

THE APPLICATION OF GRADUATES

Bachelor's Degree Study

Study Programme (hereinafter referred to as SP) of the branches of study Pedagogy of Academic Subjects and Pedagogy of Professional Subjects and Practical Preparation

Graduates can work as a teaching assistant in both lower and higher secondary education but in the first place, they are ready to successfully continue with a master's degree studies of the same or similar study programme.

SP – Teaching of Practical Preparation

The graduate is capable of teaching professional subjects focused on the acquisition of skills in the respective professional field.

SP – Applied Computer Science

The graduate is able to cope with today's scientific, technical and economic development. He can use his experience in any type of companies that are dependent on information technology and use its tools in various fields. He can find employment in industry, education, in both public and private sectors, banking, transport, health care, ecology, etc. Apart from basic knowledge of computer science, the graduate possesses a sufficient knowledge of economics, management, geography, and geographic information systems. He is able to analyse, to project, to implement, to extend, to adapt, and to localise computing and IT systems. He can utilise methods, techniques, and means of development concerning IT. The graduate should have a mastery of at least one foreign language. During studies, he will gain a deep knowledge of systems as a whole and will understand both the theoretical background of the field and the correlation between theory and practice. A firm foundation of knowledge will help the applicant to acquire new findings of the respective field of applied computer science accordingly.

SP – Environmental Management

The graduate will gain knowledge in multicausality and variability concerning the system *man - environment* as well as the means regarding its decomposition to personal, social and economic subsystems. He is able to define fundamental problems concerning environment, to prioritise their solution and possibilities of effective and harmless men's impact on environment. He is to work for people of all age to make them environmentally conscious. Moreover he will gain knowledge in designing and management of programs concerning realisation of the given environmental policy of subject; advisory, consulting and PR work in the field of environmental management; practical skills focused on the importance of environmental education, awareness and raising of the number of people and employees engaged, as well as influencing, formation or stimulation of public opinion within the field of lifelong learning.

SP – Environmental Chemistry

The graduate will find employment: in chemical, biochemical, pharmaceutical and medical laboratories as a qualified operative able to carry out laboratory analyses, to set the agenda, to carry out partial methodical works, to participate practically and conceptually in monitoring of the environment. When employed in state administration, self-government, project organisations and in the sphere of business, the graduate will be able to carry out qualified work in the area of environmental protection, especially in the field of waste management.

SP – Forensic and Criminal Chemistry

The graduate has adequate theoretical and practical knowledge in selected chemical disciplines (general, inorganic, analytical, physical, organic, nuclear chemistry, chemistry of toxic substances, and biochemistry) but also has knowledge in physics, mathematics, human anatomy, genetics, forensic science and criminology, which he may apply in the practice. He is able to work independently especially in the field of chemical analysis and can carry out basic tasks in the field of criminology, civil protection, fire and rescue service and the armed forces.

SP – Applied Geology

The graduate possesses a good command of the theoretical foundations of geology, paleogeography, and understands ongoing processes in the lithosphere. He is familiar with the basic practices in applied geological fields and masters the basics of a broad spectrum of related disciplines (ecology, geography, etc.). The graduate will be able to independently handle literature and perform basic assessment activity in the field of geology, or abiotic components of the environment. Graduates of a Bachelor's study may also work in digitization and graphical evaluation of geological data in the institutions of government, municipalities, museums, established companies in the environmental state and private sector. The graduate will be prepared to continue the follow-up master study of geology and related fields.

SP – Geography and Landscape Ecology

The graduate is able to assess problems and possibilities of landscape spheres at different hierarchical levels. He has a good knowledge in the basics of landscape management. The applicant will be able to find employment in various sectors of the economy, public administration, private sector and others. This knowledge will aid the applicant in finding a post in management of national parks, protected areas, and local government.

SP – Mathematics

The concept of studies is based on major courses in Mathematics, Statistics, and Computer Science, with emphasis on theoretical knowledge used in applications in other fields and in practices. The graduate can fill a vacancy in those positions in economic and financial departments of large enterprises and public sector, in departments of statistics, in the banking sector, etc. where a bachelor's degree is sufficient. Graduates from a bachelor's degree are ready to successfully continue with a master's degree studies of the same or similar study programme Mathematics and related disciplines.

SP – System Ecology

Graduates will gain the ability to determine the representatives of the flora and fauna of Slovakia at the required level; they are familiar with the ecological demands of the selected groups of organisms and their bioindication potential and they can identify phenomena and processes in the field of geology, geomorphology, hydrology and pedology. They will master principles of habitat mapping and components of environment monitoring, have basic knowledge of the laws relating to protection of nature. They will be able to process information into spatial and relational databases, and use GIS technology and computer graphics to process the results. After obtaining the title 'BA' They will be ready to continue with a master's degree studies.

Master's Degree Study

SP of the department of Pedagogy of Academic Subjects and Teaching of Professional Subjects and practical preparation

Graduates possess the ability to teach the respective specialisation at lower and higher levels of secondary education as well as University education. In addition to this ability, they are able to manage the development of one of many methodical materials necessary for teaching the respective subject. They will possess competency in methods regarding research and development within subject didactics and are ready to continue their education in Doctoral studies.

Graduates of the study programme Pedagogy of Technical Education has the ability to teach the subject of Technology at the secondary grade of primary schools. They have basic knowledge in the field of lumbering, engineering, electrical engineering, cybernetics, and the didactics of technical education.

SP – Applied Geology

The graduates possess knowledge in theoretical and practical foundations of geology, and understand ongoing processes in the lithosphere, are familiar with the basic methods in applied geological fields, and have mastery of the basics of a broad spectrum of related disciplines (GIS, pedology, anthropogenic load, ecology, geography, etc.). They will have both theoretical and practical knowledge of the latest research methods related to rocks and minerals, allowing them plenty of career opportunities in the labour market. The master's degree graduate can also work on the digitisation and graphical evaluation of geological data within the institutions of state administration, municipalities, museums, as well as environmentally established companies in the state and private sector.

SP – Environmental Management

Graduates will gain knowledge in the field of preparation and planning, progressive management, decision making, coordination and control of resources, processes and relations in the context of solving environmental problems of municipalities and organisations of various types and importance. They will also gain competency especially in identification and quantification of environmental policy objectives and modes to achieve them including creation, documentation, implementation and management of environmental management systems; auditing and certification processes, or rather validation, evaluation, assessment, authorization, etc.; development of constructive lifestyle of urban residents and rural systems, the creation of human and cultural working environment and the environment in line with the principles of sustainable development; public opinion of residents and employees and directing of various target groups and constructive dialogue with stakeholders and shareholders; developing and implementing of education and training programs; creating virtual simulation models showing behaviour of natural and human systems and the impact of their harmonious or disharmonious (pathological) impact on the environment.

SP – Environmental Chemistry

Graduates are able to pursue research and development programs as well as participate in the formation of environmental projects. In chemical, biochemical, pharmaceutical and clinical laboratories they become specialist competent in performing specialised analysis and developing the necessary methodologies. They can apply this knowledge to state administration, local administration, the business sector, research institutes, design, consulting and other organisations as a specialist in the field of environmental protection, water

management, air protection, waste management, risk management and assessment of environmental impacts.

SP – Applied Computer Science

Graduates are able to analyse; design, implement and maintain software systems and information technology and to conduct research in the respective field with a high level of creativity and independence. The emphasis is put on the acquisition of a deep knowledge of software systems, allowing them to use the application of computer science in industry, economy, education, health care and other industries. In order for the graduate to use a rigorous scientific approach, they will gain experience in the application of the methods of analysis and synthesis of software systems, formulating and testing hypotheses, experimental design based on analysis of data, etc. The graduate can work as a scientific researcher encompassing software applications of information technologies, where they can apply advanced methods and techniques in design and programming.

SP –Mathematical Statistics and Financial Mathematics

The concept of study emphasizes the graduates' ability to practically use modern methods of financial and actuarial mathematics, statistics, econometrics, numerical mathematics, optimization methods, etc. They can pursue a career in various areas of practice (within economic and financial departments of large enterprises and the public sector, statistical departments, financial institutions, business, etc.) and scientific and research institutions.

SP – System Ecology

Graduates are skilled in level analysis in order to evaluate the composition and structure of plant and animal communities, ecosystems, to identify and assess the flows of energy, materials and information, including nutrients, contaminants (functioning of communities and ecosystems), and to understand the complex interactions of populations in communities, their relation to the environment, and spatial dynamics. At the level of syntheses, along with other information sources including Remote Sensing of Earth, they are able to identify structure, processes, and relation at the level of communities and ecosystems, including the creation of theoretical and practical models in the ground, to create interpreted synthetic portfolios needed for landscape and landscape-ecological evaluation of certain areas, landscape-ecological plans at the level of communities and ecosystems for landscape-ecological assessment considerations, to understand the system of natural and anthropogenically altered communities and ecosystems and their spatial-functional model, to monitor landscape-ecological changes in the ground at the level of communities and ecosystems according to the paradigm of the scientific discipline.

SP – Geography and Regional Development

Graduates will gain knowledge and skills regarding the recognition of regions of different hierarchal levels. Their knowledge base is the basic concept of region, or micro-region. They have the ability to use this knowledge and skills in the area of regions of higher hierarchical orders (NUTS 3, NUTS 2, and NUTS 1). They can creatively use identified geographic phenomena and processes to determine the direction that their development should be aimed at. The graduates are able to independently and creatively explore the particularities of each region, as well as to generalise the results of their own research. They will acquire the concept of teamwork and will be able to coordinate research groups focused on research of regions, natural sciences, and humanities being at intersection. Graduates are fully prepared to identify, evaluate and prioritize the potential of regions from all aspects, with emphasis on

socio-economic conditions with regard to natural and environmental character of regions. Career opportunities in the labour market can vary: state and public administration, through institutions involved in regional development and planning, as well as institutions related to economic, demographic, and environmental issues. Foreign institutions might be another possibility, e.g. within the EU or even beyond.