. Prof. Dr. Ivan Drenovski

Department "Geography, Ecology and Environmental Protection"

E-mail: idri@swu.bg

### **Annotation:**

Environmental protection is among the most important priorities of the modern society. The course "Environmental Protection Policy in Bulgaria" aims to introduce students to the nature and content of state policy on environmental protection in the context of the policies of the UN and the EU.

### **Course content:**

The course makes a comprehensive review of all elements of the system ensuring the successful implementation of an effective state policy on environmental protection in Bulgaria. In the broadest sense environmental policy is an interconnected system of actions and management of environment in view of its rational use, reproduction and conservation. The purpose of this policy is to preserve the natural resources of the country and ensuring healthy living, working and recreation of its population in the context of sustainable development. Its mandatory elements are the construction and improvement of regulations and the existence of institutions which provide constant monitoring and assessment of the state of the environment, making management decisions and their implementation.

### **Expected results:**

To acquire knowledge about main legal norms and institutions responsible for conducting policy in environmental protection in Bulgaria. To build up and improve students' skills for teamwork and to obtain information from various sources for analysis, comparison and interpretation.

### **Technology of teaching and evaluation:**

Training is conducted through 30 hours of lectures, 15 hours practical training and 90 hours individual work. Teaching is based on modern interactive teaching methods - extensive use of multimedia forms, and e-learning platform. The current control includes assessment of prepared schematic map, one written thesis / presentation and one semester test. Exam to be admitted only students who have received a minimum Satisfactory 3.00 from current control. The final evaluation reports the results of the ongoing assessment and the performance of the semester exam in the ratio 40%:60%.

## REGIONAL GEOECOLOGICAL PROBLEMS IN BULGARIA

Code: 06.90.2.10.II.36 - VII.1 - 2

**ECTS credits:** 4,5

**Course hours per week:** 2l+0se+1pe

**Form of assessment:** ongoing assessment and papers

**Exam:** written

**Semester:** VII Methodological guidance:

Department "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturer:**

Assoc. Prof. Dr. Ivan Drenovski

Department "Geography, Ecology and Environmental Protection"

E-mail: idri@swu.bg

### **Annotation:**

The course "Regional geoecological problems in Bulgaria" is designed to provide students with basic theoretical knowledge about the structure and functioning of the landscape sphere of the Earth and its constituting natural complexes - landscapes as an interconnected whole, as a result of the combination of all natural components in a given area. Acquired knowledge can be put in practical use in management of natural resources, assessment of environmental impact assessment (EIA), Territorial and Urban Landscape planning.

### **Course content:**

The discipline is studied in order to get the most acute and pressing geo-ecological problems in different regions of the country. In the majority of cases they are related to previous or current pollutions of environment as a result of various industrial activities such as mining and flotation of minerals, development of metallurgical, chemical and other industries. In lesser extent construction, transport, agriculture and tourism can also lead to the emergence of serious conflicts related to environmental protection and biodiversity. The genesis, structure, natural resources potential and the extent and trends of anthropogenic modification in given regions in Bulgaria are discussed.

### **Expected results:**

Building up of competencies for analysis of links between natural components and complexes, for characteristic of landscape types and individuals, for assessment of the landscape's potential and sustainability and evaluating the degree of anthropogenic stress and change. Increasing the students' theoretical knowledge and formation of practical skills for the preparation of landscape profiles, read the legend of the landscape maps, and to perform independent research on current issues of environmental protection, in order to achieve sustainable socio- economic region development in the country. Building up the competencies for evaluation of anthropogenic impact and practical skills to propose decisions about mitigation of its negative consequences.

### **Technology of teaching and evaluation:**

Training is conducted through 30 hours of lectures, 15 hours practical training and 90 hours individual work. Teaching is based on modern interactive teaching methods - extensive use of multimedia forms, and e-learning platform. The current control includes assessment of prepared schematic map, one written thesis / presentation and one semester test. Exam to be admitted only students who have received a minimum Satisfactory 3.00 from current control.

The final evaluation reports the results of the ongoing assessment and the performance of the semester exam in the ratio 40%:60%.

## GLOBAL CLIMATE CHANGES

Code: 06.90.2.10.II.36 - VII.1 - 3

**ECTS credits:** 4,5

**Course hours per week:** 21+0se+1pe

**Form of assessment:** ongoing assessment and papers

**Exam:** written

**Semester:** VII

**Methodological guidance:**

Department "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturer:**

Assoc. Prof. Dr. Ivan Drenovski

Department "Geography, Ecology and Environmental Protection"

E-mail: idri@swu.bg

### **Annotation:**

Course "Global Climate Change" is taught of students in specialty "Geography and Regional Policy" in order to obtain knowledge of climate change on our planet and the challenges it has placed human society today. The course provides an overview of climate change in geological history of the Earth, in the historical period to the present day. Information is given about the main causes of climate change - natural (astronomical, geological, tectonic, circulation, biological, etc.) and anthropogenic (greenhouse gas emissions from transport, industry, agriculture and utilities, deforestation and many others).

### **Course content:**

Clarifies nature of the greenhouse effect and follow the trends of change in the concentration of greenhouse gases in Earth's atmosphere. The observed in recent decades, global warming and its immediate and future consequences on a regional scale, their impact on the environment, economy and everyday life is considered. The term "carbon footprint" is introduced and the history of uniting the efforts of all mankind to reduce greenhouse gas emissions (Kyoto Protocol, the Agreement of Paris) is traced.

### **Expected results:**

A emphasize is on the role of each country and the responsibilities of each citizen to achieve sustainable development in accordance with its leading principle "Think globally, act locally". In this regard, students are acquainted with the nature and content of sectoral policies associated with reducing carbon emissions in Bulgaria in the context of the policies of the UN and the EU. Building up the competencies for evaluation of anthropogenic impact and practical skills to propose decisions about mitigation of it negative consequences. The aim is to achieve sustainable socio-economic regional development in the country.

### **Technology of teaching and evaluation:**

Training is conducted through 30 hours of lectures, 15 hours practical training and 90 hours individual work. Teaching is based on modern interactive teaching methods - extensive use of multimedia forms, and e-learning platform. The current control includes assessment of prepared schematic map, one written thesis / presentation and one semester test. Exam to be admitted only students who have received a minimum Satisfactory 3.00 from current control. The final evaluation reports the results of the ongoing assessment and the performance of the semester exam in the ratio 40%:60%.



## CONSERVATION OF BIOLOGICAL DIVERSITY

**ECTS credits:** 6,5

**Form of assessment:** on-going control and exam

**Semester:** VII

**Methodological guidance:**

Department: "Geography, Ecology and Environmental Protection" Faculty of Mathematics and Natural Sciences

**Lecturers:** Assoc. Prof. Eng. Konstantin Tyufekchiev, PhD

E-mail: [konstantinat@swu.bg](mailto:konstantinat@swu.bg)

**Hours per week:** 3l+1pe

**Examination type:** written

### **Annotation:**

The course Conservation of Biological Diversity provides the necessary knowledge of contemporary issues in protecting the rapidly diminishing biological diversity (biodiversity - for short), which is the result of evolutionary processes and random genetic changes over a period of several billion years back in the past. It is an integrated approach to the protection and management of biodiversity that uses appropriate principles and knowledge: from basic biological fields such as genetics, biology and ecology, management of areas of natural resources, such as hunting, fishing and wildlife, and the social sciences such as anthropology, sociology, philosophy and economics.

### **Course content:**

The course is divided into three parts. The first addresses the goals, objectives, importance and methods in the conservation of biodiversity, processes and trends in the development of global biodiversity. The second part covers the problems of conservation of biological diversity at the species, population and system level. The third part deals with practical applications, and the consideration of human activities on the protection of biodiversity at the global, but also at the regional level. This knowledge will enable students to use an integrated approach in the defense of biodiversity and to achieve the necessary powers to take appropriate advanced solutions in the management of protected natural territories and objects, as well as many practical skills such as the development and maintenance of new travel programs, routes in cognitive and ecological tourism.

### **Technology of education and grading:**

The lectures are elaborated as Power point presentations and involving the use of visualizations - graphics, print and copy materials. Some of the classes are held in the school hall where discuss theoretical facts, processes and phenomena, then place practical tasks that students perform individually. The rest of the classes are conducted within the selected protected areas.

The final grade is formed on the basis of continuous control and written exam. The continuous control takes place during the semester and includes a test, an assignment, and the students' preparation and work during the exercises. The share of the continuous control from the final grade is 40%.

Examination procedure includes a test or exam on a topic of the three sections from the discipline content. The share of the written exam from the final grade is 60%. The final grade is formed on condition that the student' grade on the written exam is at least 3.00.

## PROTECTED AREAS IN BULGARIA

**ECTS credits:** 6,5

**Hours per week:** 31+1pe

Form of assessment: on-going control and exam    **Examination type:** written

**Semester:** VII

**Methodological guidance:**

Department: "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturers:** Assoc. Prof. Eng. Konstantin Tyufekchiev, PhD

E-mail: [konstantinat@swu.bg](mailto:konstantinat@swu.bg)

### **Annotation:**

Course "Protected areas in Bulgaria" is a relatively new scientific discipline that attention is paid to the theoretical and practical problems of nature conservation, as modern method. It summarizes our and foreign theory and practice in the protection of major components of the surrounding natural environment (lithosphere, soil, water, air, flora and fauna). Considered theoretical and historical prerequisites for the creation of protected natural areas (PNA), international cooperation in the field of nature protection and conservation positive trends in their development. Also included are questions about the classification of protected natural areas and objects (PNAO), environmental regimes accepted in world practice and the structure of protected natural territories, subject of environmental education and tourism. Does a detailed review of PNAO in Bulgaria, their conservation status, spatial distribution and landscape character.

### **Course content:**

The course is divided into three parts. The first presents the theoretical basics of nature conservation, including definitions, goals, objectives and methods. It includes features, classification and conservation regimes in protected areas. The second part covers the detailed characteristics of the protected natural areas and objects in Bulgaria. In the third part is attention paid to structure and management of protected natural territories and opportunities for their use in conservation training and education.

### **Technology of education and grading:**

The lectures are elaborated as Power point presentations and involving the use of visualizations - graphics, print and copy materials. Some of the classes are held in the school hall where discuss theoretical facts, processes and phenomena, then place practical tasks that students perform individually. The rest of the classes are conducted within the selected protected areas.

The final grade is formed on the basis of continuous control and written exam. The continuous control takes place during the semester and includes a test, an assignment, and the students' preparation and work during the exercises. The share of the continuous control from the final grade is 40%.

Examination procedure includes a test or exam on a topic of the three sections from the discipline content. The share of the written exam from the final grade is 60%. The final grade is formed on condition that the student' grade on the written exam is at least 3.00.

## TERRITORIAL STRUCTURE OF BULGARIA

**ECTS credits:** 4,5

**Hours per week:** 21+1pe

Form of assessment: on-going control and exam **Examination type:** written **Semester:** VII

**Methodological guidance:**

Department: "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturers:** Prof. PhD Maria Shishmanova, Assistant Prof. PhD Vladimir Karadzhov

e-mail: [valkova\\_chich@swu.bg](mailto:valkova_chich@swu.bg); [karadzhov@swu.bg](mailto:karadzhov@swu.bg)

**Annotation:**

The course "Territorial Structure of Bulgaria" is elective course for the students majoring in geography and regional policy. The main objective of the course is to introduce students to the theoretical fundamentals and the nature of spatial planning in the country. Macrostructure of the course consists of three parts.

The first section is devoted to the subject and objectives of the course, the essence of basic concepts of spatial planning and its relationship to the ongoing urbanization process, and very urban.

The second section follows the development of spatial planning in accordance with the regulations. Thus, students are introduced to the evolution of spatial planning conditions and factors influencing its development and its specificity.

The third section is aimed at providing knowledge about urbanism in the country in the era of modern urban planning. Become familiar with the regulations and the new plans.

**Course content**

The course "Territorial Structure of Bulgaria" is designed to give basic knowledge in this field to students and provide scientific and practical knowledge and skills to participate in the Territorial and Regional Studies and projected developments, as well as programs for the territory / territorial schemes, concepts and Territorial and urban planning at different levels /.

The practical exercises aim consolidating and expanding the knowledge acquired experimental knowledge and skills in contemporary practice and science.

Applied meaning of the course "Spatial" is to provide advanced scientific training, culture and competence to students, which could be involved in the development of spatial - development schemes, plans at various levels, as well as urban development projects in all stages and work in administrative offices with such a focus.

**Technology of education and grading:**

Teaching methods: lectures, practical exercises Prerequisites: not required

Evaluation: continuous assessment and written examination Registration for the course: not necessary

Registration for examination: agreement with the lecturer and academic department

## **GEOGRAPHY OF THE POPULATION AND SETTLEMENTS OF BULGARIA**

**ECTS credits:** 4.5      **Weekly classes:** 2lectures+1practical exercises  
**Form of assessment:** exam      **Type of exam:** written  
**Semester:** VII  
**Methodical guidance:**  
Department: "Geography, Ecology and Environmental Protection"  
FMNS  
**Lecturer:**  
Chief Assistant Professor Vladimir Karadzhov, PhD  
E-mail: [karadzhov@swu.bg](mailto:karadzhov@swu.bg)

### **Annotation:**

The course "Geography of the population and settlements of Bulgaria" is optional for students majoring in "Geography and Regional Policy". With this lecture course students get acquainted with the scientific and theoretical foundations of demography and the philosophy of origin and development of settlements. The course "Geography of the population and settlements of Bulgaria" aims to provide basic knowledge in this area to students and to provide scientific and practical training and competence for their participation in regional research and development, as well as in management programs / population and settlements /.

### **Course content:**

The macrostructure of the lecture course includes two sections.

The first section is dedicated to the geography of the population in Bulgaria, focusing on basic terminological concepts, main characteristics and trends of population development in the country.

The second section - geography of settlements, discusses topics tracing the emergence of settlements, their evolution, the processes that take place in them, the settlement network and the latest requirements for their development, according to the main national documents..

### **Teaching technology and assessment:**

The training includes lectures and practical exercises. The lecture course is conducted on the basis of preliminary planning of each lecture, including an exposition, summary and discussion, as well as connections between the previous and the new lecture, connections with other disciplines and other scientific fields. The teaching process is also related to the use of visual aids - presentations, maps, graphics, printed materials and more. In the exercises, students discuss basic concepts related to the process of development and establishment of agribusiness as part of the national economy. Each student receives practical tasks that he performs individually. The practical exercises aim to consolidate the acquired knowledge and expand experimental knowledge and skills for work in modern practice and science.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## GEORUBANISTICS

**ECTS credits:** 4.5      **Weekly classes:** 2lectures+1practical exercises  
**Form of assessment:** exam      **Type of exam:** written  
**Semester:** VII  
**Methodical guidance:**  
Department: "Geography, Ecology and Environmental Protection"  
FMNS  
**Lecturer:**  
Chief Assistant Professor Vladimir Karadzhov, PhD  
E-mail: [karadzhov@swu.bg](mailto:karadzhov@swu.bg)

### **Annotation:**

The course "Geourbanistics" is elective for students majoring in "Geography and Regional Policy". The course aims to provide basic knowledge in this field to students and to provide scientific and practical training and competence for their participation in urban and spatial planning and regional research and development, as well as in management programs.

### **Course content:**

The macrostructure of the lecture course includes three sections.

The first section is devoted to the subject and tasks of the discipline geourbanism, the essence of basic concepts, the phenomenon of urbanization. The second section traces the development of urbanization in different cultures, times and parts of the world. In this way the students are acquainted with the evolution of urban planning, with the conditions and factors influencing its development, and its specifics. The third section is oriented to give basic knowledge about urbanism in our country and the era of modern urban planning in the world by getting acquainted with typical cities of the modern era.

### **Teaching technology and assessment:**

The lecture course "Geourbanistics" introduces students to the scientific and theoretical foundations and the essence of urbanism. The practical exercises aim at consolidating the acquired knowledge and expanding experimental knowledge and skills for work in modern practice and science.

The applied significance of the lecture course "Geourbanistics" is to provide advanced scientific training, culture and competence of students, which could participate in the development of urban projects at all stages.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## SOIL COVERAGE OF BULGARIA

**ECTS credits:** 4.5

**Weekly workload:** 2L+0se+0le+1pe+p

Form for verification of knowledge: continuous assessment

Type of exam: written

**Semester:** VIII

**Departments involved:**

Geography, Ecology and Environment Department

Faculty of Natural Sciences

**Lecturers:**

Assoc. Prof. Ph.D. Boyko Ivanov Kolev,

тел: 359 73 88 55 05 , E-mail: [bkolev@swu.bg](mailto:bkolev@swu.bg)

**Abstract:**

The course "Soil Cover of Bulgaria" is one of the main elective courses for students in the bachelor's program in "Geography and Regional Studies". It is studied in order to expand and deepen students' knowledge of Bulgarian soils as a natural body, through the processes and phenomena occurring in the pedosphere, atmosphere, hydrosphere and lithosphere.

The most general task of the course is based on the scientific knowledge of the Bulgarian soils to ensure their most rational use and protection, in order to increase yields of all crops and increase productivity of livestock, with mandatory compliance with the principles of organic farming and sustainable. The aim of the course is based on the scientific knowledge of the Bulgarian soils to ensure their most rational use and protection, in order to increase yields of all crops and increase productivity of livestock, with mandatory compliance with the principles of organic farming and sustainable development in the industry.

**Content subjects:**

The soils in Bulgaria. Soil classification in Bulgaria. Main soil groups, classes and types of soils in Bulgaria. Soils in the Republic of Bulgaria - assessment and storage.

**Teaching and assessment technology:**

Students make two control tests during the semester. Requirements for the semester are regularly visited classes; perform the tasks required GPA and test average 3.00.

A periodical control is held in the semester by assigning course papers (K) and/ or papers (R) and/ or by solving tests (T).

The final grade constitutes 40% of the periodical control grade and 60% of the grade from the semestrial examination according to developed and approved in GEEP Chair system of control and grading students' competence.

**ECTS кредити:** 4.5

**Седмичен хорариум:** 2л+0су+0лу+1пу+р

**Форма на проверка на знанията:** текущ контрол и изпит **Вид на изпита:** писмен

**Семестър:** VIII

**Методическо ръководство:**

Катедра: „География, екология и опазване на околната среда“

Природо-математически факултет

**Лектори:**

Доц. д-р Бойко Иванов Колев

E-mail: [bkolev@swu.bg](mailto:bkolev@swu.bg)

**Анотация:**

Дисциплината “Почвена покривка на България” е

**Съдържание на дисциплината:**

**Технология на обучението:**

## BULGARIAN LAND RESOURCES

**ECTS credits:** 4.5

**Weekly workload:** 2L+0se+0le+1pe+p

Form for verification of knowledge: continuous assessment **Type of exam:** written

**Semester:** VIII

**Departments involved:**

Geography, Ecology and Environment Department

Faculty of Natural Sciences

**Lecturers:**

Assoc. Prof. Ph.D. Boyko Ivanov Kolev,

тел: 359 73 88 55 05 , E-mail: [bkolev@swu.bg](mailto:bkolev@swu.bg)

**Abstract:**

The course "Bulgarian land resources" is one of the main elective courses for students in the bachelor's program in "Geography and Regional Studies". It is studied in order to expand and deepen students' knowledge of Bulgarian soils as a natural body, through the processes and phenomena occurring in the pedosphere, atmosphere, hydrosphere and lithosphere.

The most general task of the course is based on the scientific knowledge of the Bulgarian soils to ensure their most rational use and protection, in order to increase yields of all crops and increase productivity of livestock, with mandatory compliance with the principles of organic farming and sustainable. The aim of the course is based on the scientific knowledge of the Bulgarian soils to ensure their most rational use and protection, in order to increase yields of all crops and increase productivity of livestock, with mandatory compliance with the principles of organic farming and sustainable development in the industry.

**Content subjects:**

The soils in Bulgaria. Soil classification in Bulgaria. Main soil groups, classes and types of soils in Bulgaria. Soils in the Republic of Bulgaria - assessment and storage.

**Teaching and assessment technology:**

Students make two control tests during the semester. Requirements for the semester are regularly visited classes; perform the tasks required GPA and test average 3.00.

A periodical control is held in the semester by assigning course papers (K) and/ or papers (R) and/ or by solving tests (T).

The final grade constitutes 40% of the periodical control grade and 60% of the grade from the semestrial examination according to developed and approved in GEEP Chair system of control and grading students' competence.





## **GEOGRAPHY OF AGRIBUSINESS**

**ECTS credits:** 4.5

**Form of assessment:** exam

**Semester:** VIII

Departments involved:

Department: "Geography, Ecology and Environmental Protection"

FMNS

**Lecturer:**

Assoc. Prof. Emilia Patarchanova, PhD

E-mail: [emilia\\_patarchanova@swu.bg](mailto:emilia_patarchanova@swu.bg)

**Weekly classes:** 21+1pe

**Type of exam:** written

### **Annotation:**

The course "Geography of agribusiness" is an elective for students in "Geography and Regional Policy." The main objective of the course is to provide the necessary knowledge about this complex diversified system. Besides the understandable attention to agriculture and manufacturing in the course special attention is paid to the organization of service activities as well as to the market organization. Emphasized is also on the new standards defined by EU policies affecting agribusiness.

### **Course content:**

The lecture is structured in two sections. The first is mainly theoretical and introduces students to the features and elements of agribusiness, the main factor for its development, the role and its place in the world economy. The second section focuses on sectoral and territorial structure of agribusiness in Bulgaria. It provides the necessary knowledge about different forms of organization of production of modern tools and norms of state participation and support. It is highlighted the impact of agribusiness on the socio-economic, settlement and regional development. The material is selected, structured and distributed so that students get the necessary for the degree in geography knowledge so as to continue their education in master's degree in geography or economics, to develop business or other socially useful activity.

### **Teaching technology and assessment:**

The course "Social Development of the Regions" is done under the current academic curriculum of the specialty "Geography and Regional Policy", degree "Bachelor" and prepared and approved curriculum. The lecture material was developed into power point and presented with a multimedia projector. The process of teaching the lectures is connected also by using visualizations - maps, graphics, charts, and more. At the exercises students discuss the basic concepts associated with the development process and consolidation of agribusiness as part of the national economy. Each student gets practical tasks performed individually. Students learn to differentiate between individual system components, to characterize the relations and mutual influence between them to analyze the territorial peculiarities of organization and functioning of agribusiness. Discussed are the particularities of individual industries and factors for development and localization. Acquired are skills for applying the methods of comparison and analysis in the characterization of certain aspects of the system, working with agricultural statistics, characteristics of the methods of collecting information, etc.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## **GEOGRAPHY OF BALKAN COUNTRIES**

**ECTS credits:** 4.5

Form of assessment: exam

**Semester:** VIII

**Departments involved:**

Department: "Geography, Ecology and Environmental Protection"

FMNS

**Lecturer:**

Assoc. Prof. Emilia Patarchanova, PhD

E-mail: [emilia\\_patarchanova@swu.bg](mailto:emilia_patarchanova@swu.bg)

**Weekly classes:** 2l+1pe

**Type of exam:** written

### **Annotation:**

The course "Geography of Balkan countries" is an elective for students in "Geography and Regional Policy." The main objective is to broaden and enrich students' knowledge of the geography of the Balkan countries - resource potential, peculiarities of geo-demographic, ethnic, confessional, political and socio-economic development. Focused is on topical issues of integrated development, on natural and cultural potential of the Balkan countries.

### **Course content:**

The course is structured into two sections. The first section is dedicated to the Balkan Peninsula. Characterized is the natural resource potential, demographic, ethnic and confessional characteristics of the territory. Represented is the modern political map and the changes made in the last century. Emphasized is on the peculiarities of the socio-economic development, specialization and economic integration between the countries and regional political and economic organizations in the Balkans. The second section is devoted to the Balkan countries. In their characterization is observed the approved type design (algorithm). Special attention is paid to the peculiarities of the socio-economic development and regional structure of the countries, to their membership in international and regional organizations, to leading economic centers and cities with rich cultural and historical heritage.

### **Teaching technology and assessment:**

The course "Social Development of the Regions" is done under the current academic curriculum of the specialty "Geography and Regional Policy", degree "Bachelor" and prepared and approved curriculum. The lecture material was developed into power point and presented with a multimedia projector. The process of teaching the lectures is connected also by using visualizations - maps, graphics, charts, and more. At the exercises students learn how to apply the methods of comparison and analysis for characterization of individual countries, groups of countries or economic branches and sectors. Analyze statistical information, visualize trends in demographic and socio-economic development of the countries. Students prepare and defend papers.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%.

%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## ALTERNATIVE TOURISM

**ECTS credits:** 4.5

**Form of assessment:** exam

**Semester:** VIII

Departments involved:

Department: "Geography, Ecology and Environmental Protection"

FMNS

**Lecturer:**

Assoc. Prof. Emilia Patarchanova, PhD

E-mail: [emilia\\_patarchanova@swu.bg](mailto:emilia_patarchanova@swu.bg)

**Weekly classes:** 2l+1pe

**Type of exam:** written

### **Annotation:**

The course "Alternative Tourism" is optional for the students in specialty "Geography and Regional Policy". The main aim of the course is to acquaint students with the nature, genesis and characteristics of the specialized types of tourism as an alternative to mass tourism. The thematical framework includes issues of territorial organization and management of alternative types of tourism at national, regional and local level.

Students receive theoretical and practical training related to service skills of tourists, development of tourist offers, organization of events and activities associated with special interest in these types of tourism.

### **Course content:**

The course is structured in two sections. The first section clarifies the nature, characteristics and requirements for alternative tourism. The emphasis is on the basic assumptions necessitating the emergence of alternative tourism. Characterized main tourist attractions influencing its development. Special attention is given to: the characteristics of the demand for alternative forms of tourism to the user's profile and basic behavioral models of the characteristics of supply. The second section introduces students to the sustainable practices in the development of specialized types of tourism in Bulgaria and Europe. Highlighting their leading characteristics required for their development and the provision of the relevant travel products. Analyzed are the natural and anthropogenic conditions and resources for the development of specialized types of tourism in Bulgaria. Subject to special consideration are the following types of tourism: rural, cultural, religious, festival, ecotourism, adventure and extreme, wine, and others. Traced is the influence of specialized types of tourism on the environment in which are developed, on the local people and the local economy, on the socio-economic development of the territory.

### **Teaching technology and assessment:**

The course includes lectures and practical exercises. The course is conducted on the basis of pre planning of each lecture, including an exposition, a summary and a discussion, as well as links between the previous and the new lecture and connections with other disciplines and other scientific fields. The process of teaching is connected with the use of visualizations presentations, maps, graphics, print materials and more. During the exercises students learn to apply the algorithm for political and geographical analysis, to objectively assess the existing global and regional political and geographical structure of the world and to map studied processes and phenomena, etc. Discussed are geopolitical trends in the development of global community and individual regions. Students develop and defend papers.

The examination procedure includes a written exam – on two themes from pre-defined conspectus corresponding to the content of the curriculum. The relative weight of the total test mark is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## REGIONAL GEOGRAPHY OF BULGARIA

**ECTS credits:** 4.5

**Form of assessment:** exam

**Semester:** VIII

**Methodical guidance:**

Department: "Geography, Ecology and Environmental Protection"

FMNS

**Lecturer:**

Chief Assistant Professor Vladimir Karadzhov, PhD

E-mail: [karadzhov@swu.bg](mailto:karadzhov@swu.bg)

**Weekly classes:** 2lectures+1practical exercises

**Type of exam:** written

### **Annotation:**

The course "Regional Geography of Bulgaria" is elective for students majoring in "Geography and Regional Policy". The lecture course acquaints students more deeply with the socio-economic characteristics and processes by geographical regions of the country, as well as with the planning regions and the regions for state support according to the Regional Development Act. The course "Regional Geography of Bulgaria" aims to provide basic knowledge in this field to students and to provide scientific and practical training and competence for their participation in regional research and development, as well as in land management programs for European projects..

### **Course content:**

Structurally, the curriculum is grouped into two main parts: regional social and economic geography and regional planning. In this sense, the discipline "Regional Geography of Bulgaria" is important for the professional competence and practical skills of graduates of higher geographical education.

### **Teaching technology and assessment:**

The lecture course acquaints students more deeply with the socio-economic characteristics and processes by geographical regions of the country, as well as with the planning regions and the regions for state support according to the Regional Development Act. The practical exercises aim to consolidate the acquired knowledge and expand experimental knowledge and skills for work in modern practice and science.

The applied significance of the lecture course "Regional Geography of Bulgaria" is to provide scientific training and competence of students in the management, organization and planning of the overall activity in the administrative-territorial units, having the knowledge base of regional geography, its characteristics, problems and opportunities for solution.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## PLANNING AND REGIONAL POLICY OF BULGARIA

**ECTS credits:** 4.5      **Weekly classes:** 2lectures+1practical exercises  
**Form of assessment:** exam      **Type of exam:** written  
**Semester:** VIII  
**Methodical guidance:**  
Department: "Geography, Ecology and Environmental Protection"  
FMNS  
**Lecturer:**  
Chief Assistant Professor Vladimir Karadzhov, PhD  
E-mail: [karadzhov@swu.bg](mailto:karadzhov@swu.bg)

### **Annotation:**

The course "Planning and Regional Policy of Bulgaria" is optional for students majoring in "Geography and Regional Policy". The course "Planned and Regional Policy of Bulgaria" aims to provide basic knowledge in this field to students and to provide scientific and practical training and competence for their participation in regional research and development, as well as in land management programs in European projects.

### **Course content:**

The macrostructure of the lecture course includes three sections.

The first section is devoted to the subject, tasks and objectives of regional planning and policy, methodological aspects and programming on the basis of the Regional Development Act and the main documents at the national level. The second section brings together topics according to the legislation in the country for the development of regional policy in the Republic of Bulgaria at different hierarchical levels. The third section focuses on SWOT analysis, project writing and management and socio-economic partnership.

### **Teaching technology and assessment:**

The lecture course "Planned and regional policy of Bulgaria" introduces students to the scientific and theoretical formulations of regional policy and planning in our country. The practical exercises aim to consolidate the acquired knowledge and expand experimental knowledge and skills for work in modern practice and science.

The applied significance of the lecture course "Planning and Regional Policy of Bulgaria" consists in ensuring the scientific preparation and competence of students in the management, organization and planning of the overall activity in the administrative-territorial units for regional development and the implementation of the respective policy.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## EUROPEAN INTEGRATION OF REGIONS

**ECTS credits:** 4.5      **Weekly classes:** 2lectures+1practical exercises  
**Form of assessment:** exam      **Type of exam:** written  
**Semester:** VIII  
**Methodical guidance:**  
Department: "Geography, Ecology and Environmental Protection"  
FMNS  
**Lecturer:**  
Chief Assistant Professor Vladimir Karadzhov, PhD  
E-mail: [karadzhov@swu.bg](mailto:karadzhov@swu.bg)

### **Annotation:**

The course "European Integration of Regions" is optional for students majoring in "Geography and Regional Policy". The course aims to provide students with basic knowledge in this field and to provide scientific and practical training and competence for their participation in regional research and development, as well as in land management programs for European projects..

### **Course content:**

The macrostructure of the lecture course includes three sections.

The first section is devoted to the tasks and objectives of European policy, the evolution of the European Union and the political and economic theories of European integration. The second section brings together topics explaining the European institutions. The decision-making process and priority European programs. The third section focuses on the explanation of agricultural, industrial, regional, scientific and technical and environmental policy.

The applied significance of the lecture course "European integration of the regions" is to provide scientific training and competence of students in the management, organization and planning of the entire activity in the administrative-territorial units, having the knowledge base for the high level of issues in the European Union, especially now with the participation of ATE in European projects.

### **Teaching technology and assessment:**

The lecture course "European integration of regions" introduces students to the scientific and theoretical formulations of European integration policy and the accession of Bulgaria Eastern Europe to the EU.

The practical exercises aim to consolidate the acquired knowledge and expand the experimental knowledge and skills for work in modern practice and science.

The examination procedure consists of solving a test that includes both questions with free answer and from closed type. The relative weight of the exam of the total score is 60%. The evaluation is carried out in six-point rating scale, according to the Higher Education Act and Ordinance № 21 of the Ministry / 30.09.2004. Credits are awarded only if the total mark is equal to or higher than Average 3 according to the system of accumulation and transfer of credits.

## AIR POLLUTION

ECTS кредити: 4.5

Седмичен хорариум: 2л + 1пу

Форма за проверка на знанията: текущ контрол и изпит Вид на изпита: писмен

Семестър: VIII

Методическо ръководство:

Катедра География, екология и опазване на околната среда

Природоматематически факултет

Лектори: доц. д-р Емилия Варадинова

Е-mail: [emilia.varadinova@swu.bg](mailto:emilia.varadinova@swu.bg)

### Annotation:

The course "Air pollution" studying the sources of air pollution, factors influencing the processes of pollution and transport of pollutants, theoretical, legislative framework and practical issues related to atmospheric pollution and protect air quality. Emphasis is on climate change, the adverse effects of air pollution on the environment, health and economic aspects of air pollution. The aim of the course "Air pollution" is to enrich the theoretical knowledge of students with terminology productions related to the air protection. To build a high ecological culture, to provoke professional interest and actions aimed at preventing pollution and organization of events dedicated to air protection.

### Course content:

The course content has been structured in thirteen topics:

The composition and structure of the atmosphere. Key features of the atmosphere. Processes in the atmosphere.

Air pollution. Sources of air pollution. Classification of contaminants. Factors affecting the distribution of air pollutants.

Local and regional air pollution. Global atmospheric pollution. Greenhouse effect. Greenhouse gases.

Climate change - forecasts and scenarios. EU policies to adapt to climate change. National priorities.

Air pollution in urban territories and influence on the meteorological regime.

Air pollution and impact on environmental components.

Noise, electromagnetic and radioactive pollution of the air.

Air protection. Assessment and management of air quality.

Air monitoring. Programs to improvement of the air quality.

Policies of the European Union in the field of the air protection.

Priorities national policy on air protection.

Health aspects of air pollution.

Economic aspects of air pollution

### Technology of education and grading:

The lectures are designed in the form of PowerPoint presentations. The practical exercises are conducted in a laboratory, or as field trips.

The final grade is formed on the basis of continuous control and final examination. The continuous control takes place during the semester and includes assigning topics to develop paper/presentation and test. The students' preparation and work during the exercises are also assessed. The relative weight of the continuous control from the final grade is 40%. The examination procedure includes development of two questions/topics from the lectures. The final grade is formed if the student' grade on the final examination is at least 3.00. The relative weight of the examination of the final grade is 60%. Credits are awarded only if the final grade is equal to, or higher than 3.00.

## WATER POLLUTION

**ECTS credits:** 4.5

**Form of assessment:** on-going control and exam

**Semester:** VIII

**Methodological guidance:**

Department: "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturers:** Assoc. prof. Emilia Varadinova, PhD

E-mail: [emilia.varadinova@swu.bg](mailto:emilia.varadinova@swu.bg)

**Hours per week:** 21+1pe

**Examination type:** written

### **Annotation:**

Course "Water Pollution" study the sources of water pollution, factors that affect the processes of pollution, degradation and transport of pollutants, the impact of water pollution on living organisms.

The aim of the course is to present theoretical, legal requirements and practical approaches to solving problems related to water pollution, methods for assessing the condition of water bodies and protect the purity of surface and groundwater. Emphasis is placed on natural and anthropogenically induced effects of pollution on aquatic biota are considered health and economic aspects of water pollution.

**Course content:** The course content has been structured in fifteen topics:

1. Composition, structure and properties of the water.
2. Global distribution of water resources. Water cycle.
3. Factors aquatic environment. Basic types of reservoirs.
4. European water legislation. European Union policy in the field of water protection.
5. Statutory regulations and priorities of the national policy on water protection.
6. Typology of water in Bulgaria.
7. Water pollution. Types of pollutants.
8. Sources of water pollution.
9. Biological, physico-chemical and hydromorphological quality elements.
10. Monitoring of water. Zones water protection.
11. Characterization of the ecological and chemical status of surface and groundwater bodies.
12. Water for drinking and household needs - standards and requirements.
13. Health aspects of water pollution.
14. Economic aspects of water use and water consumption.
15. Purification of municipal and industrial wastewater.

**Technology of education and grading:** The lectures are designed in the form of PowerPoint presentations. The practical exercises are conducted in a laboratory, or as field trips. The final grade is formed on the basis of continuous control and final examination. The continuous control takes place during the semester and includes assigning topics to develop paper/presentation and course work. The students' preparation and work during the exercises are also assessed. The relative weight of the continuous control from the final grade is 40%. The examination procedure includes development of two questions/topics from the lectures. The final grade is formed if the student' grade on the final examination is at least 3.00. The relative weight of the examination of the final grade is 60%. Credits are awarded only if the final grade is equal to, or higher than 3.00.



## GENERAL ECOLOGY

**ECTS credits:** 4.5

**Form of assessment:** on-going control and exam

**Semester:** VIII

**Methodological guidance:**

Department: "Geography, Ecology and Environmental Protection"

Faculty of Mathematics and Natural Sciences

**Lecturers:** Assoc. prof. Lidia Sakelarieva, PhD

E-mail: [sakelarieva.lidia@swu.bg](mailto:sakelarieva.lidia@swu.bg)

**Hours per week:** 21+1pe

**Examination type:** written

### **Annotation:**

The course "General Ecology" focuses on the core approaches and concepts in ecology as an interdisciplinary science that links together the biological, physical and social sciences and is closely related to the environmental protection. The aim of the course is to present the basic characteristics of biological macro-systems – populations, communities, ecosystems, and to form skills in research, analysis and assessment of these systems.

### **Course content:**

The course content has been structured in two sections:

Section I. Ecology as a science. Environmental factors. Subject, tasks, and methods of research in ecology. Basic environmental factors – abiotic, biotic, and anthropogenic. The concept of limiting factors. Light, temperature, air, water and soil as environmental factors. Ecological groups of organisms depending on their adaptations to different light, temperature and moisture regimes. Water and soil as mediums for life. Ecological classification of aquatic and soil organisms.

Section II. Population ecology, synecology, ecosystem ecology. Population characteristics – structure, density, birth rate, death rate, age distribution, dispersion, growth form. The biotic community concept. Community structure – species, morphological (vertical and horizontal) and functional. Types of interactions between two species. Ecological niche. Concept of the ecosystem. Productivity, energy flow and biogeochemical cycles. Ecosystem development. Primary and secondary succession. Concept of the climax. Biosphere.

Technology of education and grading: T

The course is included in the e-learning platform Blackboard. The lectures are designed in the form of PowerPoint presentations. The practical exercises are conducted in a laboratory, or as field trips.

The final grade is formed on the basis of continuous control and final examination. The continuous control takes place during the semester and includes assignments and tests (in the e-learning platform Blackboard). The students' preparation and work during the exercises are also assessed. The relative weight of the continuous control from the final grade is 50%. The examination procedure includes a final test in e-learning platform Blackboard. The final grade is formed if the student' grade on the final examination is at least 3.00. Credits are awarded only if the final grade is equal to, or higher than 3.00.