

CATALOG OF ELECTIVE DISCIPLINES
For students in the direction of preparation 8D073 «Architecture and Civil engineering»

Brief description of the elective disciplines of the educational program

EP	EP	Form of education	The name of discipline	Code of subject	Qualification code	Comment	Number of credits	Specialties	Course	Academic year	Prerequisites	Prerequisites	Prerequisites	Prerequisites	Prerequisites	Prerequisites	Prerequisites
D123 «Geodesy»	8D07302 - «Geodesy»	Full-time (PhD) 3 years	Modern technologies in geodesy and cartography	STGK 7305	AS	Elective subjects	5.0	Geodesy and cartography	1	2	Geodesy, Higher Geodesy, Fundamentals of 3D modeling for 3D	Doctor's research work, Research practice	The scientific and main stages of automation of cartographic and basic systems and methods of performing cartographic and geodesic tasks. Theoretical foundations and main characteristics of modern systems, equipment and technologies used in cartographic and geodesic production and development prospects.	The ability to develop modern methods, technologies and methods of geodesic works, as well as the ability to field and general geodesic works on the creation, reconstruction of geodesic reference leveling, gravimetric networks and special purpose networks;	Technology of production of high-precision geodesic measurements		
D123 «Geodesy»	8D07302 - «Geodesy»	Full-time (PhD) 3 years	Technology of production of high-precision geodesic measurements								Geodesy, Higher Geodesy, Fundamentals of 3D modeling for 3D	Doctor's research work, Research practice	Within the framework of this course, the main stages of the development of this science, the distribution of accuracy classes by the main types of geodesic works, the principles of construction for the development of reference geodesic networks are considered. Purpose, types, classes of satellite navigation networks.	The ability to carry out the basic technological processes of obtaining ground and aerospace spatial information about the state of the environment, to use remote sensing materials and geoinformation technologies in modeling and interpreting the results of the study of natural resources;	Modern technologies in geodesy and cartography		
D123 «Geodesy»	8D07302 - «Geodesy»	Full-time (PhD) 3 years	Design of high-precision geodesic networks	PVGS 7202	BS	Elective subjects	5.0	Geodesy and cartography	1	3	Geodesy, Higher geodesy, Geodesic works in the design and construction of structures	Doctor's research work, Research practice	Within the framework of this course, the main stages of the development of this science are considered, the division into accuracy classes according to the main types of geodesic works, the principles of construction and development of reference geodesic networks. Purpose, types, classes of satellite navigation networks.	The ability to use computer technology for mathematical processing of the results of field geodesic measurements, approximate observations, gravimetric determinations, to carry out high-precision measurements in the construction of state geodesic networks, to process methods of observation, processing, equalization and interpretation of the results obtained in the construction of state geodesic networks.	Modern technologies in geodesy and cartography		
D123 «Geodesy»	8D07302 - «Geodesy»	Full-time (PhD) 3 years	Modern technologies in geodesy and cartography								Geodesy, Higher geodesy, Geodesic works in the design and construction of structures	Doctor's research work, Research practice	Satellite methods for determining coordinates in the study of geodynamic processes. Object and method of aerospace monitoring of geodynamic processes of buildings and structures. History of development and history of application of aerospace monitoring. The structure of the organization and control of geodynamic processes. Aircraft flight parameters affecting the quality of information, etc.	The ability to carry out the basic technological processes of obtaining ground and aerospace spatial information about the state of the environment, to use remote sensing materials and geoinformation technologies in modeling and interpreting the results of the study of natural resources;	Design of high-precision geodesic networks		
D123 «Geodesy»	8D07302 - «Geodesy»	Full-time (PhD) 3 years	Theoretical geodesy	TG 7201	BS	Elective subjects	5.0	Geodesy and cartography	1	1	Geodesy, Higher Geodesy	Modern technologies in geodesy and cartography	Reference geodesic networks. Pre-calculation of the accuracy of the construction of reference geodesic networks. High-precision angle measuring devices and their research. High-precision measurements of horizontal angles, measurement of zenith distances. Equalization of reference geodesic networks. High-precision geometric leveling. High-precision measurements in the determination of the surface of the Earth's ellipsoid. Solving geodesic problems on the surface of the Earth's ellipsoid. Rectangular Gauss-Kruger coordinates.	The ability to develop modern methods, technologies and methods of geodesic works, as well as the ability to field and general geodesic works on the creation, reconstruction of geodesic reference leveling, gravimetric networks and special purpose networks.	Spheroidal geodesy		
D123 «Geodesy»	8D07302 - «Geodesy»	Full-time (PhD) 3 years	Spheroidal geodesy								Geodesy, Higher Geodesy	Modern technologies in geodesy and cartography	Three-dimensional geodesy. Fundamentals of the theory of gravitational potential. Elements of the primary functions of geodesy. Purpose of the reference geodesic system. Definition of a normal ground and geodesic reference system. The concept of alignment of orbits astronomical and geodesic networks. Geodynamic studies	The ability to use computer technology for mathematical processing of the results of field geodesic measurements, approximate observations, gravimetric determinations, to carry out high-precision measurements in the construction of state geodesic networks, to process methods of observation, processing, equalization and interpretation of the results obtained in the construction of state geodesic networks	Theoretical geodesy		

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