Study plan

Name of study plan: Geodézie a kartografie, specializace Inženýrská geodézie

Faculty/Institute/Others: Department: Branch of study guaranteed by the department: Welcome page Garantor of the study branch: Program of study: Geodesy and Cartography Type of study: Follow-up master full-time Required credits: 120 Elective courses credits: 0 Sum of credits in the plan: 120 Note on the plan: platí pro nástup od akad. roku 2024/25

Name of the block: Compulsory courses Minimal number of credits of the block: 90 The role of the block: Z

Code of the group: NG20230001

Name of the group: Geodézie a kartografie, spec. Inženýrská geodézie, 1. semestr Requirement credits in the group: In this group you have to gain at least 30 credits Requirement courses in the group: In this group you have to complete at least 8 courses Credits in the group: 30

Note on the group:

Code	Name of the course / Name of the group of courses(in case of groups of courses the list of codes of their members)Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
101MM4G	Mathematics 4G Jozef Bobok Jozef Bobok Jozef Bobok (Gar.)	Z,ZK	4	2P+2C	Z	Z
124UPST	Introduction to Civil Engineering Ctislav Fiala Ctislav Fiala (Gar.)	ZK	2	2P	Z	Z
154ACIG	AutoCAD for Engineering Surveying Rudolf Urban Rudolf Urban (Gar.)	KZ	2	2C	Z	Z
154ING2	Engineering Surveying 2 Martin Štroner Martin Štroner (Gar.)	Z,ZK	5	2P+2C	Z	Z
155DPRZ	Remote Sensing Karel Pavelka Eva Matoušková Karel Pavelka (Gar.)	Z,ZK	5	2P+2C	Z	Z
155GPL2	Survey Sketches 2 Zden k Valenta Zden k Valenta Zden k Valenta (Gar.)	KZ	2	2C	Z	Z
155KAT3	Cartography 3 Ji í Cajthaml, Tomáš Janata, Petra Justová, Josef Münzberger Ji í Cajthaml Ji í Cajthaml (Gar.)	Z,ZK	5	2P+2C	z	Z
155TGD3	Theoretical geodesy 3 Jan Holešovský Jan Holešovský Jan Holešovský (Gar.)	Z,ZK	5	2P+2C	Z	Z

Characteristics of the courses of this group of Study Plan: Code=NG20230001 Name=Geodézie a kartografie, spec. Inženýrská geodézie, 1. semestr

101MM4G	Mathematics 4G	Z,ZK	4
https://mat.fsv.cvut.	z/bobok/		
124UPST	Introduction to Civil Engineering	ZK	2
Basic classification	of building structures, basics of building structures - construction elements, construction systems, construction technology, cons	truction process. Te	chnical
documentation - lev	Is of technical documentation, principles of technical documentation. Foundation structures of buildings - construction trenchs, surf	face foundations, de	ep foundation
Substructure - cons	ruction, expansion, waterproofing. Load-bearing tructures of buildings - vertical land horizontal oad-bearing structures, roof struc	tures - building tech	nnical solution
Overhanging struct	res, stairs and ramps - structural and material solutions. Completion construction - types, technology, construction technical sol	utions.	
154ACIG	AutoCAD for Engineering Surveying	KZ	2
Basics of AutoCAD	working with files, file types, compatibility, user interface, control, drawing, grips, tracing, levels, measurements, dimensions, bl	ocks. tables. extern	al references
	······································	,,	
	, auxiliary commands.	,,,	
		Z,ZK	5
working with rasters 154ING2	auxiliary commands.	Z,ZK	5
working with raster 154ING2 Planning and evalu	auxiliary commands. Engineering Surveying 2	Z,ZK	5 ces of errors.
working with raster 154ING2 Planning and evalu Geodetic setting-ou	, auxiliary commands. Engineering Surveying 2 ting of precision of the geodetic activities, evaluation of precision of measurement and setting-out of distances, angles and verti	Z,ZK icals including sour it of elementary par	5 ces of errors. rts of a buildin

155DPRZ	Remote Sensing	Z,ZK	5				
The subject is focused of	n explanation of physical bases allowing to use remote sensing, on technical explanation of methods of data collection/meas	urement, on beha	vior of individual				
materials/land covers as	materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications.						
155GPL2	Survey Sketches 2	KZ	2				
Students will learn about	Students will learn about the preparation of geometric plans through practical exercises. It is mainly about the orientation of changes for updating the cadastral register by various						
measuring technologies	and the subsequent processing of geometric plans as a technical basis for the introduction of these changes into the cadastra	al register in location	ons with different				
technical conditions - ar	nalogue cadastral map, digital cadastral map (DKM, KMD, etc.)						
155KAT3	Cartography 3	Z,ZK	5				
Advanced cartography,	web map services and applications, dynamic maps, spatial data formats, data sources, standardization, web maps, trends in	cartography.					
155TGD3	Theoretical geodesy 3	Z,ZK	5				
Vector and scalar descr	ption of gravitational field of the Earth. Properties of gravitational potential and its derivatives for basic bodies. Description of	gravity field of the	e Earth. Normal				
gravity field of normal b	odies. Approximation of the shape of the Earth in form of geoid or level ellipsoid. Stokes' and Molodensky's solution of the sh	hape of the Earth.	Consequences				
of this procedures for ge	eodesy (geoid, quasigeoid, heights). Construction and models of (quasi)geoid. Physical priciples of gravity surveying.						

Code of the group: NG20240002

Name of the group: Geodézie a kartografie, spec. Inženýrská geodézie, 2. semestr Requirement credits in the group: In this group you have to gain at least 30 credits Requirement courses in the group: In this group you have to complete at least 8 courses Credits in the group: 30

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
136UDST	Introduction to Transportation Facilities Engineering Ludvík Vébr, Lenka Lomoz Ludvík Vébr Ludvík Vébr (Gar.)	ZK	2	2P	L	Z
154IGE3	Engineering Surveying 3 Jaroslav Braun Jaroslav Braun (Gar.)	Z,ZK	6	2P+3C	L	Z
154LASK	Laser Scanning Tomáš Kemen Tomáš Kemen Tomáš Kemen (Gar.)	Z,ZK	4	1P+2C	L	Z
154VYIG	Engineering Surveying Fieldwork Training (2 weeks) Martin Štroner Martin Štroner (Gar.)	KZ	2	4C	L	Z
155FTG2	Photogrammetry 2 Karel Pavelka, Jan Pacina Karel Pavelka Karel Pavelka (Gar.)	Z,ZK	5	2P+2C	L	Z
155PKAR	Project - Cartography Ji í Cajthaml, Tomáš Janata Ji í Cajthaml Ji í Cajthaml (Gar.)	KZ	5	3C	L	Z
155TG4	Theoretical geodesy 4 Jakub Kostelecký Jakub Kostelecký Leoš Mervart (Gar.)	Z,ZK	5	2P+2C	L	Z
155VTTG	Fieldwork Training in Theoretical Geodesy Zden k Vysko il Zden k Vysko il Zden k Vysko il (Gar.)	KZ	1	2C	L	Z

Characteristics of the courses of this group of Study Plan: Code=NG20240002 Name=Geodézie a kartografie, spec. Inženýrská geodézie, 2. semestr

136UDST	Introduction to Transportation Facilities Engineering	ZK	2
The subject is designed	as a course containing basic knowledge of transport construction. The lectures are divided into two parts, road (9 lectures) a	nd railway (4 lectu	ures). In the road
part, students will learn	about the Road Act and related legislative and technical regulations, their impact on road design. Design categories of roads	s and highways, d	esign speed,
alignment and elevation	, road and highway layout in cross section, earthwork - dimensions, shapes, drainage. Urban roads, division and designation, (definition of MK sp	oace, differences
in design, operation and	l equipment. Pavement, division, design principles. Safety equipment, junctions and crossings. In the lectures devoted to rail	transport, basic te	erminology from
the field of rail transport	, design parameters of the track, basic shapes of the earth body, composition of the railway top and bottom, including the Ac	t on Railways, wil	l be presented.
Furthermore, the basic	design parameters of urban rail transport - trams and subways, history, principles and principles of tram line and subway con	struction will be p	resented. The
interaction of rail transp	ort with the environment will be mentioned. The final lecture will be devoted to railway geodesy, geodetic foundations for ensu	uring the spatial lo	ocation of the
track.			
154IGE3	Engineering Surveying 3	Z,ZK	6
Legislative regulations f	or geodetic activities in the capital construction, technical standards, geodetic ground for designing, geodetic activities in the	building structure	s, transportation
engineering, water reso	urce management, industry and energetics (specificities of setting-out, check of geometrical parameters of structures, rectific	cation of technolo	gical equipment
etc.).			
154LASK	Laser Scanning	Z,ZK	4
	Laser Scanning laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of po	,	-
Principles and theory of	6	,	-
Principles and theory of	laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of po	,	
Principles and theory of about the most importan 154VYIG	laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point LSS, practical applications in civil engineering and related branches, economical advantages, work safety.	int cloud process	ing, information
Principles and theory of about the most importan 154VYIG Measurement and calcu	laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point LSS, practical applications in civil engineering and related branches, economical advantages, work safety. Engineering Surveying Fieldwork Training (2 weeks)	int cloud process KZ alculation of the s	ing, information 2 etting out data,
Principles and theory of about the most important 154VYIG Measurement and calcu- setting out of the constr	laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point LSS, practical applications in civil engineering and related branches, economical advantages, work safety. Engineering Surveying Fieldwork Training (2 weeks) lation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, c	int cloud process KZ alculation of the s	ing, information 2 etting out data,
Principles and theory of about the most important 154VYIG Measurement and calcu- setting out of the constr	laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point LSS, practical applications in civil engineering and related branches, economical advantages, work safety. Engineering Surveying Fieldwork Training (2 weeks) lation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, curcion with check measurement, setting out of the road with arcs and transition curves, measurement and processing of the	int cloud process KZ alculation of the s	ing, information 2 etting out data,
Principles and theory of about the most important 154VYIG Measurement and calcu setting out of the constr profile. Measurement art 155FTG2	laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point LSS, practical applications in civil engineering and related branches, economical advantages, work safety. Engineering Surveying Fieldwork Training (2 weeks) lation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, c uction with check measurement, setting out of the road with arcs and transition curves, measurement and processing of the ad calculation of the 3D network with use of the electronic tachymeter.	int cloud process KZ alculation of the s cross sections an Z,ZK	2 eetting out data, d longitudinal
Principles and theory of about the most important 154VYIG Measurement and calcu setting out of the constr profile. Measurement art 155FTG2 Aerial photogrammetry.	laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point LSS, practical applications in civil engineering and related branches, economical advantages, work safety. Engineering Surveying Fieldwork Training (2 weeks) lation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, c function with check measurement, setting out of the road with arcs and transition curves, measurement and processing of the ad calculation of the 3D network with use of the electronic tachymeter. Photogrammetry 2	int cloud process KZ alculation of the s cross sections an Z,ZK ogrammetric meth	2 eetting out data, d longitudinal 5 nods in mapping.
Principles and theory of about the most important 154VYIG Measurement and calcu setting out of the constr profile. Measurement art 155FTG2 Aerial photogrammetry. Orthophoto, its accurace	Iaser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point LSS, practical applications in civil engineering and related branches, economical advantages, work safety. Engineering Surveying Fieldwork Training (2 weeks) Ialation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, c function with check measurement, setting out of the road with arcs and transition curves, measurement and processing of the id calculation of the 3D network with use of the electronic tachymeter. Photogrammetry 2 Relative and absolute orientation of aerial photos. Analogue, analytic and digital interpreting devices, computer support. Photogrammetry precises are precise to the support. Photogrammetry is a support. Photo	int cloud process KZ alculation of the s cross sections an Z,ZK ogrammetric meth	2 eetting out data, d longitudinal 5 nods in mapping.
Principles and theory of about the most important 154VYIG Measurement and calcu setting out of the constr profile. Measurement art 155FTG2 Aerial photogrammetry. Orthophoto, its accurace	Iaser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point LSS, practical applications in civil engineering and related branches, economical advantages, work safety. Engineering Surveying Fieldwork Training (2 weeks) Ialation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, c function with check measurement, setting out of the road with arcs and transition curves, measurement and processing of the id calculation of the 3D network with use of the electronic tachymeter. Photogrammetry 2 Relative and absolute orientation of aerial photos. Analogue, analytic and digital interpreting devices, computer support. Photogrammetry, bigital orthoph	int cloud process KZ alculation of the s cross sections an Z,ZK ogrammetric meth	2 eetting out data, d longitudinal 5 nods in mapping.

155TG4	Theoretical geodesy 4	Z.ZK	5			
	introduces students to the field of space geodesy, i.e. using satellite observations of the Earth to define and maintain global of	, ,	is, the Earth			
orientation parameters, models of the Earth's gravity field and ocean topography. The outputs of space geodesy form the basis from which one of the most widely used measurement						
techniques in geodesy	techniques in geodesy GNSS is based.					
155VTTG	Fieldwork Training in Theoretical Geodesy	KZ	1			
Landsurveying in terrai	Landsurveying in terrain is intended for the practice of measurement methods of geodesy and data processing work in the creation of a point field. Includes tasks: Long Range					
Triangulation and Trilate	riangulation and Trilateration (TRG) Determining the course of the quasi-geoid (GEO) Remeasurement and adjustment of height points with very precise leveling (VPN) Azimuth					
determination using the	gyrotheodolite, gravimetric measurements					

Code of the group: NG20240003

Name of the group: Geodézie a kartografie, spec. Inženýrská geodézie, 3. semestr Requirement credits in the group: In this group you have to gain at least 30 credits Requirement courses in the group: In this group you have to complete at least 9 courses Credits in the group: 30

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
154EZKA	Economy in Land Surveying and Cadastre of Real Estates Rudolf Urban Rudolf Urban Rudolf Urban (Gar.)	Z,ZK	3	2P+1C	Z	Z
154GBIM	BIM in Surveying Jaroslav Braun	Z,ZK	3	1P+2C	Z	Z
154ING4	Engineering Surveying 4 Tomáš K emen, Tomáš Ji ikovský Tomáš K emen Martin Štroner (Gar.)	Z,ZK	5	2P+2C	Z	Z
154KONM	Control Measurement Tomáš Ji ikovský	KZ	3	3C	Z	Z
154MC3D	Microstation 3D Martin Štroner Martin Štroner (Gar.)	KZ	2	2C	Z	Z
154MEGE	Metrology in Geodesy Lenka Línková Martin Štroner Martin Štroner (Gar.)	KZ	2	1P+1C	Z	Z
155MSPD	Modern Methods of Spatial Data Acquisition Karel Pavelka, Jan Pacina Karel Pavelka Karel Pavelka (Gar.)	Z,ZK	5	2P+2C	Z	Z
155PKAZ	Law in Cadastre and Surveying Iveta Bláhová Iveta Bláhová Iveta Bláhová (Gar.)	ZK	2	2P	Z	Z
155VFG	Photogrammetry -Project Karel Pavelka, Jind ich Hoda Karel Pavelka Karel Pavelka (Gar.)	KZ	5	3C	Z	Z

Characteristics of the courses of this group of Study Plan: Code=NG20240003 Name=Geodézie a kartografie, spec. Inženýrská geodézie, 3. semestr

154EZKA	Economy in Land Surveying and Cadastre of Real Estates	Z.ZK	3
	s general economic terms with a specialization in the field of geodesy and cartography.	2,211	5
-			
154GBIM	BIM in Surveying	Z,ZK	3
Basic information about	BIM and the link to geodetic measurements. Ways of obtaining and processing geodetic data for the BIM model. Measureme	nt methods in rela	ation to LOG and
LOD. Creation of a simp	le BIM model.		
154ING4	Engineering Surveying 4	Z,ZK	5
The subject deals with t	he topic of mining surveying in Czechia.		·
154KONM	Control Measurement	KZ	3
Accuracy of geometric pa	arameters in construction, control measurement of construction objects, accuracy of geodetic methods in control measurement a	nd determination	of displacements
of construction and natu	rral objects, determination of stability of reference points. Interpretation of displacement measurement results and relevance	for monitoring ge	ometric and
physical properties and	for diagnostics of structures and natural objects. Links to other non-geodetic monitoring methods.		
154MC3D	Microstation 3D	KZ	2
Drawing in the system E	Bentley Microstation, creation, editing and visualisation of objects. A subject is concluded by a project, and it is a base for the	classification of s	students.
154MEGE	Metrology in Geodesy	KZ	2
The basis of the course	is metrological terminology and statistical tests used in geodesy. The course is focused on application of standard ISO 1712	3 Optics and optic	cal instruments
Field procedures for test	ng geodetic and surveying instruments. Participants get both practical and theoretical experience with testing of geodetic instrum	ents. They perforr	n measurements
with total stations and le	welling instruments in the field and they also use statistical methods for determining precision of the instruments.		
155MSPD	Modern Methods of Spatial Data Acquisition	Z,ZK	5
The course focuses on	new modern and unconventional methods of geospatial data collection and presentation. Contains information on terrestrial,	aerial and mobile	laser scanning,
about remote sensing a	nd its methods, about hyperspectral imaging. Further, it focuses on the progressive method in geomathics - on RPAS. It infor	ms about types, ι	sage,legislation
as well as about sensor	s and software for automatically processing for image data. Finally, geophysical methods and virtual reality technologies are	presented.	

155PKAZ	Law in Cadastre and Surveying	ZK	2			
Public and private, subs	antive and procedural law. Overview of legal regulations governing the cadastre of real estate (CN) and land surveying. Predec	cessors of survey	ing and cadastral			
authorities in the past. S	urveying and cadastral authorities today. Thing, thing in the legal sense, division of things, immovable things, part of a thing	and accessories	of a thing. Land,			
parcel of land, land in ju	risprudence, building, building in jurisprudence, small buildings, temporary buildings, building, unit. Origin of the CN and its p	predecessors, the	Cadastral Act			
and implementing regul	ations, definition and purpose of the CN. Content of the CN, cadastral register, registration of rights in the CN, basic provision	ns. Rights entere	d into the CN by			
deposit, title deed, prop	psal for deposit, annexes to the proposal, deposit procedure. Deposit procedure, record, note. Administration of the CN, entri	ies of other data,	acceptance of			
data, time limits for entr	r in the CN, deposit of documents in the collection of documents, revision of the CN, correction of errors, obligations of owner	ers and other ben	eficiaries,			
municipalities and public	authorities. Surveying activities and geometrical plans, publicity of the CN, provision of CN data, offences, common, transiti	ional and final pro	visions of the			
Cadastral Act. Real esta	te contracts. Previous legislation on land surveying, Land Surveying Act, introductory provisions, surveying activities. Rights	and obligations in	n carrying out			
surveying activities, veri	ication of results of surveying activities, geodetic reference systems and state mapping works, offences. Visit to the land regis	ter in the building	of the Surveying			
and Cadastral Authoritie	s in Prague Kobylisy.					
155VFG	Photogrammetry -Project	KZ	5			
practical metrical docun	entation of historical objects and sites, technology of documentation and data processing by modern methods		1			
Name of the b	ock: Povinn volitelné p edm ty, doporu ení S1					
Minimal number	er of credits of the block: 30					

The role of the block: S1

Code of the group: NG20180004

Name of the group: Geodézie a kartografie, spec. Inženýrská geodézie, diplomová práce Requirement credits in the group: In this group you have to gain at least 30 credits Requirement courses in the group: In this group you have to complete at least 1 course Credits in the group: 30

Note	on	the	group:	
	••••		9.000	

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
154DPM	Diploma Thesis Martin Štroner Martin Štroner (Gar.)	Z	30	24C	Z,L	S1
155DPM	Diploma Thesis Eva Matoušková, Ji í Cajthaml, Tomáš Janata, Jan Holešovský, Jind ich Hoda, Zden k Vysko il, Lena Halounová, Martin Tauchman, Petr Sou ek, Ji í Cajthaml Ji í Cajthaml (Gar.)	Z	30	24C	Z,L	S1

Characteristics of the courses of this group of Study Plan: Code=NG20180004 Name=Geodézie a kartografie, spec. Inženýrská geodézie, diplomová práce

154DPM	Diploma Thesis	Z	30	
Final thesis, prepared a	hal thesis, prepared according to the assignment.			
155DPM	Diploma Thesis	Z	30	
in accordance with the	hesis proposal			

List of courses of this pass:

Code	Name of the course	Completion	Credits				
101MM4G	Mathematics 4G	Z,ZK	4				
	https://mat.fsv.cvut.cz/bobok/						
124UPST	Introduction to Civil Engineering	ZK	2				
Basic classification of building structures, basics of building structures - construction elements, construction systems, construction technology, construction process. Technical							
documentation - levels of technical documentation, principles of technical documentation. Foundation structures of buildings - construction trenchs, surface foundations, deep foundations.							
Substructure - construction, expansion, waterproofing. Load-bearing tructures of buildings - vertical land horizontal oad-bearing structures, roof structures - building technical solutions.							
Overhanging structures, stairs and ramps - structural and material solutions. Completion construction - types, technology, construction technical solutions.							
136UDST	Introduction to Transportation Facilities Engineering	ZK	2				
The subject is designed as a course containing basic knowledge of transport construction. The lectures are divided into two parts, road (9 lectures) and railway (4 lectures). In the road							
part, students will learn about the Road Act and related legislative and technical regulations, their impact on road design. Design categories of roads and highways, design speed,							
alignment and elevation, road and highway layout in cross section, earthwork - dimensions, shapes, drainage. Urban roads, division and designation, definition of MK space, differences							
in design, operation and equipment. Pavement, division, design principles. Safety equipment, junctions and crossings. In the lectures devoted to rail transport, basic terminology from							
the field of rail transport, design parameters of the track, basic shapes of the earth body, composition of the railway top and bottom, including the Act on Railways, will be presented.							
Furthermore, the basic design parameters of urban rail transport - trams and subways, history, principles and principles of tram line and subway construction will be presented. The							
interaction of rail transport with the environment will be mentioned. The final lecture will be devoted to railway geodesy, geodetic foundations for ensuring the spatial location of the							
track.							
154ACIG	AutoCAD for Engineering Surveying	KZ	2				
Basics of AutoCAD - working with files, file types, compatibility, user interface, control, drawing, grips, tracing, levels, measurements, dimensions, blocks, tables, external references,							
working with rasters, auxiliary commands.							

154DPM	Diploma Thesis	Z	30
	Final thesis, prepared according to the assignment.		1
154EZKA	Economy in Land Surveying and Cadastre of Real Estates The subject summarizes general economic terms with a specialization in the field of geodesy and cartography.	Z,ZK	3
154GBIM	BIM in Surveying	Z,ZK	3
	bout BIM and the link to geodetic measurements. Ways of obtaining and processing geodetic data for the BIM model. Measurement n	· ·	to LOG and
	LOD. Creation of a simple BIM model.		
154IGE3	Engineering Surveying 3	Z,ZK	6
	ons for geodetic activities in the capital construction, technical standards, geodetic ground for designing, geodetic activities in the bui		ansportation
	resource management, industry and energetics (specificities of setting-out, check of geometrical parameters of structures, rectificati	-	-
	etc.).	0	
154ING2	Engineering Surveying 2	Z,ZK	5
	uating of precision of the geodetic activities, evaluation of precision of measurement and setting-out of distances, angles and vertical	· ·	-
-	ating of precision of the geodetic activities, evaluation of precision of measurement and setting-out of distances, angles and venteal at networks positional, altimetric and spatial (derivation of precision), evaluation of precision of positional and altimetric setting-out of	-	
-	n of main elements of transition curve including solution of circular arcs with transition curves, evaluation of precision and provablene		-
	and deformations.	iss of building stru	
4541004		7 71/	-
154ING4	Engineering Surveying 4	Z,ZK	5
	The subject deals with the topic of mining surveying in Czechia.		-
154KONM	Control Measurement	KZ	3
Accuracy of geomet	ric parameters in construction, control measurement of construction objects, accuracy of geodetic methods in control measurement and	determination of di	splacements
of construction a	nd natural objects, determination of stability of reference points. Interpretation of displacement measurement results and relevance for	or monitoring geor	metric and
	physical properties and for diagnostics of structures and natural objects. Links to other non-geodetic monitoring methods.		
154LASK	Laser Scanning	Z,ZK	4
	bry of laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point		information
	about the most important LSS, practical applications in civil engineering and related branches, economical advantages, work s		
154MC3D	Microstation 3D	KZ	2
	system Bentley Microstation, creation, editing and visualisation of objects. A subject is concluded by a project, and it is a base for the	1	1
154MEGE	Metrology in Geodesy	KZ	2
	purse is metrological terminology and statistical tests used in geodesy. The course is focused on application of standard ISO 17123 (
Field procedures for	testing geodetic and surveying instruments. Participants get both practical and theoretical experience with testing of geodetic instrument		easurements
	with total stations and levelling instruments in the field and they also use statistical methods for determining precision of the instru-	uments.	
154VYIG	Engineering Surveying Fieldwork Training (2 weeks)	KZ	2
Measurement and	calculation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, calc	ulation of the setti	ng out data,
setting out of the o	construction with check measurement, setting out of the road with arcs and transition curves, measurement and processing of the cr	oss sections and I	ongitudinal
	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.		
155DPM	Diploma Thesis	7	30
155DPM	Diploma Thesis in accordance with the thesis proposal	Z	30
	in accordance with the thesis proposal	1	, ,
155DPRZ	in accordance with the thesis proposal Remote Sensing	Z,ZK	5
155DPRZ	in accordance with the thesis proposal Remote Sensing sed on explanation of physical bases allowing to use remote sensing, on technical explanation of methods of data collection/measure	Z,ZK	5
155DPRZ The subject is focus	in accordance with the thesis proposal Remote Sensing sed on explanation of physical bases allowing to use remote sensing, on technical explanation of methods of data collection/measure materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications.	Z,ZK ment, on behavior	5 of individual
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155TGD3	Theoretical geodesy 3	Z,ZK	5			
Vector and scalar description of gravitational field of the Earth. Properties of gravitational potential and its derivatives for basic bodies. Description of gravity field of the Earth. Normal						
gravity field of normal bodies. Approximation of the shape of the Earth in form of geoid or level ellipsoid. Stokes' and Molodensky's solution of the shape of the Earth. Consequences						
of this procedures for geodesy (geoid, quasigeoid, heights). Construction and models of (quasi)geoid. Physical priciples of gravity surveying.						
155VFG	Photogrammetry -Project	KZ	5			
practical metrical documentation of historical objects and sites, technology of documentation and data processing by modern methods						
155VTTG	Fieldwork Training in Theoretical Geodesy	KZ	1			
Landsurveying in terrain is intended for the practice of measurement methods of geodesy and data processing work in the creation of a point field. Includes tasks: Long Range						
Triangulation and Trilateration (TRG) Determining the course of the quasi-geoid (GEO) Remeasurement and adjustment of height points with very precise leveling (VPN) Azimuth						
determination using the gyrotheodolite, gravimetric measurements						

For updated information see <u>http://bilakniha.cvut.cz/en/FF.html</u> Generated: day 2025-08-23, time 13:52.