#### Study plan

## Name of study plan: Master Full-Time DS from 2024/25

Faculty/Institute/Others: Department: Branch of study guaranteed by the department: Welcome page Garantor of the study branch: Program of study: Transportation Systems and Technology 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:

Name of the block: Compulsory courses Minimal number of credits of the block: 93 The role of the block: Z

Code of the group: 1S-NP-DS-24/25-DC Name of the group: 1st Sem. Master Full-Time DS from 2024/25 Requirement credits in the group: In this group you have to gain 22 credits Requirement courses in the group: In this group you have to complete 7 courses Credits in the group: 22 Note on the group:

Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their Code Completion Credits Scope Semester Role members) Tutors, authors and guarantors (gar.) **Rail Transport Infrastructure** 612IKD Z.ZK 5 2P+2C 7 7 Tomáš Javo ĺk **Highway Engineering Materials** 612TKVP 4 2P+2C Ζ Z.ZK 7 Gabriela Sidorinová Geomechanics and Foundation Engineering 618GAZ Z.ZK 3 2P+1C Ζ 7 Vít Malinovský Vít Malinovský (Gar., Theory of Engineering Structures 618TIK Ζ Z,ZK 4 2P+1C z Ján Kopa ka Josef Kocourek (Gar.) Geographical Information Systems 614GISS 2 0P+2C+8B 7 ΚZ 7 Zuzana Purkrábková, František Kekula **Modelling and Vehicle Movement Simulation** 0P+2C 622MSV 2 Ζ ΚZ Ζ Drahomír Schmidt, Michal Frydrýn Michal Frydrýn Drahomír Schmidt (Gar.) Language - English 1 Ζ 615J2A1 Ζ 2 0P+2C+10B Ζ Jan Feit Karolina Beauxisová

Characteristics of the courses of this group of Study Plan: Code=1S-NP-DS-24/25-DC Name=1st Sem. Master Full-Time DS from 2024/25 612IKD Rail Transport Infrastructure Z,ZK 5 Non-compensated lateral acceleration, parameters eduction for transition curve and cant transition, curves without straight, track spacing change. Track detailed construction. Substructure design, slab track. Tram-train. Interoperability. Noise precautions. Railway line modernization for non-tilting and tilting trains. 612TKVP **Highway Engineering Materials** Z.ZK 4 The theory of road construction - Material Aspects. The course emphasizes the development of road construction from the beginning of the 20th century to the present, focusing on materials, understanding the production and placing of asphalt mixtures 618GAZ Geomechanics and Foundation Engineering Z.ZK З Geology (basics of pertrographyand stratigraphy), mechanics of soils (classification of fundamental soils, mechanic properties of fundamental soils, permeability), planar foundations (footings, footers, plates, depth of founding), determination of planar foundations bearing and deformation, depth foundations classification of depth foundations elements, examples of their use, piles (classification, technology od performing). 618TIK Theory of Engineering Structures Z,ZK The course builds upon the knowledge gained in basic mechanics courses in bachelor study (especially Statics and Elasticity) in the field of mathematical theory of elasticity. Emphasis is placed on plane and axisymmetric problems, as well as on the calculation of stress and strain in plates and shells. Students are further acquainted with methods of modeling the behavior of subsoil used in the design of line structures. 614GISS ΚZ 2 **Geographical Information Systems** Construction of saving format of space-oriented information land-survey and cartography minimum basic tasks of spatial operations principles of territorial identification 622MSV Modelling and Vehicle Movement Simulation ΚZ 2 Principles and posibilities of simulation tools with regards to vehicle movement analysis and vehicle crash analysis. Kinematic and dynamic modelling of vehicle/set of vehicles movement. View conditions. Proposed road space passage. Processing of road 3D models.

615J2A1	Language - English 1	Z	2				
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising							
technical text content, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical registers and their use, language							
of management.							

Code of the group: 1S-NP-DS-V1-24/25-DC Name of the group: 1st Sem. Master Full-Time DS Alternative from 2024/25 Requirement credits in the group: In this group you have to gain 4 credits Requirement courses in the group: In this group you have to complete 1 course Credits in the group: 4 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
617DOPD	<b>Transportation Planning and Modeling</b> Milan K íž Milan K íž (Gar.)	Z,ZK	4	2P+2C	Z	Z
617TZND	Technology of Railway Transport Michal Drábek Vít Janoš (Gar.)	Z,ZK	4	2P+2C	Z	Z

## Characteristics of the courses of this group of Study Plan: Code=1S-NP-DS-V1-24/25-DC Name=1st Sem. Master Full-Time DS Alternative from 2024/25

617DOPD	Transportation Planning and Modeling	Z,ZK	4					
Basic steps and tools	Basic steps and tools used within four step model (trip generation, trip distribution, mode choice and trip distribution). Mobility and availability in urban areas, land use. New trends for							
transportation plannin	transportation planning and modelling.							
617TZND	Technology of Railway Transport	Z.7K	4					

Track line capacity assessment, model operational situation with a system running time between IPT-nodes, calculation of traction energy savings compared with infrastructure costs for designing of fleeting crossing station, solving of capacity problem and blocking time in relation to train protection system, robustness of timetable, system concept of freight train paths, guidelines for centralised operational traffic control and management.

#### Code of the group: 2S-NP-DS-24/25-DC

Name of the group: 2nd Sem. Bachelor Full-Time DS from 2024/25 Requirement credits in the group: In this group you have to gain 20 credits Requirement courses in the group: In this group you have to complete 6 courses Credits in the group: 20 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
612NAPI	Design and Maintenance of Transportation Structures Gabriela Sidorinová Josef Kocourek (Gar.)	Z,ZK	4	2P+2C	L	Z
612UMUP	Sustainable Mobility and Land - Use Planning Dagmar Ko árková Josef Kocourek (Gar.)	Z,ZK	5	2P+2C	L	Z
612ZSUZ	Railway Stations and Centres Tomáš Javo ík, Martin Jacura Josef Kocourek (Gar.)	Z,ZK	3	2P+1C	L	Z
616PDP	Principles of Vehicle Design Jaroslav Machan, Jan Leistner Josef Kocourek (Gar.)	ZK	2	2P+0C+8B	L	Z
622AMMD	Measuring Methods Applied to Transportation Drahomír Schmidt, Michal Frydrýn, Tomáš Mi unek, Luboš Nouzovský, Zden k Svatý Luboš Nouzovský Tomáš Mi unek (Gar.)	KZ	4	1P+3C	L	Z
615JBA2	Language - English 2 Karolina Beauxisová, Jan Feit, V ra Pastorková	Z	2	0P+2C+10B	L	Z

## Characteristics of the courses of this group of Study Plan: Code=2S-NP-DS-24/25-DC Name=2nd Sem. Bachelor Full-Time DS from 2024/25

612NAPI	Design and Maintenance of Transportation Structures	Z,ZK	4						
Design and construction of cement-concrete pavements and their maintenance. Construction of bridge objects, examples and choice of bridge construction materials. Construction									
and operation of tunnels	and operation of tunnels.								
612UMUP	612UMUP Sustainable Mobility and Land - Use Planning Z,ZK 5								
Spatial planning - objec	tives and tasks, development over time. Land-use planning tools. SUMP. Territorial and transport planning context. Ways of u	, rban growth in coi	nnection with						
transport. Basic principl	es of the transport solution. The impact of transport on the size and shape of the city, on the development of the street and th	e square and the	roads. Solutions						
for pedestrian and bicyc	sle transport. Suburbanization and transport. City economics.								
612ZSUZ	Railway Stations and Centres	Z,ZK	3						
Equipment for passenge	er transport. Platform construction. Access roads to platforms. Modification of railway stations according to the TSI PRM. Stati	on heads design.	Variant solutions						
of station heads for curr	ent ride. Junction stations. Crossing stations. Passenger stations. Moving stations. Public transport terminals.								
616PDP	Principles of Vehicle Design	ZK	2						
Design of transportation	Design of transportation vehicle according to its usage and function. Marketing and user demands. Vehicle dynamics. Propulsion systems. Design process, functional design and								
vehicle structure. Evalua	ehicle structure. Evaluation of variant concepts. Design phases. Realiability, technological aspects etc.								

## 622AMMD Measuring Methods Applied to Transportation KZ 4 Geodetic location and technical processing of traffic route with geodetic total station, GPS and photogrammetry, 3D scanning. Transport corridor setting out using geodetic methods. Detection and technical processing of several vehicle dynamic characteristics using high-speed cameras and accelerometers. It is a week course and the terms are usually set in June and September - usually in examination period. 615JBA2 Language - English 2 Z 2 Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising Structures and Style.

Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising technical text content, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical registers and their use, language of management.

#### Code of the group: 2S-NP-DS-V1-24/25-DC

Name of the group: 2nd Sem. Master Full-Time DS Alternative from 2024/25 Requirement credits in the group: In this group you have to gain 4 credits Requirement courses in the group: In this group you have to complete 1 course Credits in the group: 4 Note on the group:

Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their Code Completion Credits Scope Semester Role members) Tutors, authors and guarantors (gar.) **Road Safety Audit** 612BED Z.ZK 2P+1C 4 L 7 Josef Kocourek Josef Kocourek (Gar.) Theoretical and Applied Mechanics 618TEAM Z,ZK 4 2P+1C L Z Ján Kopa ka Josef Kocourek (Gar.)

## Characteristics of the courses of this group of Study Plan: Code=2S-NP-DS-V1-24/25-DC Name=2nd Sem. Master Full-Time DS Alternative from 2024/25

612BED	Road Safety Audit	Z,ZK	4					
Schedules of applications of safety assessments (especially Road Safety Audit, Road Safety Inspection) during the process of preparations, and of the particular realization of the road								
network that should mir	network that should minimize traffic accident risks for all those who take part in road traffic. Application of European Directive 2008/96/EC on road safety infrastructure management.							
618TEAM	Theoretical and Applied Mechanics	Z,ZK	4					
Fundamentals of theory	Fundamentals of theory of plasticity. Plasticity conditions. Elastoplastic and plastic states of cross-sections and beams. Reliability and durability of structures. The stress and strain							
state around a notch. Stress intensity factor. Fracture toughness. Energy methods of linear fracture mechanics. Crack driving force.								

#### Code of the group: 3S-NP-DS-25/26-DC

#### Name of the group: 3rd Sem. Bachelor Full-Time DS from 2025/26

Requirement credits in the group: In this group you have to gain 20 credits

#### Requirement courses in the group: In this group you have to complete 5 courses

#### Credits in the group: 20

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
611STS	Stochastic Systems Pavla Pecherková Evženie Uglickich (Gar.)	Z,ZK	4	2P+2C+14B	Z	Z
612DAZP	Transport and Environment Josef Kocourek (Gar.)	Z,ZK	4	2P+1C	Z	Z
612TEAP	Theory of Road Traffic Operation Josef Kocourek (Gar.)	Z,ZK	7	3P+2C	Z	Z
612VRZ	High Speed Rail Transport Josef Kocourek (Gar.)	KZ	3	2P+0C	Z	Z
615JBA3	Language - English 3 Jan Feit	Z	2	0P+2C+10B	Z	Z

## Characteristics of the courses of this group of Study Plan: Code=3S-NP-DS-25/26-DC Name=3rd Sem. Bachelor Full-Time DS from 2025/26

611STS	Stochastic Systems	Z,ZK	4						
The subject deals with the problems of mathematical modelling of dynamical systems, estimation od these models and their utilization for prediction. The results are illustrated on									
practical transportation tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian probabilistic approach.									
612DAZP	2DAZP Transport and Environment Z,ZK 4								
This course aims the im	pact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy deman	ds. The noise mea	asury is part and						
parcel of this course.									
612TEAP	Theory of Road Traffic Operation	Z,ZK	7						
Traffic parameters and their measurement, acquisition and processing. Road capacity analysis. Theoretical foundations and applications of mathematical models - macroscopic,									
statistical and microscopic traffic models. Theory of traffic management. Traffic light signals, roundabouts, coordination, public transport priority. Urban and highway management.									
Traffic excesses manag	ement. Road assessment and maintenance methods. Health risks assessment.								

# 612VRZ High Speed Rail Transport KZ 3 High speed railway (HSR) transport characteristics and position in transportation system. Types / models of HSR systems, preparation of high speed railway lines building in the Czech Republic conditions. Non-adhesion HSR systems. City and region traffic service by HSR. HSR operating points. HSR worldwide network. HSR routing and traffic conception. Specifics of HSR track construction and layout track parameteres. 615JBA3 Language - English 3 Z 2 Grammatical structures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising technical text content, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical registers and their use, language

of management.

#### Code of the group: 3S-NP-DS-V1-25/26-DC

Name of the group: 3rd Sem. Master Full-Time DS Alternative from 2025/26 Requirement credits in the group: In this group you have to gain 3 credits Requirement courses in the group: In this group you have to complete 1 course Credits in the group: 3 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
612IDOS	Integrated Transport Systems Josef Kocourek (Gar.)	ZK	3	2P+0C	Z	Z
616STK	Simulation and Testing of Vehicle Body and Systems Josef Kocourek (Gar.)	ZK	3	2P+0C	Z	Z

## Characteristics of the courses of this group of Study Plan: Code=3S-NP-DS-V1-25/26-DC Name=3rd Sem. Master Full-Time DS Alternative from 2025/26

612IDOS	Integrated Transport Systems	ZK	3					
Reasons for building of	Reasons for building of integrated transport systems, principle of integration, dividing of integration methods, traffic, infrastructure, technical, organizational methods, integration of							
tariff, sales systems, inf	tariff, sales systems, information systems, marketing of system, examples of non-integration.							
616STK	Simulation and Testing of Vehicle Body and Systems	ZK	3					
Simulation theory. Com	Simulation theory. Computing equipment for simulation. Modeling of mechanical and dynamic systems. Simulation and optimization methods. Hardware in the Loop (HIL). Simulation							
approaches for vehicle	approaches for vehicle design. Simulation of propulsion and electric systems. Strength and material analyses of dynamical phenomena for vehicles of on-land carriage.							

#### Code of the group: 4S-NP-DS-25/26-DC

#### Name of the group: 4th Sem. Bachelor Full-Time DS from 2025/26

Requirement credits in the group: In this group you have to gain 2 credits

#### Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 2

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
615JBA4	Language - English 4	ZK	2	0P+2C+10B	L	Z

## Characteristics of the courses of this group of Study Plan: Code=4S-NP-DS-25/26-DC Name=4th Sem. Bachelor Full-Time DS from 2025/26

615JBA4 Language - English 4 ZK 2 Grammatical structures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising technical text content, structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical registers and their use, language of management.

#### Code of the group: XD-NP-DS-25/26-DC

Name of the group: Thesis Master Full-Time DS from 2025/26

Requirement credits in the group: In this group you have to gain 18 credits

#### Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 18

#### 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
611XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z

612XNDD	Master Thesis for study programme DS Josef Kocourek (Gar.)	Z	18	0P+20C	L	Z
614XNDD	Master Thesis for study programme DS Josef Kocourek (Gar.)	Z	18	0P+20C	L	Z
615XNDD	Master Thesis for study programme DS Josef Kocourek (Gar.)	Z	18	0P+20C	L	Z
616XNDD	Master Thesis for study programme DS Josef Kocourek (Gar.)	Z	18	0P+20C	L	Z
617XNDD	Master Thesis for study programme DS Josef Kocourek (Gar.)	Z	18	0P+20C	L	Z
618XNDD	Master Thesis for study programme DS Josef Kocourek (Gar.)	Z	18	0P+20C	L	Z
620XNDD	Master Thesis for study programme DS Josef Kocourek (Gar.)	Z	18	0P+20C	L	Z
621XNDD	Master Thesis for study programme DS Josef Kocourek (Gar.)	Z	18	0P+20C	L	Z
622XNDD	Master Thesis for study programme DS Michal Frydrýn Josef Kocourek (Gar.)	Z	18	0P+20C	L	Z

#### Characteristics of the courses of this group of Study Plan: Code=XD-NP-DS-25/26-DC Name=Thesis Master Full-Time DS from 2025/26

611XNDD	Master Thesis for study programme DS	Z	18
612XNDD	Master Thesis for study programme DS	Z	18
614XNDD	Master Thesis for study programme DS	Z	18
615XNDD	Master Thesis for study programme DS	Z	18
616XNDD	Master Thesis for study programme DS	Z	18
617XNDD	Master Thesis for study programme DS	Z	18
618XNDD	Master Thesis for study programme DS	Z	18
620XNDD	Master Thesis for study programme DS	Z	18
621XNDD	Master Thesis for study programme DS	Z	18
622XNDD	Master Thesis for study programme DS	Z	18

Name of the block: Semestrální projekt Minimal number of credits of the block: 13 The role of the block: ZP

Code of the group: X2-NP-DS-24/25-DC Name of the group: Research Groups Master Full-Time DS from 2024/25 Requirement credits in the group: In this group you have to gain 13 credits Requirement courses in the group: In this group you have to complete 4 courses Credits in the group: 13 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
622XN1	Master Project 1	Z	2	0P+2C	Z	ZP
621XN1	Master Project 1	Z	2	0P+2C	Z	ZP
614XN1	Master Project 1	Z	2	0P+2C	Z	ZP
611XN1	Master Project 1	Z	2	0P+2C	Z	ZP
617XN1	Master Project 1	Z	2	0P+2C	Z	ZP
612XN1	Master Project 1 Josef Kocourek, Dagmar Ko árková	Z	2	0P+2C	Z	ZP
620XN1	Master Project 1	Z	2	0P+2C	Z	ZP
618XN1	Master Project 1	Z	2	0P+2C	Z	ZP
616XN1	Master Project 1	Z	2	0P+2C	Z	ZP
615XN1	Master Project 1	Z	2	0P+2C	Z	ZP
616XN2	Master Project 2	Z	2	0P+2C	L	ZP
615XN2	Master Project 2	Z	2	0P+2C	L	ZP
622XN2	Master Project 2	Z	2	0P+2C	L	ZP
614XN2	Master Project 2	Z	2	0P+2C	L	ZP
612XN2	Master Project 2 Josef Kocourek	Z	2	0P+2C	L	ZP
611XN2	Master Project 2	Z	2	0P+2C	L	ZP

621XN2	Master Project 2	Z	2	0P+2C	L	ZP
617XN2	Master Project 2		2	0P+2C	 L	ZP
620XN2		Z	2	0P+2C	 L	ZP
	Master Project 2	Z Z		0P+2C 0P+2C		
618XN2	Master Project 2		2			ZP
618XN3	Master Project 3	Z	1	0P+4C	Z	ZP
617XN3	Master Project 3	Z	1	0P+4C	Z	ZP
616XN3	Master Project 3	Z	1	0P+4C	Z	ZP
612XN3	Master Project 3	Z	1	0P+4C	Z	ZP
611XN3	Master Project 3	Z	1	0P+4C	Z	ZP
614XN3	Master Project 3	Z	1	0P+4C	Z	ZP
622XN3	Master Project 3	Z	1	0P+4C	Z	ZP
615XN3	Master Project 3	Z	1	0P+4C	Z	ZP
621XN3	Master Project 3	Z	1	0P+4C	Z	ZP
620XN3	Master Project 3	Z	1	0P+4C	Z	ZP
616XN4	Master Project 4	Z	8	0P+4C	L	ZP
614XN4	Master Project 4	Z	8	0P+4C	L	ZP
621XN4	Master Project 4	Z	8	0P+4C	L	ZP
612XN4	Master Project 4	Z	8	0P+4C	L	ZP
618XN4	Master Project 4	Z	8	0P+4C	L	ZP
615XN4	Master Project 4	Z	8	0P+4C	L	ZP
620XN4	Master Project 4	Z	8	0P+4C	L	ZP
611XN4	Master Project 4	Z	8	0P+4C	L	ZP
617XN4	Master Project 4	Z	8	0P+4C	L	ZP
622XN4	Master Project 4	Z	8	0P+4C	L	ZP

Characteristics of the courses of this group of Study Plan: Code=X2-NP-DS-24/25-DC Name=Research Groups Master Full-Time DS from 2024/25

trom 2024/25			
622XN1	Master Project 1	Z	2
621XN1	Master Project 1	Z	2
614XN1	Master Project 1	Z	2
611XN1	Master Project 1	Z	2
617XN1	Master Project 1	Z	2
612XN1	Master Project 1	Z	2
620XN1	Master Project 1	Z	2
618XN1	Master Project 1	Z	2
616XN1	Master Project 1	Z	2
615XN1	Master Project 1	Z	2
616XN2	Master Project 2	Z	2
615XN2	Master Project 2	Z	2
622XN2	Master Project 2	Z	2
614XN2	Master Project 2	Z	2
612XN2	Master Project 2	Z	2
611XN2	Master Project 2	Z	2
621XN2	Master Project 2	Z	2
617XN2	Master Project 2	Z	2
620XN2	Master Project 2	Z	2
618XN2	Master Project 2	Z	2
618XN3	Master Project 3	Z	1
617XN3	Master Project 3	Z	1
616XN3	Master Project 3	Z	1
612XN3	Master Project 3	Z	1
611XN3	Master Project 3	Z	1
614XN3	Master Project 3	Z	1
622XN3	Master Project 3	Z	1
615XN3	Master Project 3	Z	1
621XN3	Master Project 3	Z	1
620XN3	Master Project 3	Z	1
616XN4	Master Project 4	Z	8
614XN4	Master Project 4	Z	8

621XN4	Master Project 4	Z	8
612XN4	Master Project 4	Z	8
618XN4	Master Project 4	Z	8
615XN4	Master Project 4	Z	8
620XN4	Master Project 4	Z	8
611XN4	Master Project 4	Z	8
617XN4	Master Project 4	Z	8
622XN4	Master Project 4	Z	8

Name of the block: Compulsory elective courses Minimal number of credits of the block: 6 The role of the block: PV

Code of the group: Y2-NP-DS-24/25-DC

Name of the group: Comp. Sel. Courses Master Full-Time DS from 2024/25 Requirement credits in the group: In this group you have to gain 6 credits Requirement courses in the group: In this group you have to complete 3 courses Credits in the group: 6

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
612Y2KS	Rail Transport in Settlements and Regions Šárka Vorá ová Šárka Vorá ová (Gar.)	KZ	2	2P+0C	Z	PV
612Y2MD	Methods of Traffic Regulation and Prediction Zuzana arská Šárka Vorá ová Šárka Vorá ová (Gar.)	KZ	2	2P+0C	L	PV

## Characteristics of the courses of this group of Study Plan: Code=Y2-NP-DS-24/25-DC Name=Comp. Sel. Courses Master Full-Time DS from 2024/25

Rail Transport in Settlements and Regions	KZ	2				
Modernization and development of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway services. Network configuration and						
operation of metro systems. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected countries / regions).						
Methods of Traffic Regulation and Prediction	KZ	2				
Basic ways of traffic prognosis, traffic prognosis for large area (calculation of future traffic volumes, calculation of future traffic volumes between areas (analogical and synthetic methods,						
modal split, traffic distribution to road network). Shock wave in traffic flow. Service levels and their traffic volumes. Acceleration noise.						
	lopment of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway servic ms. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected countries / reg Methods of Traffic Regulation and Prediction nosis, traffic prognosis for large area (calculation of future traffic volumes, calculation of future traffic volumes between areas (	Iopment of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway services. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected countries / regions).         Methods of Traffic Regulation and Prediction       KZ         nosis, traffic prognosis for large area (calculation of future traffic volumes, calculation of future traffic volumes between areas (analogical and sy				

Name of the block: Jazyky Minimal number of credits of the block: 8 The role of the block: J

Code of the group: JZ-NP-DS-24/25-DC Name of the group: Language Courses Master Full-Time DS from 2024/25 Requirement credits in the group: In this group you have to gain 8 credits Requirement courses in the group: In this group you have to complete 4 courses Credits in the group: 8

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
615J2F1	Language - French 1	Z	2	0P+2C+10B	Z	J
615JBF2	Language - French 2	Z	2	0P+2C+10B	L	J
615JBF3	Language - French 3	Z	2	0P+2C+10B	Z	J
615JBF4	Language - French 4	ZK	2	0P+2C+10B	L	J
615J2I1	Language - Italian 1	Z	2	0P+2C+10B	Z	J
615JBI2	Language - Italian 2	Z	2	0P+2C+10B	L	J
615JBI3	Language - Italian 3	Z	2	0P+2C+10B	Z	J
615JBI4	Language - Italian 4	ZK	2	0P+2C+10B	L	J
615J2N1	Language - German 1 Eva Rezlerová	Z	2	0P+2C+10B	Z	J

615JBN2	Language - German 2 Sv tlana Petrová, René Skalický	Z	2	0P+2C+10B	L	J
615JBN3	Language - German 3 Eva Rezlerová	Z	2	0P+2C+10B	Z	J
615JBN4	Language - German 4	ZK	2	0P+2C+10B	L	J
615J2R1	Language - Russian 1 Marie Michlová	Z	2	0P+2C+10B	Z	J
615JBR2	Language - Russian 2 Marie Michlová, Vilma Gottwaldová	Z	2	0P+2C+10B	L	J
615JBR3	Language - Russian 3 Marie Michlová	Z	2	0P+2C+10B	Z	J
615JBR4	Language - Russian 4	ZK	2	0P+2C+10B	L	J
615J2S1	Language - Spanish 1	Z	2	0P+2C+10B	Z	J
615JBS2	Language - Spanish 2	Z	2	0P+2C+10B	L	J
615JBS3	Language - Spanish 3	Z	2	0P+2C+10B	Z	J
615JBS4	Language - Spanish 4	ZK	2	0P+2C+10B	L	J

## Characteristics of the courses of this group of Study Plan: Code=JZ-NP-DS-24/25-DC Name=Language Courses Master Full-Time DS from 2024/25

615J2F1 Language - French 1	Z	2				
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative	kills, feedback skill	ls, summarising				
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and technical registers and their use,						
language of management.						
615JBF2 Language - French 2	Z	2				
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative	skills, feedback skill	s, summarising				
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal an	nd technical registe	rs and their use,				
language of management.						
615JBF3 Language - French 3	Z	2				
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement	t of language struc	ture knowledge				
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (professio	nal) text and its				
features. Practice of oral and written presentation.						
615JBF4 Language - French 4	ZK	2				
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement	t of language struc	ture knowledge				
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (professio	nal) text and its				
features. Practice of oral and written presentation.						
615J2I1 Language - Italian 1	Z	2				
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative	kills, feedback skill	s, summarising				
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal ar						
language of management.						
615JBI2 Language - Italian 2	Z	2				
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative	skills, feedback skill	ls, summarising				
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal ar	nd technical registe	rs and their use,				
language of management.						
615JBI3 Language - Italian 3	Z	2				
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvemen	t of language struc	ture knowledge				
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (professio	nal) text and its				
features. Practice of oral and written presentation.						
615JBI4 Language - Italian 4	ZK	2				
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvemen	t of language struc	ture knowledge				
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (professio	nal) text and its				
features. Practice of oral and written presentation.						
615J2N1 Language - German 1	Z	2				
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative	kills, feedback skill	s, summarising				
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal ar	nd technical registe	rs and their use,				
language of management.						
615JBN2 Language - German 2	Z	2				
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative	skills, feedback skill	s, summarising				
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal an	nd technical registe	rs and their use,				
language of management.						
615JBN3 Language - German 3	Z	2				
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement	t of language struc	ture knowledge				
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (professio	nal) text and its				
features. Practice of oral and written presentation.						
615JBN4 Language - German 4	ZK	2				
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement		ture knowledge				
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (professio	nal) text and its				
features. Practice of oral and written presentation.						
615J2R1 Language - Russian 1	Z	2				
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative	kills, feedback skill	ls, summarising				
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal ar	nd technical registe	rs and their use,				
language of management.						

615JBR2	Language - Russian 2	Z	2				
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, feedback skills, summarising							
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and technical registers and their use,							
language of manageme	nt.						
615JBR3	Language - Russian 3	Z	2				
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge							
and perceptive and con	municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo	rk with (professio	nal) text and its				
features. Practice of ora	I and written presentation.						
615JBR4	Language - Russian 4	ZK	2				
Grammar and stylistics.	Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement	, of language struc	ure knowledge				
and perceptive and con	municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo	rk with (professio	nal) text and its				
features. Practice of ora	I and written presentation.						
615J2S1	Language - Spanish 1	Z	2				
Grammatical Structures	and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative sk	, ills, feedback skill	s, summarising				
technical text content, s	tructuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and	technical registe	rs and their use,				
language of manageme	nt.						
615JBS2	Language - Spanish 2	Z	2				
Grammatical Structures	and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative sk	ills, feedback skill	s, summarising				
technical text content, s	tructuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and	technical registe	rs and their use,				
language of manageme	nt.						
615JBS3	Language - Spanish 3	Z	2				
Grammar and stylistics.	Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of	, of language struc	ure knowledge				
and perceptive and con	municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo	rk with (professio	nal) text and its				
features. Practice of oral and written presentation.							
615JBS4	Language - Spanish 4	ZK	2				
Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge							
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its							
features. Practice of ora	l and written presentation.						

#### List of courses of this pass:

Code	Name of the course	Completion	Credits
611STS The subject dea	Stochastic Systems Is with the problems of mathematical modelling of dynamical systems, estimation od these models and their utilization for prediction. T	Z,ZK The results are illus	4 strated on
practical tra	ansportation tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian p	probabilistic appro	ach.
611XN1	Master Project 1	Z	2
611XN2	Master Project 2	Z	2
611XN3	Master Project 3	Z	1
611XN4	Master Project 4	Z	8
611XNDD	Master Thesis for study programme DS	Z	18
612BED	Road Safety Audit	Z,ZK	4
	cations of safety assessments (especially Road Safety Audit, Road Safety Inspection) during the process of preparations, and of the part Id minimize traffic accident risks for all those who take part in road traffic. Application of European Directive 2008/96/EC on road safety		
612DAZP	Transport and Environment	Z,ZK	4
This course aims t	he impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demands. parcel of this course.	The noise measury	y is part an
612IDOS	Integrated Transport Systems	ZK	3
Reasons for build	ding of integrated transport systems, principle of integration, dividing of integration methods, traffic, infrastructure, technical, organizati tariff, sales systems, information systems, marketing of system, examples of non-integration.	ional methods, inte	egration of
612IKD	Rail Transport Infrastructure	Z,ZK	5
Non-compensated	lateral acceleration, parameters eduction for transition curve and cant transition, curves without straight, track spacing change. Track deta		Substructure
	design, slab track. Tram-train. Interoperability. Noise precautions. Railway line modernization for non-tilting and tilting trains.		
612NAPI	Design and Maintenance of Transportation Structures	Z,ZK	4
Design and cons	truction of cement-concrete pavements and their maintenance. Construction of bridge objects, examples and choice of bridge constru- and operation of tunnels.	ction materials. Co	onstruction
612TEAP	Theory of Road Traffic Operation	Z,ZK	7
	ers and their measurement, acquisition and processing. Road capacity analysis. Theoretical foundations and applications of mathemat icroscopic traffic models. Theory of traffic management. Traffic light signals, roundabouts, coordination, public transport priority. Urban Traffic excesses management. Road assessment and maintenance methods. Health risks assessment.		
612TKVP	Highway Engineering Materials	Z,ZK	4
The theory of roa	d construction - Material Aspects. The course emphasizes the development of road construction from the beginning of the 20th centur materials, understanding the production and placing of asphalt mixtures.	y to the present, f	ocusing on
612UMUP	Sustainable Mobility and Land - Use Planning	Z,ZK	5
Spatial planning	- objectives and tasks, development over time. Land-use planning tools. SUMP. Territorial and transport planning context. Ways of urba inciples of the transport solution. The impact of transport on the size and shape of the city, on the development of the street and the so for pedestrian and bicycle transport. Suburbanization and transport. City economics.	an growth in conne	ection with

	High Speed Rail Transport	KZ	3
Republic conditions. N	R) transport characteristics and position in transportation system. Types / models of HSR systems, preparation of high speed rai	lway lines building i	n the Czec
	on-adhesion HSR systems. City and region traffic service by HSR. HSR operating points. HSR worldwide network. HSR routing a	and traffic conceptic	on. Specific
	of HSR track construction and layout track parameteres.		
612XN1	Master Project 1	Z	2
612XN2	4		
-	Master Project 2	Z	2
612XN3	Master Project 3	Z	1
612XN4	Master Project 4	Z	8
612XNDD	Master Thesis for study programme DS	Z	18
	Rail Transport in Settlements and Regions	KZ	2
612Y2KS			
	evelopment of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway service		ration and
	of metro systems. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected co		
612Y2MD	Methods of Traffic Regulation and Prediction	KZ	2
Basic ways of traffic pro	ognosis, traffic prognosis for large area (calculation of future traffic volumes, calculation of future traffic volumes between areas (an	alogical and synthe	tic methods
	modal split, traffic distribution to road network). Shock wave in traffic flow. Service levels and their traffic volumes. Acceleration	noise.	
612ZSUZ	Railway Stations and Centres	Z,ZK	3
	er transport. Platform construction. Access roads to platforms. Modification of railway stations according to the TSI PRM. Station		ant solution
1.1	of station heads for current ride. Junction stations. Crossing stations. Passenger stations. Moving stations. Public transport terr		
614GISS	Geographical Information Systems	KZ	2
	saving format of space-oriented information land-survey and cartography minimum basic tasks of spatial operations principles of		
614XN1	Master Project 1	Z	2
614XN2	Master Project 2	Z	2
614XN3	Master Project 3	Z	1
614XN4	Master Project 4	Z	8
			-
614XNDD	Master Thesis for study programme DS	Z	18
615J2A1	Language - English 1	Z	2
Grammatical Structur	es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills	s, feedback skills, si	ummarising
	structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical re		
	of management.	0	, , ,
615J2F1	Language - French 1	Z	2
	es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills		-
ecnnical text content,	structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te	cnnical registers an	nd their use
	language of management.		
615J2I1	Language - Italian 1	Z	2
Grammatical Structure	es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills	s, feedback skills, su	ummarising
echnical text content,	structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te	chnical registers ar	nd their use
	language of management.		
615J2N1	Language - German 1	Z	2
	es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills	1	
	structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te		-
connear text content,	language of management.	chinical registers an	
			0
615J2R1	Language - Russian 1	Z	2
Grammatical Structure	as and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills	1 .	1
			-
	structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te		-
	structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te language of management.		-
echnical text content,	language of management.		-
echnical text content, 615J2S1		echnical registers an	nd their use
echnical text content, 615J2S1	language of management. Language - Spanish 1 es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills	echnical registers an Z s, feedback skills, su	nd their use
echnical text content, 615J2S1	language of management. Language - Spanish 1 as and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te	echnical registers an Z s, feedback skills, su	nd their use
echnical text content, 615J2S1 Grammatical Structure echnical text content,	language of management. Language - Spanish 1 es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te language of management.	cchnical registers an Z s, feedback skills, su cchnical registers an	nd their use 2 ummarising nd their use
echnical text content, 615J2S1 Grammatical Structure echnical text content, 615JBA2	Ianguage of management.         Language - Spanish 1         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and teges         language of management.         Language - English 2	cchnical registers an Z s, feedback skills, st cchnical registers an Z	nd their use
echnical text content, 615J2S1 Grammatical Structure echnical text content, 615JBA2 Grammatical Structure	Ianguage of management.         Language - Spanish 1         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te language of management.         Language - English 2         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills	cchnical registers an Z s, feedback skills, su cchnical registers an Z s, feedback skills, su	nd their use
echnical text content, 615J2S1 Grammatical Structure echnical text content, 615JBA2 Grammatical Structure	Ianguage of management.         Language - Spanish 1         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te language of management.         Language - English 2         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical restructuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical restructuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical restructuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical restructuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical restructuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical restructuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical restructuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical restructuring presentations and presentations and meeting minutes, elementary rhetorics of English and practical application, formal an	cchnical registers an Z s, feedback skills, su cchnical registers an Z s, feedback skills, su	nd their use
echnical text content, 615J2S1 Grammatical Structure echnical text content, 615JBA2 Grammatical Structure echnical text content,	Ianguage of management.         Language - Spanish 1         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te language of management.         Language - English 2         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical re         of management.	cchnical registers an Z s, feedback skills, su cchnical registers an Z s, feedback skills, su gisters and their us	nd their use
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echnical text content, 615J2S1 Grammatical Structure echnical text content, 615JBA2 Grammatical Structure echnical text content, 615JBA3	Ianguage of management.         Language - Spanish 1         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te language of management.         Language - English 2         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         es and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills         structuring presentations and meeting minutes, elementary rhetorics of English and practical application, formal and technical re         of management.	cchnical registers an Z s, feedback skills, su cchnical registers an Z s, feedback skills, su gisters and their us Z	nd their use
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615JBI2	Language - Italian 2	Z	2	
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615JBI3	Language - Italian 3	Z	2	
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615JBI4	Language - Italian 4	ZK	2	
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615JBN2	Language - German 2	Z	2	
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615JBN3	Language - German 3	7	2	
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615JBN4	Language - German 4	ZK	2	
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615JBR2	Language - Russian 2	Z	2	
	tures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills	-	-	
	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and te		-	
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615JBR3	Language - Russian 3	Z	2	
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617DOPD	Transportation Planning and Modeling	Z,ZK	4
	within four step model (trip generation, trip distribution, mode choice and trip distribution). Mobility and availability		ew trends for
	transportation planning and modelling.		
617TZND	Technology of Railway Transport	Z,ZK	4
	ent, model operational situation with a system running time between IPT-nodes, calculation of traction energy sav		
for designing of fleeting cro	ossing station, solving of capacity problem and blocking time in relation to train protection system, robustness of t	imetable, system concept of f	freight train
	paths, guidelines for centralised operational traffic control and management.		
617XN1	Master Project 1	Z	2
617XN2	Master Project 2	Z	2
617XN3	Master Project 3	Z	1
617XN4	Master Project 4	Z	8
617XNDD	Master Thesis for study programme DS	Z	18
618GAZ	Geomechanics and Foundation Engineering	Z,ZK	3
	aphyand stratigraphy), mechanics of soils (classification of fundamental soils, mechanic properties of fundamenta		
(footings, footers, plates, de	epth of founding), determination of planar foundations bearing and deformation, depth foundations classification c	of depth foundations elements	s, examples
1	of their use, piles (classification, technology od performing).		-
618TEAM	Theoretical and Applied Mechanics	Z,ZK	4
-	plasticity. Plasticity conditions. Elastoplastic and plastic states of cross-sections and beams. Reliability and durat	-	and strain
	ate around a notch. Stress intensity factor. Fracture toughness. Energy methods of linear fracture mechanics. Cra		
618TIK	Theory of Engineering Structures	Z,ZK	4
-	knowledge gained in basic mechanics courses in bachelor study (especially Statics and Elasticity) in the field of m	-	
is placed on plane and axi	symmetric problems, as well as on the calculation of stress and strain in plates and shells. Students are further an	equainted with methods of mo	odeling the
040)/114	behavior of subsoil used in the design of line structures.		
618XN1	Master Project 1	Z	2
618XN2	Master Project 2	Z	2
618XN3	Master Project 3	Z	1
618XN4	Master Project 4	Z	8
618XNDD	Master Thesis for study programme DS	Z	18
620XN1	Master Project 1	Z	2
620XN2	Master Project 2	Z	2
620XN3	Master Project 3	Z	1
620XN4	Master Project 4	Z	8
620XNDD	Master Thesis for study programme DS	Z	18
621XN1	Master Project 1	Z	2
621XN2	Master Project 2	Z	2
621XN3	Master Project 3	Z	1
621XN4	Master Project 3	Z	8
		Z	
621XNDD	Master Thesis for study programme DS		18
622AMMD	Measuring Methods Applied to Transportation	KZ	4
	nical processing of traffic route with geodetic total station, GPS and photogrammetry, 3D scanning. Transport con cessing of several vehicle dynamic characteristics using high-speed cameras and accelerometers. It is a week cou		
Detection and technical prot	and September - usually in examination period.	and the terms are usually	y set in June
622MSV	Modelling and Vehicle Movement Simulation	KZ	2
	simulation tools with regards to vehicle movement analysis and vehicle crash analysis. Kinematic and dynamic mod		1
	View conditions. Proposed road space passage. Processing of road 3D models.		2
622XN1	Master Project 1	Z	2
622XN2	Master Project 1	Z	2
622XN3	Master Project 2 Master Project 3	Z	1
622XN4	Master Project 4	Z	8
622XNDD	Master Thesis for study programme DS	Z	18

For updated information see <u>http://bilakniha.cvut.cz/en/FF.html</u> Generated: day 2025-07-15, time 13:36.