#### 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

Engineering Surveying 2

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 Ond ej Vá a, Ond ej Grešla, 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 <b>Ji í Cajthaml</b> Ji í Cajthaml (Gar.)	Z,ZK	5	2P+2C	Z	Z
155TGD3	Theoretical geodesy 3 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.cz/b	obok/	•					
124UPST	Introduction to Civil Engineering	ZK	2				
Basic classification of b	Basic classification of building structures, basics of building structures - construction elements, construction systems, construction technology, construction process. Technical						
documentation - levels	documentation - levels of technical documentation, principles of technical documentation. Foundation structures of buildings - construction trenchs, surface foundations, deep foundations						
Substructure - construc	tion, expansion, waterproofing. Load-bearing tructures of buildings - vertical land horizontal oad-bearing structures, roof struct	tures - building ted	chnical solutions.				
Overhanging structures	, stairs and ramps - structural and material solutions. Completion construction - types, technology, construction technical solu	utions.					
154ACIG	AutoCAD for Engineering Surveying	KZ	2				
Basics of AutoCAD - wo	sics of AutoCAD - working with files, file types, compatibility, user interface, control, drawing, grips, tracing, levels, measurements, dimensions, blocks, tables, external references,						
working with rasters, au	ixiliary commands.						

Planning and evaluating of precision of the geodetic activities, evaluation of precision of measurement and setting-out of distances, angles and verticals including sources of errors. Geodetic setting-out networks positional, altimetric and spatial (derivation of precision), evaluation of precision of positional and altimetric setting-out of elementary parts of a building structure, derivation of main elements of transition curve including solution of circular arcs with transition curves, evaluation of precision and provableness of building structures shifts and deformations.

Z.ZK

155DPRZ Remote Sensing The subject is focused on explanation of physical bases allowing to use remote sensing, on technical explanation of methods of data collection/measurement, on behavior of individual materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications. 155GPL2 Survey Sketches 2 ΚZ 2 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 cadastral register in locations with different technical conditions - analogue cadastral map, digital cadastral map (DKM, KMD, etc.) 155KAT3 Cartography 3 Z,ZK 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 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.

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	ZK	2	2P	L	Z
154IGE3	Engineering Surveying 3  Jaroslav Braun	Z,ZK	6	2P+3C	L	Z
154LASK	Laser Scanning Tomáš K emen	Z,ZK	4	1P+2C	L	Z
154VYIG	Engineering Surveying Fieldwork Training (2 weeks)  Martin Štroner	KZ	2	4C	L	Z
155FTG2	Photogrammetry 2 Karel Pavelka	Z,ZK	5	2P+2C	L	Z
155PKAR	Project - Cartography Ji i Cajthaml	KZ	5	3C	L	Z
155TG4	Theoretical geodesy 4	Z,ZK	5	2P+2C	L	Z
155VTTG	Fieldwork Training in Theoretical Geodesy  Zden k Vysko il	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

Introduction to Transportation Facilities Engineering

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.

154IGE3 Engineering Surveying 3 Z,ZK 6

Legislative regulations for geodetic activities in the capital construction, technical standards, geodetic ground for designing, geodetic activities in the building structures, transportation engineering, water resource management, industry and energetics (specificities of setting-out, check of geometrical parameters of structures, rectification of technological equipment etc.).

154LASK Laser Scanning Z,ZK 4

Principles and theory of laser scanning systems (LSS), main types of LSS, influences impact on the accuracy of measuring, general sequence of point cloud processing, information about the most important LSS, practical applications in civil engineering and related branches, economical advantages, work safety.

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, calculation of the setting out data, setting out of the construction with check measurement, setting out of the road with arcs and transition curves, measurement and processing of the cross sections and longitudinal profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.

155FTG2 Photogrammetry 2 Z,ZK 5

Aerial photogrammetry. Relative and absolute orientation of aerial photos. Analogue, analytic and digital interpreting devices, computer support. Photogrammetric methods in mapping. Orthophoto, its accuracy. Photo triangulation, AAT, block and bundle adjustments, analytical photogrammetry. Digital photogrammetry, digital orthophoto, digital photogrammetric stations, optical correlation systems, aerial laser scanning, using of drones (RPAS).

155PKAR Project - Cartography KZ 5

Map creation in GIS, geodatabase, data model, symbology, compositional elements of maps, geographical nomenclature, errors in maps.

155TG4	Theoretical geodesy 4	Z,ZK	5
Theoretical Geodesy 4	introduces students to the field of space geodesy, i.e. using satellite observations of the Earth to define and maintain global of	coordinate system	s, the Earth

Theoretical Geodesy 4 introduces students to the field of space geodesy, i.e. using satellite observations of the Earth to define and maintain global coordinate systems, 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 GNSS is based.

155VTTG Fieldwork Training in Theoretical Geodesy

KZ

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

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:

NOTE OF THE S	<u> </u>	_				
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 Jaroslav Braun (Gar.)	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 Tomáš Ji ikovský (Gar.)	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, specstr

3. semestr			
154EZKA	Economy in Land Surveying and Cadastre of Real Estates	Z,ZK	3
The subject summa	izes general economic terms with a specialization in the field of geodesy and cartography.		
154GBIM	BIM in Surveying	Z,ZK	3
Basic information at	out BIM and the link to geodetic measurements. Ways of obtaining and processing geodetic data for the BIM model. Measurements	ent methods in rela	tion to LOG and
LOD. Creation of a s	imple BIM model.		
154ING4	Engineering Surveying 4	Z,ZK	5
The subject deals w	ith the topic of mining surveying in Czechia.		
154KONM	Control Measurement	KZ	3
Accuracy of geometr	ic parameters in construction, control measurement of construction objects, accuracy of geodetic methods in control measurement	and determination of	of displacements
of construction and	natural objects, determination of stability of reference points. Interpretation of displacement measurement results and relevance	for monitoring ged	metric 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 syste	m Bentley Microstation, creation, editing and visualisation of objects. A subject is concluded by a project, and it is a base for the	e classification of s	tudents.
154MEGE	Metrology in Geodesy	KZ	2
The basis of the cou	rse is metrological terminology and statistical tests used in geodesy. The course is focused on application of standard ISO 171:	23 Optics and optic	al instruments
Field procedures for	testing geodetic and surveying instruments. Participants get both practical and theoretical experience with testing of geodetic instru	ments. They perform	n measurements
with total stations ar	d levelling 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 sensir	g and its methods, about hyperspectral imaging. Further, it focuses on the progressive method in geomathics - on RPAS. It info	rms about types, u	sage,legislation

as well as about sensors and software for automatically processing for image data. Finally, geophysical methods and virtual reality technologies are presented.

155PKAZ Law in Cadastre and Surveying

ĽK

2

Public and private, substantive and procedural law. Overview of legal regulations governing the cadastre of real estate (CN) and land surveying. Predecessors of surveying and cadastral authorities in the past. Surveying 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 jurisprudence, building, building in jurisprudence, small buildings, temporary buildings, building, unit. Origin of the CN and its predecessors, the Cadastral Act and implementing regulations, definition and purpose of the CN. Content of the CN, cadastral register, registration of rights in the CN, basic provisions. Rights entered into the CN by deposit, title deed, proposal for deposit, annexes to the proposal, deposit procedure. Deposit procedure, record, note. Administration of the CN, entries of other data, acceptance of data, time limits for entry in the CN, deposit of documents in the collection of documents, revision of the CN, correction of errors, obligations of owners and other beneficiaries, municipalities and public authorities. Surveying activities and geometrical plans, publicity of the CN, provision of CN data, offences, common, transitional and final provisions of the Cadastral Act. Real estate contracts. Previous legislation on land surveying, Land Surveying Act, introductory provisions, surveying activities. Rights and obligations in carrying out surveying activities, verification of results of surveying activities, geodetic reference systems and state mapping works, offences. Visit to the land register in the building of the Surveying and Cadastral Authorities in Prague Kobylisy.

155VFG Photogrammetry - Project

ΚZ

5

practical metrical documentation of historical objects and sites, technology of documentation and data processing by modern methods

Name of the block: Povinn volitelné p edm ty, doporu ení S1

Minimal number 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:

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 Jan Holešovský, Zden k Vysko il, Lena Halounová 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	coording to the assignment.					
155DPM	Diploma Thesis	Z	30			
in accordance with the	n accordance with the thesis 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/	<u> </u>	
124UPST	Introduction to Civil Engineering	ZK	2
Basic classifica	tion of building structures, basics of building structures - construction elements, construction systems, construction technology, const	truction process To	echnical

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

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 Final thesis, prepared according to the assignment.	Z	30
154EZKA	Economy in Land Surveying and Cadastre of Real Estates	Z,ZK	3
154CDIM	The subject summarizes general economic terms with a specialization in the field of geodesy and cartography.	7 71/	
154GBIM Basic information a	BIM in Surveying   bout BIM and the link to geodetic measurements. Ways of obtaining and processing geodetic data for the BIM model. Measurement m	Z,ZK ethods in relation	3 to LOG and
	LOD. Creation of a simple BIM model.		1
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 build resource management, industry and energetics (specificities of setting-out, check of geometrical parameters of structures, rectification	-	-
	etc.).		
_	Engineering Surveying 2  uating of precision of the geodetic activities, evaluation of precision of measurement and setting-out of distances, angles and verticals to previous processing of precisions of precision	_	
	ut networks positional, altimetric and spatial (derivation of precision), evaluation of precision of positional and altimetric setting-out of one of main elements of transition curve including solution of circular arcs with transition curves, evaluation of precision and provablenes and deformations.		
154ING4	Engineering Surveying 4	Z,ZK	5
	The subject deals with the topic of mining surveying in Czechia.		
154KONM	Control Measurement	KZ	3
	ric parameters in construction, control measurement of construction objects, accuracy of geodetic methods in control measurement and c		-
of construction a	nd natural objects, determination of stability of reference points. Interpretation of displacement measurement results and relevance for physical properties and for diagnostics of structures and natural objects. Links to other non-geodetic monitoring methods.	r monitoring geor	metric and
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		1
· ····o.p.oo a.i.a ii.oo	about the most important LSS, practical applications in civil engineering and related branches, economical advantages, work sa		
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
154MEGE	Metrology in Geodesy	KZ	2
The basis of the co	ourse is metrological terminology and statistical tests used in geodesy. The course is focused on application of standard ISO 17123 C	ptics and optical	instrument
ield procedures for	testing geodetic and surveying instruments. Participants get both practical and theoretical experience with testing of geodetic instruments	s. They perform me	easuremen
	with total stations and levelling instruments in the field and they also use statistical methods for determining precision of the instru		
154VYIG	Engineering Surveying Fieldwork Training (2 weeks)	KZ	2
	calculation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, calculation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, calculation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, calculation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, calculation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, calculation of the geodetic micronetwork for industry purposes, precise height measurements, method of the temporary station, calculation of the geodetic micronetwork for industry purposes, precise height measurements and the geodetic micronetwork for industry purposes.	lation of the setti	ng out data
setting out of the			
3	construction with check measurement, setting out of the road with arcs and transition curves, measurement and processing of the cro		ongitudina
	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.	ss sections and I	_
155DPM	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis		ongitudinal
155DPM	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis in accordance with the thesis proposal	ss sections and I	30
155DPM 155DPRZ	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis in accordance with the thesis proposal  Remote Sensing	z Z,ZK	30
155DPM 155DPRZ	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis 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/measurer	z Z,ZK	30
155DPM  155DPRZ The subject is focus	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis 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/measurer materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications.	Z Z,ZK nent, on behavior	30 5 of individua
155DPM  155DPRZ The subject is focus  155FTG2	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis 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/measurer materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications.  Photogrammetry 2	Z,ZK nent, on behavior	30 5 of individua
155DPM  155DPRZ The subject is focus  155FTG2 Aerial photogramm	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis 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/measurer materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications.  Photogrammetry 2 etry. Relative and absolute orientation of aerial photos. Analogue, analytic and digital interpreting devices, computer support. Photogram	Z,ZK nent, on behavior Z,ZK mmetric methods	30 5 of individual 5 5 in mapping
155DPM  155DPRZ The subject is focus  155FTG2 Aerial photogramm	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis 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/measurer materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications.  Photogrammetry 2  etry. Relative and absolute orientation of aerial photos. Analogue, analytic and digital interpreting devices, computer support. Photogramcurve. Photo triangulation, AAT, block and bundle adjustments, analytical photogrammetry. Digital photogrammetry, digital orthophore.	Z,ZK nent, on behavior Z,ZK mmetric methods	30 5 of individual 5 5 in mapping
155DPM  155DPRZ The subject is focus  155FTG2 Aerial photogramm Orthophoto, its a	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis 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/measurer materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications.  Photogrammetry 2 etry. Relative and absolute orientation of aerial photos. Analogue, analytic and digital interpreting devices, computer support. Photogramcury. Photo triangulation, AAT, block and bundle adjustments, analytical photogrammetry. Digital photogrammetry, digital orthophostations, optical correlation systems, aerial laser scanning, using of drones (RPAS).	Z,ZK nent, on behavior Z,ZK mmetric methods to, digital photog	30 5 of individua 5 in mapping
155DPM  155DPRZ The subject is focus  155FTG2 Aerial photogramm Orthophoto, its a	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis 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/measurer materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications.  Photogrammetry 2  etry. Relative and absolute orientation of aerial photos. Analogue, analytic and digital interpreting devices, computer support. Photogramicuracy. Photo triangulation, AAT, block and bundle adjustments, analytical photogrammetry. Digital photogrammetry, digital orthophostations, optical correlation systems, aerial laser scanning, using of drones (RPAS).  Survey Sketches 2	Z,ZK nent, on behavior Z,ZK mmetric methods to, digital photog	30 5 of individual 5 s in mapping rammetric
155DPM  155DPRZ The subject is focus  155FTG2 Aerial photogramm Orthophoto, its a  155GPL2 Students will lear	profile. Measurement and calculation of the 3D network with use of the electronic tachymeter.  Diploma Thesis 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/measurer materials/land covers as an interaction with electromagnetic radiation, and on possibility to use RS for many applications.  Photogrammetry 2  etry. Relative and absolute orientation of aerial photos. Analogue, analytic and digital interpreting devices, computer support. Photogramic photogrammetry. Photogrammetry. Digital photogrammetry, digital orthophorselations, optical correlation systems, aerial laser scanning, using of drones (RPAS).  Survey Sketches 2  In about the preparation of geometric plans through practical exercises. It is mainly about the orientation of changes for updating the orientation or changes for u	Z,ZK nent, on behavior Z,ZK metric methods to, digital photog	30 5 of individua 5 s in mapping rammetric 2 by various
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155TGD3	Theoretical geodesy 3	Z,ZK	5				
Vector and scalar	escription of gravitational field of the Earth. Properties of gravitational potential and its derivatives for basic bodies. Description of gravitational forms of the Earth.	vity field of the Ea	rth. Normal				
gravity field of norr	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 me	ethods					
155VTTG	Fieldwork Training in Theoretical Geodesy	KZ	1				
Landsurveying	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	iangulation 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 <a href="http://bilakniha.cvut.cz/en/FF.html">http://bilakniha.cvut.cz/en/FF.html</a> Generated: day 2025-11-20, time 19:32.