



CATALOG OF ELECTIVE COURSES
For students in the direction of preparation of BSc in Architecture and Civil engineering

Form	EP	EC	The name of discipline	Code of subject	Discipline type	Component	Number of credits	Level of training	Category	Academic period	Prerequisites	Brief description of the discipline	Name of the alternative discipline
M123	«Geodesy»	M123	Engineering design	IP 2205	AS	Elective subjects	6.0	Master's program by specialization (Scientific & pedagogical direction)	Geodesy and cartography	I	Geodesy, Engineering geodesy	To know the main problems of modern geodesic science, to create topographic and geodesic projects, to organize and conduct research projects, to predict the economic assessment of projects in the field of cartographic and geodesic production, to possess the skills of structural and technical design of geodesic projects, to possess the skills of using modern information systems (GIS) technology and automated systems (CAD) when performing geodesic, cartographic, design work, to study scientific and technical information, and implement advanced domestic and foreign experience.	Mathematical modeling and design
M123	«Geodesy»	M123	Mathematical modeling and design									To know the main problems of modern geodesic science, to create topographic and geodesic projects, to organize and conduct research projects, to predict the economic assessment of projects in the field of cartographic and geodesic production, to possess the skills of structural and technical design of geodesic projects, to possess the skills of using modern information systems (GIS) technology and automated systems (CAD) when performing geodesic, cartographic, design work, to study scientific and technical information, and implement advanced domestic and foreign experience.	Engineering design
M123	«Geodesy»	M123	Geodesic works in the design and construction of buildings									The content of engineering and geodesic works performed during surveys, design and construction of engineering structures. Survey methods for building engineering and geodesic networks, benchmarks, accessories. Geodesic support for the construction of civil and industrial buildings, roads and bridges, underground utilities, hydraulic structures, subway tunnels, power lines and communications, main pipelines. Geodesic use of satellite technology.	Modern technical means of geodesy
M123	«Geodesy»	M123	Modern technical means of geodesy	GRPSS 6305	AS	Elective subjects	5.0	Master's program by specialization (Scientific & pedagogical direction)	Geodesy and cartography	2	Geodesy, Engineering geodesy	knows the skills of conducting engineering and geodesic actions and designing for conducting surveys, creating planned high-altitude networks and performing topographic surveys by various methods, for searching and processing information in a foreign language; To know the various methods, for searching and processing information in a foreign language; To know the main problems of modern geodesic science, to create topographic and geodesic projects, to organize and conduct research projects, to predict the economic assessment of projects in the field of cartographic and geodesic production, to possess the skills of using modern information systems (GIS) technology and automated systems (CAD) when performing geodesic, cartographic, design work, to study scientific and technical information, and implement advanced domestic and foreign experience.	
M123	«Geodesy»	M123	Geoinformation systems									knows the skills of conducting engineering and geodesic actions and designing for conducting surveys, creating planned high-altitude networks and performing topographic surveys by various methods, for searching and processing information in a foreign language; To know the main problems of modern geodesic science, to create topographic and geodesic projects, to organize and conduct research projects, to predict the economic assessment of projects in the field of cartographic and geodesic production, to possess the skills of using modern information systems (GIS) technology and automated systems (CAD) when performing geodesic, cartographic, design work, to study scientific and technical information, and implement advanced domestic and foreign experience.	Geoinformation systems
M123	«Geodesy»	M123	Geoinformation mapping	GRPSS 6305	AS	Elective subjects	5.0	Master's program by specialization (Scientific & pedagogical direction)	Geodesy and cartography	2	Geodesy, Engineering geodesy	knows the skills of conducting engineering and geodesic actions and designing for conducting surveys, creating planned high-altitude networks and performing topographic surveys by various methods, for searching and processing information in a foreign language; To know the main problems of modern geodesic science, to create topographic and geodesic projects, to organize and conduct research projects, to predict the economic assessment of projects in the field of cartographic and geodesic production, to possess the skills of using modern information systems (GIS) technology and automated systems (CAD) when performing geodesic, cartographic, design work, to study scientific and technical information, and implement advanced domestic and foreign experience.	Geoinformation systems

The validity of election disciplines was extended at the meeting of the Faculty Council of U.Schollim Kuznetsov Agrarian Research University, conducted on Dec 14, 2023.

Head of the Department "Geodesy and Cartography" _____

A. B. Travkina