### 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-20/21

Name of the group: 1st Sem. Master Full-Time DS from 2020/21

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:

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
12IKD	Rail Transport Infrastructure Lukáš Týfa, Ond ej Trešl	Z,ZK	5	2P+2C	Z	Z
12TKVP	Highway Engineering Materials Otakar Vacín Otakar Vacín (Gar.)	Z,ZK	4	2P+2C	Z	Z
18GAZ	Geomechanics and Foundation Engineering  Jitka ezní ková, Linda erná Vydrová, Vít Malinovský Linda erná Vydrová  Linda erná Vydrová (Gar.)	Z,ZK	3	2P+1C	Z	Z
18TIK	Theory of Engineering Structures Petr Koudelka, Petr Zlámal, Ond ej Jiroušek, Ján Kopa ka <b>Ond ej Jiroušek</b> Ond ej Jiroušek (Gar.)	Z,ZK	4	2P+1C	Z	Z
14GISS	Geographical Information Systems Vit Fábera, František Kekula, Tomáš Janata, Zuzana Purkrábková Tomáš Janata Tomáš Janata (Gar.)	KZ	2	0P+2C+8B	Z	Z
22MSV	Modelling and Vehicle Movement Simulation Michal Frydrýn, Drahomír Schmidt Michal Frydrýn Drahomír Schmidt (Gar.)	KZ	2	0P+2C	Z	Z
15J2A1	Language - English 1 Jitka He manová, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta Musilová, Jan Feit, Eva Rezlerová Lenka Monková (Gar.)	Z	2	0P+2C+10B	Z	Z

### Characteristics of the courses of this group of Study Plan: Code=1S-NP-DS-20/21 Name=1st Sem. Master Full-Time DS from 2020/21

12IKD	Rail Transport Infrastructure	Z,ZK	5			
•	eral acceleration, parameters eduction for transition curve and cant transition, curves without straight, track spacing change. Track	detailed constructi	on. Substructure			
design, slab track. Tra	m-train. Interoperability. Noise precautions. Railway line modernization for non-tilting and tilting trains.					
12TKVP	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, understand	ing the production and placing of asphalt mixtures.					
18GAZ	Geomechanics and Foundation Engineering	Z,ZK	3			
Geology (basics of pe	rtrographyand stratigraphy), mechanics of soils (classification of fundamental soils, mechanic properties of fundamental soils,	permeability), pla	nar foundations			
	rtrographyand stratigraphy), mechanics of soils (classification of fundamental soils, mechanic properties of fundamental soils, es, depth of founding), determination of planar foundations bearing and deformation, depth foundations classification of depth					
(footings, footers, plan						
(footings, footers, plan	es, depth of founding), determination of planar foundations bearing and deformation, depth foundations classification of depth					
(footings, footers, plat of their use, piles (cla 18TIK	es, depth of founding), determination of planar foundations bearing and deformation, depth foundations classification of depth ssification, technology od performing).	foundations element	ents, examples			
(footings, footers, plat of their use, piles (cla 18TIK The course builds upo	es, depth of founding), determination of planar foundations bearing and deformation, depth foundations classification of depth sification, technology od performing).  Theory of Engineering Structures	foundations elements   Z,ZK   atical theory of ela	ents, examples  4 sticity. Emphasis			
(footings, footers, plat of their use, piles (cla 18TIK The course builds upon is placed on plane and	es, depth of founding), determination of planar foundations bearing and deformation, depth foundations classification of depth ssification, technology od performing).  Theory of Engineering Structures on the knowledge gained in basic mechanics courses in bachelor study (especially Statics and Elasticity) in the field of mathematics.	foundations elements   Z,ZK   atical theory of ela	ents, examples  4 sticity. Emphasis			

Construction of saving format of space-oriented information land-survey and cartography minimum basic tasks of spatial operations principles of territorial identification

22MSV	Modelling and Vehicle Movement Simulation	KZ	2				
Principles and posibiliti	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. Propo	View conditions. Proposed road space passage. Processing of road 3D models.						
15J2A1	Language - English 1	Z	2				
Presentation Skills - expert technical discourse and style: Analysis of expert texts and their production: Preparation for overseas work engagement							

Code of the group: 1S-NP-DS-V1-22/23

Name of the group: 1st Sem. Master Full-Time DS Alternative from 2022/23 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
17DOPD	Transportation Planning and Modeling Milan K íž	Z,ZK	4	2P+2C	Z	Z
17TZND	Technology of Railway Transport Michal Drábek, Zden k Michl, Vít Janoš, Rudolf Vávra Vít Janoš (Gar.)	Z,ZK	4	2P+2C	Z	Z

# Characteristics of the courses of this group of Study Plan: Code=1S-NP-DS-V1-22/23 Name=1st Sem. Master Full-Time DS Alternative from 2022/23

17DOPD	Transportation Planning and Modeling	Z,ZK	4				
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 planning	transportation planning and modelling.						
17TZND	Technology of Railway Transport	Z,ZK	4				
– –	Technology of Railway Transport sment, model operational situation with a system running time between IPT-nodes, calculation of traction energy savings cor	, ,	4 tructure costs				

Code of the group: 2S-NP-DS-20/21

paths, guidelines for centralised operational traffic control and management.

Name of the group: 2nd Sem. Bachelor Full-Time DS from 2020/21

vehicle structure. Evaluation of variant concepts. Design phases. Realiability, technological aspects etc.

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
12NAPI	Design and Maintenance of Transportation Structures	Z,ZK	4	2P+2C	L	Z
12UMUP	Sustainable Mobility and Land - Use Planning	Z,ZK	5	2P+2C	L	Z
12ZSUZ	Railway Stations and Centres	Z,ZK	3	2P+1C	L	Z
16PDP	Principles of Vehicle Design	ZK	2	2P+0C+8B	L	Z
22AMMD	Measuring Methods Applied to Transportation Luboš Nouzovský	KZ	4	1P+3C	L	Z
15JBA2	Language - English 2 Lenka Monková (Gar.)	Z	2	0P+2C+10B	L	Z

### Characteristics of the courses of this group of Study Plan: Code=2S-NP-DS-20/21 Name=2nd Sem. Bachelor Full-Time DS from 2020/21

12NAPI	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.							
12UMUP	12UMUP Sustainable Mobility and Land - Use Planning Z,ZK 5							
Spatial planning - object	tives and tasks, development over time. Land-use planning tools. SUMP Territorial and transport planning context. Ways of u	rban growth in co	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	le transport. Suburbanization and transport. City economics.							
12ZSUZ	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	of station heads for current ride. Junction stations. Crossing stations. Passenger stations. Moving stations. Public transport terminals.							
16PDP	Principles of Vehicle Design	ZK	2					
Design of transportation vehicle according to its usage and function. Marketing and user demands. Vehicle dynamics. Propulsion systems. Design process, functional design and								

22AMMD	Measuring Methods Applied to Transportation	KZ	4				
Geodetic location and t	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 technica	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 - usual	ly in examination period.						
15JBA2	Language - English 2	Z	2				
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.							

Code of the group: 2S-NP-DS-V-20/21

Name of the group: 2nd Sem. Master Full-Time DS Alternative from 2020/21 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
12BED	Road Safety Audit	Z,ZK	4	2P+1C	L	Z
18TEAM	Theoretical and Applied Mechanics	Z,ZK	4	2P+1C	L	Z

# Characteristics of the courses of this group of Study Plan: Code=2S-NP-DS-V-20/21 Name=2nd Sem. Master Full-Time DS Alternative from 2020/21

12BED	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 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.						
18TEAM	Theoretical and Applied Mechanics	Z,ZK	4			
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-21/22

High Speed Rail Transport

Name of the group: 3rd Sem. Bachelor Full-Time DS from 2021/22

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
11STS	Stochastic Systems Šárka Trs anová, Evženie Uglickich, Šárka Vorá ová, Natálie Blahitka, Michal Matowicki, Pavla Pecherková <b>Pavla Pecherková</b> Šárka Vorá ová (Gar.)	Z,ZK	4	2P+2C+14B	Z	Z
12DAZP	Transport and Environment Lukáš Týfa, Tomáš Javo ík Lukáš Týfa (Gar.)	Z,ZK	4	2P+1C	Z	Z
12TEAP	Theory of Road Traffic Operation Zuzana arská, Vladimír Faltus, Petr Richter Vladimír Faltus (Gar.)	Z,ZK	7	3P+2C	Z	Z
12VRZ	High Speed Rail Transport Lukáš Týfa Lukáš Týfa (Gar.)	KZ	3	2P+0C	Z	Z
15JBA3	Language - English 3 Jitka He manová, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta Musilová, Jan Feit, Eva Rezlerová, Marek Tome ek Lenka Monková (Gar.)	Z	2	0P+2C+10B	Z	Z

### Characteristics of the courses of this group of Study Plan: Code=3S-NP-DS-21/22 Name=3rd Sem. Bachelor Full-Time DS from 2021/22

11STS	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 of							
practical transportation tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian probabilistic approach.							
12DAZP	Transport and Environment	Z,ZK	4				
This course aims the impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demands. The noise measury is part and							
parcel of this course							

12TEAP | 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 excesses management. Road assessment and maintenance methods. Health risks assessment.

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.

| 15JBA3 | Language - English 3 | Z |
| Presentation Skills - expert technical discourse and style: Analysis of expert texts and their production: Preparation for overseas work engagement Optional courses for certific

Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement. Optional courses for certificates FCE, CAE.

Code of the group: 3S-NP-DS-V-21/22

Name of the group: 3rd Sem. Master Full-Time DS Alternative from 2021/22 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
12IDOS	Integrated Transport Systems Jan Kruntorád, Martin Jareš, Petr Chmela	ZK	3	2P+0C	Z	Z
16STK	Simulation and Testing of Vehicle Body and Systems  Josef Svoboda, Michal Cenkner, Petr Bouchner	ZK	3	2P+0C	Z	Z

# Characteristics of the courses of this group of Study Plan: Code=3S-NP-DS-V-21/22 Name=3rd Sem. Master Full-Time DS Alternative from 2021/22

12IDOS	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, in	formation systems, marketing of system, examples of non-integration.									
16STK	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	design. Simulation of propulsion and electric systems. Strength and material analyses of dynamical phenomena for vehicles	of on-land carriag	ie.							

Code of the group: 4S-NP-DS-21/22

Name of the group: 4th Sem. Bachelor Full-Time DS from 2021/22

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
15JBA4	Language - English 4  Jitka He manová, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta Musilová, Jan Feit, Eva Rezlerová, Lenka Monková, Dana Boušová,  Lenka Monková (Gar.)	ZK	2	0P+2C+10B	Г	Z

#### Characteristics of the courses of this group of Study Plan: Code=4S-NP-DS-21/22 Name=4th Sem. Bachelor Full-Time DS from 2021/22

15JBA4	Language - English 4	ZK	2
Presentation Skills - e	xpert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.	Optional courses f	or certificates
FCF CAF			

Code of the group: XD-NP-DS-21/22

Name of the group: Thesis Master Full-Time DS from 2021/22

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
11XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
12XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
14XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
15XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
16XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z

17XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
18XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
20XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
21XNDD	Master Thesis for study programme DS	Z	18	0P+20C	L	Z
22XNDD	Master Thesis for study programme DS  Luboš Nouzovský	Z	18	0P+20C	L	Z
23XNDD	Master Thesis for study programme DS Zden k Svatý	Z	18	0P+20C	L	Z

Characteristics of the courses of this group of Study Plan: Code=XD-NP-DS-21/22 Name=Thesis Master Full-Time DS from 2021/22

11XNDD	Master Thesis for study programme DS	Z	18
12XNDD	Master Thesis for study programme DS	Z	18
14XNDD	Master Thesis for study programme DS	Z	18
15XNDD	Master Thesis for study programme DS	Z	18
16XNDD	Master Thesis for study programme DS	Z	18
17XNDD	Master Thesis for study programme DS	Z	18
18XNDD	Master Thesis for study programme DS	Z	18
20XNDD	Master Thesis for study programme DS	Z	18
21XNDD	Master Thesis for study programme DS	Z	18
22XNDD	Master Thesis for study programme DS	Z	18
23XNDD	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-20/21

Name of the group: Research Groups Master Full-Time DS from 2020/21 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
11XN1	Master Project 1	Z	2	0P+2C+4B	Z	ZP
12XN1	Master Project 1 Lukáš Týfa, Ond ej Trešl, Tomáš Javo ík, Zuzana arská, Jan Kruntorád, Martin Jareš, Petr Chmela, Daniel Chlebek, Jakub Zají ek,	Z	2	0P+2C+4B	Z	ZP
14XN1	Master Project 1	Z	2	0P+2C+4B	Z	ZP
15XN1	Master Project 1	Z	2	0P+2C+4B	Z	ZP
16XN1	Master Project 1 Josef Mik, P emysl Toman	Z	2	0P+2C+4B	Z	ZP
17XN1	Master Project 1 Milan K íž, Michal Drábek, Zden k Michl, Vít Janoš, Rudolf Vávra, Václav Baroch, Alexandra Dvo á ková, Veronika Faifrová, Eliška Glaserová,	Z	2	0P+2C+4B	Z	ZP
18XN1	Master Project 1 Daniel Kytý, Václav Rada, Nela Kr má ová	Z	2	0P+2C+4B	Z	ZP
20XN1	Master Project 1 Milan Sliacky, Ji í R ži ka	Z	2	0P+2C+4B	Z	ZP
21XN1	Master Project 1 Milan Kameník, Stanislav Pleninger, Stanislav Kušmírek, Jakub Trýb, Iveta Kameníková, Jakub Kraus, Andrej Lališ, Slobodan Stoji, Terézia Pilmannová,	Z	2	0P+2C+4B	Z	ZP
22XN1	Master Project 1 Michal Frydrýn, Karel Kocián, Luboš Nouzovský, Zden k Svatý, Jakub Nová ek	Z	2	0P+2C+4B	Z	ZP
23XN1	Master Project 1	Z	2	0P+2C+4B	Z	ZP
11XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP
12XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP
14XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP
15XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP
16XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP
17XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP

18XN2	Master Project 2 Daniel Kytý	Z	2	0P+2C+8B	L	ZP
20XN2	Master Project 2 Vladimír Faltus	Z	2	0P+2C+8B	L	ZP
21XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP
22XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP
23XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP
11XN3	Master Project 3	Z	1	0P+4C	Z	ZP
12XN3	Master Project 3 Lukáš Týfa, Ond ej Trešl, Tomáš Javo ík, Zuzana arská, Jan Kruntorád, Martin Jareš, Petr Chmela, Jakub Zají ek, Dagmar Ko árková,	Z	1	0P+4C	Z	ZP
14XN3	Master Project 3	Z	1	0P+4C	Z	ZP
15XN3	Master Project 3	Z	1	0P+4C	Z	ZP
16XN3	Master Project 3 Josef Svoboda, Michal Cenkner, Josef Mík, P emysl Toman	Z	1	0P+4C	Z	ZP
17XN3	Master Project 3 Milan K íž, Michal Drábek, Zden k Michl, Vít Janoš, Rudolf Vávra, Václav Baroch, Alexandra Dvo á ková, Veronika Faifrová, Eliška Glaserová,	Z	1	0P+4C	Z	ZP
18XN3	Master Project 3 Daniel Kytý, Nela Kr má ová, Tomáš Fíla	Z	1	0P+4C	Z	ZP
20XN3	Master Project 3 Ji í R ži ka, Patrik Horaž ovský	Z	1	0P+4C	Z	ZP
21XN3	Master Project 3 Terézia Pilmannová, Miloš Strouhal, Ota Hajzler	Z	1	0P+4C	Z	ZP
22XN3	Master Project 3 Michal Frydrýn, Karel Kocián, Luboš Nouzovský, Zden k Svatý, Tomáš Mi unek	Z	1	0P+4C	Z	ZP
23XN3	Master Project 3	Z	1	0P+4C	Z	ZP
11XN4	Master Project 4	Z	8	0P+4C	L	ZP
12XN4	Master Project 4	Z	8	0P+4C	L	ZP
14XN4	Master Project 4	Z	8	0P+4C	L	ZP
15XN4	Master Project 4	Z	8	0P+4C	L	ZP
16XN4	Master Project 4	Z	8	0P+4C	L	ZP
17XN4	Master Project 4	Z	8	0P+4C	L	ZP
18XN4	Master Project 4	Z	8	0P+4C	L	ZP
20XN4	Master Project 4 Patrik Horaž ovský	Z	8	0P+4C	L	ZP
21XN4	Master Project 4	Z	8	0P+4C	L	ZP
22XN4	Master Project 4	Z	8	0P+4C	L	ZP
23XN4	Master Project 4	Z	8	0P+4C	L	ZP

Characteristics of the courses of this group of Study Plan: Code=X2-NP-DS-20/21 Name=Research Groups Master Full-Time DS from 2020/21

Master Project 1	Z	2
Master Project 1	Z	2
Master Project 1	Z	2
Master Project 1	Z	2
Master Project 1	Z	2
Master Project 1	Z	2
Master Project 1	Z	2
Master Project 1	Z	2
Master Project 1	Z	2
Master Project 1	Z	2
Master Project 1	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 2	Z	2
Master Project 3	Z	1
	Master Project 1  Master Project 2  Master Project 2	Master Project 1       Z         Master Project 2       Z

12XN3	Master Project 3	Z	1
14XN3	Master Project 3	Z	1
15XN3	Master Project 3	Z	1
16XN3	Master Project 3	Z	1
17XN3	Master Project 3	Z	1
18XN3	Master Project 3	Z	1
20XN3	Master Project 3	Z	1
21XN3	Master Project 3	Z	1
22XN3	Master Project 3	Z	1
23XN3	Master Project 3	Z	1
11XN4	Master Project 4	Z	8
12XN4	Master Project 4	Z	8
14XN4	Master Project 4	Z	8
15XN4	Master Project 4	Z	8
16XN4	Master Project 4	Z	8
17XN4	Master Project 4	Z	8
18XN4	Master Project 4	Z	8
20XN4	Master Project 4	Z	8
21XN4	Master Project 4	Z	8
22XN4	Master Project 4	Z	8
23XN4	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

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)	Completion	Credits	Scope	Semester	Role
	Tutors, <b>authors</b> and guarantors (gar.)					
00Y2XN	Active participation in a scientific project, workshop, short-term trip abroad  Patrik Horaž ovský Patrik Horaž ovský (Gar.)	KZ	2	2P+0C		PV
17Y2AM	Application of Marketing Tools in Transportation	KZ	2	2P+0C	L	PV
12Y2BM	Safety on The Local Roads	KZ	2	2P+0C	Z	PV
14Y2C1	CATIA I	KZ	2	2P+0C	L	PV
14Y2C2	CATIA II	KZ	2	2P+0C	Z	PV
14Y2CS	Sensitivity of Systems	KZ	2	2P+0C	L	PV
21Y2CR	CRM	KZ	2	2P+0C+8B	L	PV
12Y2DU	Transport in the Context of Sustainability	KZ	2	2P+0C	L	PV
15Y2DN	Transportation Psychology in German Speaking Countries	KZ	2	2P+0C	L	PV
18Y2DC	Dynamics of Transport Routes and Vehicles	KZ	2	2P+0C	Z	PV
18Y2EM	Electron microscopy	KZ	2	2P+0C	L	PV
16Y2EE	Emissions and Ergonomics of Vehicles	KZ	2	2P+0C	L	PV
17Y2FM	Financing in Urban Mass Transportation	KZ	2	2P+0C	Z	PV
21Y2FM	Aviation Company Financial Management	KZ	2	2P+0C+8B	Z	PV
18Y2FZ	Physical foundation of materials' properties  Petr Koudelka (Gar.)	KZ	2	2P+0C	L	PV
15Y2HS	Road Transport History	KZ	2	2P+0C	L	PV
16Y2HP	Vehicle Hygiene	KZ	2	2P+0C	L	PV
14Y2IS	Intelligent Systems in Postal Services	KZ	2	2P+0C	L	PV
12Y2IS	Urban Networks	KZ	2	2P+0C	Z	PV
14Y2JM	One-Chip Controllers	KZ	2	2P+0C	Z	PV

15Y2JH	Job Hunting in English Lenka Monková Lenka Monková (Gar.)	KZ	2	2P+0C	Z	PV
14Y2KI	Capital Investment in Transportation and Telecommunications	KZ	2	2P+0C	L	PV
16Y2KV	Car Body Design	KZ	2	2P+0C	L	PV
12Y2KS	Rail Transport in Settlements and Regions	KZ	2	2P+0C	Z	PV
12Y2KE	Miroslav Veliš	KZ	2	2P+0C	 	PV
11Y2LG	Landscape Ecology	KZ KZ	2	2P+0C 2P+0C		
21Y2MQ	Logics of Engineer's Judgement	KZ KZ	2	2P+0C+8B	L	PV
·	Quality Management Sociology for Managers			+		PV
15Y2MS	Martina Šmidochová Martina Šmidochová (Gar.)	KZ	2	2P+0C	Z	PV
21Y2MK	Marketing of Air Transport Peter Vittek Peter Vittek (Gar.)	KZ	2	2P+0C+8B	Z	PV
12Y2MH	Measurement and Modeling of Traffic Noise	KZ	2	2P+0C	L	PV
12Y2MI	Urban Engineering	KZ	2	2P+0C	L	PV
18Y2MP	Finite Element Method And Its Application	KZ	2	2P+0C	L	PV
16Y2MK	Quality Methods for Vehicles	KZ	2	2P+0C	L	PV
12Y2MD	Methods of Traffic Regulation and Prediction	KZ	2	2P+0C	L	PV
17Y2MO	International Organisations in Transportation	KZ	2	2P+0C	L	PV
17Y2MS	Microsimulation of Railway Operation Zden k Michl Zden k Michl (Gar.)	KZ	2	2P+0C	Z	PV
17Y2MD	Modelling and optimization on transport networks	KZ	2	2P+0C	Z	PV
21Y2MC	CNS Systems Modelling	KZ	2	2P+0C+8B	Z	PV
17Y2MT	Stanislav Pleninger Stanislav Pleninger (Gar.)  Modern History for Engineering Students	KZ	2	2P+0C		PV
	Petra Skolilová Petra Skolilová (Gar.)  Military Aerospace Technologies: Applications and Global					
21Y2MG	Dynamics Sarah Van Den Bergh Sarah Van Den Bergh (Gar.)	KZ	2	2P+0C	Z	PV
12Y2MZ	Modernization of Railway Lines and Stations	KZ	2	2P+0C	L	PV
12Y2NS	Shared Space Design Vojt ch Novotný, Karel Hájek Vojt ch Novotný (Gar.)	KZ	2	2P+0C	Z	PV
14Y2OP	Object Oriented Programming in Transport	KZ	2	2P+0C	L	PV
15Y2OZ	Health Protection in Transportation and EU Petr Musil Petr Musil (Gar.)	KZ	2	2P+0C	Z	PV
15Y2OF	Specialised French for Transportation and Telecommunications	KZ	2	2P+0C	Z	PV
18Y2OB	Optical Contactless Strain Measurements	KZ	2	2P+0C	L	PV
16Y2PG	Computer Graphics and Virtual Reality Stanislav Novotný Stanislav Novotný (Gar.)	KZ	2	2P+0C	Z	PV
22Y2PS	Traffic Accidents Computer Simulation and Analysis	KZ	2	2P+0C	L	PV
15Y2PT	Food in Transportation	KZ	2	2P+0C	L	PV
15Y2PD	Practical Spanish for Transportation	KZ	2	2P+0C	 Z	PV
21Y2PP	Zuzana Krinková (Gar.)  Law and Operation in Air Transport	KZ	2	2P+0C+8B	L	PV
20Y2PR	Prediction of time series	KZ	2	2P+0C	L	PV
12Y2PV	Public transport priority	KZ	2	2P+0C	 L	PV
14Y2PI	Process Information Systems in Transportation	KZ	2	2P+0C	Z	PV
14Y2PJ	C++ Programming Language	KZ	2	2P+0C	L	PV
14Y2PH	CAD Interface Programming	KZ	2	2P+0C		PV
11Y2PM	Programming in MATLAB	KZ	2	2P+0C	 L	PV
15Y2PU	Šárka Vorá ová Publications and Their Creation	KZ	2	2P+0C	Z	PV
12Y2RD	Realization of Transport Buildings	KZ	2	2P+0C	L	PV
15Y2SP	Seminar on Political Philosophy	KZ	2	2P+0C	 Z	PV
17Y2SJ	Marek Tome ek Marek Tome ek (Går.)	KZ	2	2P+0C	 	PV
16Y2ST	Network Timetabling on the Railway	KZ KZ	2	2P+0C 2P+0C	L	PV
16Y2SV	Special Technologies in Transport and Telecommunications	KZ KZ	2	2P+0C 2P+0C	L	PV
	Special technologies in vehicle manufacturing  Reliability and Diagnostics, Experimental Methods			+		
18Y2SD	Daniel Kytý Daniel Kytý Daniel Kytý (Gar.)	KZ	2	2P+0C	Z	PV
15Y2SR	Stylistics and Rhetorics	KZ	2	2P+0C	Z	PV

15Y2TS	Technician and Contemporary Society	KZ	2	2P+0C	L	PV
20Y2TE	Technology of Electronic Systems	KZ	2	2P+0C	Z	PV
14Y2TU	Telecommunications Systems and Multimedia	KZ	2	2P+0C	Z	PV
16Y2TT	Transportation and Building Technology and Equipment	KZ	2	2P+0C	Z	PV
21Y2UL	Aircraft Maintenance	KZ	2	2P+0C+8B	L	PV
14Y2UI	Artificial Intelligence	KZ	2	2P+0C+8B	Z,L	PV
18Y2UB	Accident Biomechanics and Safety	KZ	2	2P+0C	L	PV
18Y2VC	Computational Mechanics in Transportation	KZ	2	2P+0C	L	PV
15Y2ZA	Basic Principles of English Academic Writing and Abstract in English Dana Boušová Dana Boušová (Gar.)	KZ	2	2P+0C	Z	PV
12Y2ZK	Traffic Calming Zuzana arská Zuzana arská (Gar.)	KZ	2	2P+0C	Z	PV

00Y2XN	Active participation in a scientific project, workshop, short-term trip abroad	KZ	2
17Y2AM	Application of Marketing Tools in Transportation	KZ	2
	eting principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sph	i i	
12Y2BM	Safety on The Local Roads	KZ	2
	d accidents rates, social looses. Collision points, diagrams. Tools and methods for safer road transportation. Crossroads fro	1 1	
	abouts. Pedestrian transport, cyclists. Traffic lights coordination. Transport control and regulation.	on the point of view of ealery	. r dydridiogidd
14Y2C1	CATIA I	KZ	2
	king with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making ad	1	
	parts and bodies. Making assemble and visualization.	apare modele nom 25 eke	onoo. Import
14Y2C2	CATIA II	KZ	2
	course. Modeling compound bodies. Possibility of enumeration, comunications with other systems. Surface x solid bodies	1	
	ation. Outputs of projects.		, , , , , , , , , , , , , , , , , , ,
14Y2CS	Sensitivity of Systems	KZ	2
	with defined reliability. The impact of changing parameters and subsystems within a system. System sensitivity computing	l l	
	usability in system design.	ig, dominion of conomity ful	ionorio aria
21Y2CR	CRM	KZ	2
_	I. Analysis of air accidents. Human factor. Error. Historical development of CRM. Health and fitness. Stress and its effect	1	
	on Processing, Situational Awareness, Workload Management, Decision Making, Communication, Leadership & Decision & De		Olcop damp,
12Y2DU	Transport in the Context of Sustainability	KZ	2
	nable transport, historical context, development in our country and in the world. Sustainable development and sustainable	1 1	_
	bles of sustainable transport. Biofuels. Electromobility. New trends in transport. Practical examples.	transport. Demand for trans	sport. Iriductio
15Y2DN	Transportation Psychology in German Speaking Countries	KZ	2
	pader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exha		
	dent, traffic psychology in the internet etc.)	ustion, getting of arriving fice	rice, criliciteri
18Y2DC	Dynamics of Transport Routes and Vehicles	KZ	2
	Dynamics of Transport Noutes and Verlicies		
	s with a finite number of degrees of freedom. Methods of stiffness constants and pliability constants. Fundamentals of vibra		-
· · · · · · · · · · · · · · · · · · ·	imental methods in dynamics.	anon or amageor officina for a	
18Y2EM	Electron microscopy	KZ	2
	electron microscopy, construction, control and maintenance of SEM, sample preparation, signal detection, types of detec	1	
	tion of results and automation of data processing, energy dispersive X-ray microanalysis and other analytical methods in		
	letector, practical examples of ED microanalysis on samples.	, , , , , , , , , , , , , , , , , , , ,	
16Y2EE	Emissions and Ergonomics of Vehicles	KZ	2
	onomy of vehicles and the influence on man and nature. National and international law related to the hygiene. Noise and	1 1	
Emissions and erd	ys of measuring, prevention, elimination. Exhausts - creation, measurement, reduction, non-regular fuels and drives. Ergor		
-			
physical values, wa	neating, ventilation, air-conditioning, filtration, tiredom.	ioni, onung, otananig, oon	
physical values, wa reach. Condition - h	eating, ventilation, air-conditioning, filtration, tiredom.		2
physical values, wa reach. Condition - h 17Y2FM	eating, ventilation, air-conditioning, filtration, tiredom.  Financing in Urban Mass Transportation	KZ	2 eration. Other
physical values, wa reach. Condition - h 17Y2FM UMT history and de	leating, ventilation, air-conditioning, filtration, tiredom.    Financing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U	KZ	eration. Other
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d	eating, ventilation, air-conditioning, filtration, tiredom.  Financing in Urban Mass Transportation	KZ	eration. Other
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d inspection and blin	leating, ventilation, air-conditioning, filtration, tiredom.    Financing in Urban Mass Transportation   Evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Use evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pred passengers. Tourism & DMT. UMT typology & DMT. UMT typology amp; choice of optimum financing.	KZ   Inderground building and op esent models of UMT financi	eration. Other ng. Transport
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d inspection and bline 21Y2FM	leating, ventilation, air-conditioning, filtration, tiredom.    Financing in Urban Mass Transportation   Evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Use evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and predict passengers. Tourism & Dumit Typology & D	KZ   Inderground building and opesent models of UMT financi	eration. Other ng. Transport
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d inspection and blin 21Y2FM Theories of corpora	leating, ventilation, air-conditioning, filtration, tiredom.    Financing in Urban Mass Transportation   Evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Use evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and predict passengers. Tourism & Description of the properties of optimum financing.    Aviation Company Financial Management attention of the tompany. Financial resources - long-term finances.	KZ   Inderground building and opesent models of UMT financi	eration. Other ng. Transport
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d inspection and blin 21Y2FM Theories of corpora earnings, shares, b	leating, ventilation, air-conditioning, filtration, tiredom.    Financing in Urban Mass Transportation	KZ   Inderground building and opesent models of UMT financi KZ   Incial resources, depreciation	eration. Other ng. Transport 2 , retained
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d inspection and blin 21Y2FM Theories of corpora earnings, shares, b 18Y2FZ	leating, ventilation, air-conditioning, filtration, tiredom.  Financing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & DMT. UMT typology & DMT. UMT typology & DMT. UMT typology & DMT. UMT typology & DMT.  Aviation Company Financial Management tet finance - financial statements, budget, forecast. Financial policy of the company. Financial resources - long-term financials, loans, leasing, capital. Financial and economic analysis of the company - structure and content.  Physical foundation of materials' properties	KZ   Inderground building and opesent models of UMT financi KZ   Incial resources, depreciation	eration. Other ng. Transport  2 , retained
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d inspection and blin 21Y2FM Theories of corpora earnings, shares, b 18Y2FZ Atomistic models, I	leating, ventilation, air-conditioning, filtration, tiredom.  Financing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & DMT. UMT typology & DMT. UMT typology & DMT. UMT typology & DMT.  Aviation Company Financial Management the finance - financial statements, budget, forecast. Financial policy of the company. Financial resources - long-term financials, loans, leasing, capital. Financial and economic analysis of the company - structure and content.  Physical foundation of materials' properties attice defects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects	KZ   Inderground building and opesent models of UMT financi KZ   Incial resources, depreciation	eration. Other ng. Transport  2 , retained
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT do inspection and blind 21Y2FM Theories of corpora earnings, shares, b 18Y2FZ Atomistic models, I behavior are the m	Pinancing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & DMT. UMT typology	KZ   Inderground building and opersent models of UMT financi KZ   Incial resources, depreciation   KZ   Incial resources   Inci	eration. Other ng. Transport  2 , retained  2 on materials'
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT do inspection and blind 21Y2FM Theories of corpora earnings, shares, b 18Y2FZ Atomistic models, I behavior are the m	leating, ventilation, air-conditioning, filtration, tiredom.  Financing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & DMT. UMT typology & DMT. UMT typolo	KZ   Inderground building and opesent models of UMT financi KZ   Incial resources, depreciation KZ   Incial resources, depreciation KZ   Incial resources   Incial re	eration. Other ng. Transport  2 , retained  2 on materials
physical values, wa reach. Condition - h 17Y2FM UMT history and du umt types. UMT dispection and blim 21Y2FM Theories of corpora earnings, shares, b 18Y2FZ Atomistic models, I behavior are the m 15Y2HS Roads and road tra	Pinancing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & DMT. UMT typology	KZ   Inderground building and opesent models of UMT financi KZ   Incial resources, depreciation   KZ   Incial resources, depreciation   KZ   Incial resources   Incia	eration. Other ng. Transport  2, retained  2 on materials  2
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d inspection and blin 21Y2FM Theories of corpora earnings, shares, b 18Y2FZ Atomistic models, I behavior are the m 15Y2HS Roads and road tra 1st part of 20th cer	Financing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & DMT. UMT typology	KZ   Inderground building and opesent models of UMT financi KZ   Incial resources, depreciation   KZ   Incial resources, depreciation   KZ   Incial resources   Incia	eration. Other ng. Transport  2 , retained  2 on materials  2 pment during
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d inspection and blin 21Y2FM Theories of corpora earnings, shares, b 18Y2FZ Atomistic models, I behavior are the m 15Y2HS Roads and road tra 1st part of 20th cer History of road inter	Financing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & Development in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & Development in small towns. Particularities of investment and operation financing.  Aviation Company Financial Management set finance - financial statements, budget, forecast. Financial policy of the company. Financial resources - long-term finances, loans, leasing, capital. Financial and economic analysis of the company - structure and content.  Physical foundation of materials' properties attice defects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects ain discussed topics.  Road Transport History ffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, accelerate tury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road traffic control, development of road signs.	KZ Inderground building and opesent models of UMT financi KZ Incial resources, depreciation KZ Incial resources, depreciation KZ Incial resources, depreciation KZ Incial resources, depreciation	eration. Other
physical values, wa reach. Condition - h 17Y2FM UMT history and do UMT types. UMT d inspection and blin 21Y2FM Theories of corpora earnings, shares, b 18Y2FZ Atomistic models, I behavior are the m 15Y2HS Roads and road tra 1st part of 20th cer History of road inter 16Y2HP	Financing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & Development in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & Development in small towns. Particularities of investment and operation financing.  Aviation Company Financial Management set finance - financial statements, budget, forecast. Financial policy of the company. Financial resources - long-term finances, loans, leasing, capital. Financial and economic analysis of the company - structure and content.  Physical foundation of materials' properties attice defects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects ain discussed topics.  Road Transport History ffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, accelerate tury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road traffic control, development of road signs.  Vehicle Hygiene	KZ Inderground building and opesent models of UMT financi KZ Incial resources, depreciation KZ Incial resources, depreciation KZ Incial resources depreciation	eration. Other ng. Transport  2 , retained  2 on materials  2 pment during nodern period
physical values, wa reach. Condition - h 17Y2FM  UMT history and do UMT types. UMT d inspection and blin 21Y2FM  Theories of corpora earnings, shares, b 18Y2FZ  Atomistic models, I behavior are the m 15Y2HS  Roads and road tra 1st part of 20th cer History of road intee 16Y2HP  Emissions and ergore.	Financing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. U evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & Development in small towns. Particularities of investment and operation financing of individual UMT types. Historic and pre d passengers. Tourism & Development in small towns. Particularities of investment and operation financing.  Aviation Company Financial Management set finance - financial statements, budget, forecast. Financial policy of the company. Financial resources - long-term finances, loans, leasing, capital. Financial and economic analysis of the company - structure and content.  Physical foundation of materials' properties attice defects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects ain discussed topics.  Road Transport History ffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, accelerate tury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road traffic control, development of road signs.	KZ Inderground building and oppesent models of UMT financi KZ Incial resources, depreciation KZ Incial resources, depreciation KZ Incial resources and loading Incial	eration. Otherng. Transport  2 , retained  2 on materials  2 pment during nodern period  2 n, propagatio

14Y2IS	Intelligent Systems in Postal Services	KZ	2
	systems in the postal services (ITIS, and POST, T + T, PS, KMP, DS), application of information technology in the processing ing logistics processes in the post. The appreciation of the real implementation of the Czech post in operation both in lectures a		-
desk.	ing logistics processes in the post. The approvation of the real implementation of the ozeon post in operation both infectaces a	na in the namewor	K of the practical
12Y2IS	Urban Networks	KZ	2
	e position of UN as public and technical infrastructure / utillities, metodology of the UN master planning, of UN design, UN co	ordination, UN ins	tallation and UN
· ` `	cal standards of UN, trenchless technologies for UN).	147	
14Y2JM	One-Chip Controllers chitecture, embedded peripherals (counters, timers, converters, ports) and their utilisation. Practical tasks are programmed v	KZ	2 chins
15Y2JH	Job Hunting in English	KZ	2
	practical guide to applying for a job in English. The interview process is mapped out, with the course including skills practise		
including specifics for j	ob-hunting in English. Students will also be introduced to the English vocabulary and phraseology necessary for a successful	l interview.	
14Y2KI	Capital Investment in Transportation and Telecommunications	KZ	2
	tment desicion making - long term goals and investment strategies, long term financing	1/7	
16Y2KV	Car Body Design   Car Body, bus car body, and motorcycle as a construction set. Principles of design, production, testing and operation.	KZ Materials used for	2 car body
1	d passive safety parts. Ergonomics, HMI, view out of the vehicle, operational extent, view behind the car. Conditioning tools, s		-
of the car body. Design	and artistic design principles. Practical training.		
12Y2KS	Rail Transport in Settlements and Regions	KZ	2
	elopment of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway servi- tems. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected countries / re-		guration and
12Y2KE	Landscape Ecology	KZ	2
!	ndscape - definition, types, evolution. Landscape systems. Anthropogenic impacts on landscape. Methods using for evaluating	1	
and its potential applic	ations in landscape ecology. Landscape planning.		,
11Y2LG	Logics of Engineer's Judgement	KZ	2
_	gineer's judgement, its propositional and predicative logical base. Solutions of logical tasks through the methods of truthfulne	ss and semantic a	nalysis charts.
21Y2MQ	d. Logical basis for network design for the solution of technical tasks.	KZ	2
1	Quality Management I. Pioneers in the field of quality. International quality organisations and quality promotion in the Czech Republic. Quality mana	1	_
	Integrated management systems. Risk management in the context of the requirements of ISO standards. Sectoral quality man	•	
	xcellence models and corporate social responsibility. Quality audits.		
15Y2MS	Sociology for Managers	KZ	2
	to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation in free market economy. Corporate directorship, work groups, adaptation, strife, different roles and positions in corporation.	, its culture and so	ciai system.
21Y2MK	Marketing of Air Transport	KZ	2
The content of the cou	rse "Marketing in air transport" is the management of activities and processes using available marketing tools and processes	for analysis, strate	gy development
	sales of goods and services in the aviation industry. In addition to the theoretical foundations of marketing, the lectures prese	ent systems of mai	ket, competition
	reation of marketing strategies and planning.		
12Y2MH	Management and Madeling of Troffic Naise	1/7	0
Theoretical introduction	Measurement and Modeling of Traffic Noise	KZ Measurement and	2 I calculation of
	Measurement and Modeling of Traffic Noise n to noise from traffic. Noise from rail transport. Noise from road traffic. Measurement and calculation of noise from rail traffic. Modelling of traffic noise in the CADNA A.	1	
	to noise from traffic. Noise from rail transport. Noise from road traffic. Measurement and calculation of noise from rail traffic.	1	
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noise from road traffic.  12Y2MI Teaching aming on util 18Y2MP	n to noise from traffic. Noise from rail transport. Noise from road traffic. Measurement and calculation of noise from rail traffic.  Modelling of traffic noise in the CADNA A.  Urban Engineering  tities storage in area, coordination engineering activities in area, arrangement of public space, concepement of public spaces.  Finite Element Method And Its Application	KZ KZ	d calculation of 2
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12Y2MZ Modernization of Railway Lines and Stations		
	KZ	2
Line speed increasing. AGC and AGTC Agreement. AGC and AGTC railway network. Principles of modernization (conceptual papers, definitions of ba	•	
Track geometrical characteristics on modernized railway lines. Superstructure and substructure on upgraded lines. Designing of railway stations. Br and realization of projects. Technical description of the tranzit corridors.	lages and tunnels.	Development
12Y2NS Shared Space Design	KZ	2
Introducing students to the concept of integrated use of public spaces by sharing space with all users. Active promotion of settlements and sustainate	1	
towns and cities. Analysis of implemented foreign examples, principles of zone design in the context of legal and technical requirements. Linking tra	•	
and architecture in the process of designing quality public spaces.		
14Y2OP Object Oriented Programming in Transport	KZ	2
Class, object, encapsulation, inheritance, polymorphism, templates, retyping, stream, exceptions, repository, collections, virtual methods and class	es. Problem cases	wil be chosen
from microscopic simulation system, discrete event simulation, celular automata simulation and virtual life area.		
15Y2OZ   Health Protection in Transportation and EU	KZ	2
Health protection in transportation in CR in the past and present. Conditions before 1989 and after, current legislature, future prospects. Harmonisa members. Fundamental principles of health protection and support in selected EU countries.	ation of legislation v	vith other EU
15Y2OF Specialised French for Transportation and Telecommunications	KZ	2
Basic transportation (public transport, railway, air, road and ship transport) and telecommunications terminology. Special focus on independent spe	1	
18Y2OB Optical Contactless Strain Measurements	KZ	2
In the course students will get theoretical knowledge and practical experience in optical strain measurement methods. Students will get experience	1	
DSLRs and high speed cameras for acquisition of suitable image data and with digital image correlation algorithms for displacements measurement		· · ·
16Y2PG Computer Graphics and Virtual Reality	KZ	2
Principles of creation and processing of bitmap and vector 2D graphics, 3D virtual scenes and algorithms used for their computerized processing. Ado	pting skills of work	with professional
and freeware tools for creation and processing of 2D, 3D and interactive graphics, and basics of programming language VRML and graphic libraries	s (OpenGL).	
22Y2PS Traffic Accidents Computer Simulation and Analysis	KZ	2
Vehicle dynamics simulation, multi body systems and vehicle active safety systems, vehicle slipping, external influence on virtual model, crash test	s evaluation, single	-track vehicle,
vehicle passangers, pedestrian, traffic accident simulation and analysis.	147	
15Y2PT Food in Transportation	KZ	2
The nutrition policy. Interaction transportation and foodstuffs. The health risks. Hygienic safeguard. The practical examples from the Czech Republic dining cars, work trains and other railroad equipment. Legislation.	and from the worl	a. The issues of
15Y2PD Practical Spanish for Transportation	KZ	2
Development of communication skills, training of correct written expression of formal character, basic technical vocabulary, cultural specifics of the		
Terminology of transport and commerce.	opariion opoaking	50d111100.
21Y2PP Law and Operation in Air Transport	KZ	2
Development of aviation law. International conventions on civil aviation. International organisations and including of the Czech Republic in these organisations	ganisations. EU leg	islation and civil
aviation. Execution of state administration and state supervision in matters of civil aviation, in accordance with Act No. 49/1997 Col. Facilitation. Re-	sponsibilities of air	carriers for
passengers, luggage and cargo. The safe transport of dangerous goods.		
20Y2PR Prediction of time series	KZ	2
Introduction to time series prediction, meaning of prediction, basics of quantitative prediction. Methods for predictive quality evaluation, descriptive st		
prediction, prediction for general formula of loss function. Calculation and programming environment R. Regression models, basics of linear regression, statistical tests of linear dependence, selection of input variables.	sion, simple regres	sion. iviuitipie
12Y2PV Public transport priority	KZ	2
Public transport as the backbone of sustainable mobility. Public transport priority (PTP) in strategic documents. PTP in the Czech Republic and abroad		
	1	_
of PTP measures. Relationship between Basics of public transport stops and stations design. PTP measures and evaluation of their operation. Eco	ad. Types of PTP m	easures. Design
of PTP measures. Relationship between Basics of public transport stops and stations design. PTP measures and evaluation of their operation. Eco PTP. The process of preparing PTP measures.	ad. Types of PTP m	easures. Design
	ad. Types of PTP m	easures. Design
PTP. The process of preparing PTP measures.  14Y2PI Process Information Systems in Transportation Introduction and detailed usage of transport information systems, e.g. EFC, ePurse and transport check-in systems for public transport with focus of	ad. Types of PTP m nomic and environ KZ on architecture of th	easures. Design nental effects of 2
PTP. The process of preparing PTP measures.  14Y2PI Process Information Systems in Transportation  Introduction and detailed usage of transport information systems, e.g. EFC, ePurse and transport check-in systems for public transport with focus of SOA (Service Oriented Architecture). Inforamtion systems implementation and operations description in the Czech Republic (technical and process).	nd. Types of PTP m nomic and environ KZ on architecture of the	easures. Design lental effects of 2 lis system and and visits.
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18Y2SD	Reliability and Diagnostics, Experimental Methods	KZ	2
	n theoretical background and practical experience in the field of reliability of constructions, implementation of diagnostic procedure.		
	on of residual life of structures. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measing the control of the contro	urement, photoel	asticimetry) and
· · · · · · · · · · · · · · · · · · ·	ng electron microscopy, will be used.		
15Y2SR	Stylistics and Rhetorics	KZ	2
	ritten expression as a means of human communication. Basic information about speech, articulation, oral and written langua		
organs, voice training. La	anguage semantics, language syntactic and the pragmatic aspect. Creative thought and its oral and written expression. Practic	e - cultivating the	skills of speech.
15Y2TS	Technician and Contemporary Society	KZ	2
•	a room and open a door for a lady, are there simple solutions, science vs belief, do we need to know or is it enough to turn on	a PC, it must be	true - it's on the
Internet and in newspap	ers, what are the sights for, interest in public affairs - a hangover from the past?		
20Y2TE	Technology of Electronic Systems	KZ	2
Principle technologies for	or an effective operation of electronically controlled systems. Maintaining, meassuring, optimization of safety and reliability of c	complex systems.	Semiconductor
technologies, printed cir	cuits, assembly operations, interconnection and repairs technologiesusers and operators.		
14Y2TU	Telecommunications Systems and Multimedia	KZ	2
New trends in telecomm	unications namely applied in transport solutions, identification and quantification of telecommunications networks and services	performance base	ed on redundant
architecture, provissioni	ng of guaranteed service quality, two generations of the handover principles.		
16Y2TT	Transportation and Building Technology and Equipment	KZ	2
Transportation and build	ing technology and equipment.Transport of solid and mass material, soil and rock above all. Highway and underground const	ructions. Transpo	rt surface
vehicles, description and	d construction features, delivered mass calculation, economy of operation. Technics and technology of underground construction	ons. Terrestrial ve	hicles operation
management methodolo	gy (ultrasound, laser, GPS, total stations).		
21Y2UL	Aircraft Maintenance	KZ	2
Approved Maintenance	Organisations (AMOs), Continuing Airworthiness Management Organisations (CAMOs), Maintenance Training Organisations	(MTOs), technica	documentation
and additional ICA (Insti	ructions for Continued Airworthiness) instructions, aircraft release to service procedure, maintenance programmes and sched	uling, modificatio	ns and general
repair methods, aircraft	centre of gravity and weights, human factors in aircraft maintenance.		
14Y2UI	Artificial Intelligence	KZ	2
History of artificial intelli	gence, knowledge, its representation including frames, state space search, constraints, genetic algorithms, machine learning.	<b>'</b>	
18Y2UB	Accident Biomechanics and Safety	KZ	2
Anatomy of man. Metho	ds of Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident a	nd the extent of a	traffic accident.
Injuries in road traffic. Po	edestrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computatic	onal modeling. Pr	inciples of
treatment and rehabilita	tion. Protective elements and safety measures in transport.		
18Y2VC	Computational Mechanics in Transportation	KZ	2
Principle of virtual work	and variational principles in FEM. Bar shaped, planar and three - dimensional structures in FEM. FEM in statics and in dynam	nics of transporta	tional systems.
	d viscoelastic material. FEM in problems of biomechanics. Numerical analysis of structural parts with programme ANSYS on i		-
15Y2ZA	Basic Principles of English Academic Writing and Abstract in English	KZ	2
Theory, creating a phras	al bank according to students' specialisations, rhetorical analysis or texts/abstracts, drafting an abstract, providing effective fe	edback.	_
12Y2ZK	Traffic Calming	KZ	2
	ing. Solution of road network organization. Urban road layouts. Psychological and physical obstacles (measures of traffic calm	1	
•	s in crossroads. Pedestrian zones. Residential streets and zones.	3, 00	

Name of the block: Elective courses Minimal number of credits of the block: 0

The role of the block: V

Code of the group: VP-NP-DS

Name of the group: Master Full-Time DS voluntary

Requirement credits in the group: Requirement courses in the group:

Credits in the group: 0 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
15JCZ1	Czech Language for Foreign Students 1 Irena Veselková	Z	0	0P+2C	Z	V
15JCZ2	Czech Language for Foreign Students 2	Z	0	0P+2C	L	V
15JCZ3	Czech Language for Foreign Students 3 Irena Veselková	Z		0P+2C	Z	V
15JCZ4	Czech Language for Foreign Students 4	Z		0P+2C	L	V

Characteristics of the courses of this group of Study Plan: Code=VP-NP-DS Name=Master Full-Time DS voluntary

15JCZ1	Czech Language for Foreign Students 1	Z	0
Basic structures of Cze	ch language, common communication situations, study, work, leisure time activities, introduction of myself, phonetics of Czec	h language, writir	ng skills.
15JCZ2	Czech Language for Foreign Students 2	Z	0
Basic structures of Cze	ch language, common communication situations, study, work, leisure time activities, introduction of myself, phonetics of Czec	h language, writir	ng skills.
15JCZ3	Czech Language for Foreign Students 3	Z	
Language structures wi	th regard to the group level. Listening and oral fluency drill. Basic terminology.	,	•

15JCZ4 Czech Language for Foreign Students 4 Language structures with regard to the group level. Listening and oral fluency drill. Basic terminology.

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-20/21

Name of the group: Language Courses Master Full-Time DS from 2020/21 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
15J2F1	Language - French 1 Irena Veselková	Z	2	0P+2C+10E	3 Z	J
15J2l1	Language - Italian 1 Irena Veselková	Z	2	0P+2C+10E	3 Z	J
15J2N1	Language - German 1 Eva Rezlerová, Martina Navrátilová, Jana Štikarová	Z	2	0P+2C+10E	Z	J
15J2R1	Language - Russian 1 Marie Michlová	Z	2	0P+2C+10E	Z	J
15J2S1	Language - Spanish 1 Nina Hricsina Puškinová Zuzana Krinková (Gar.)	Z	2	0P+2C+10E	B Z	J
15JBF2	Language - French 2	Z	2	0P+2C+10E	L L	J
15JBI2	Language - Italian 2	Z	2	0P+2C+10E	L	J
15JBN2	Language - German 2	Z	2	0P+2C+10E	B L	J
15JBR2	Language - Russian 2	Z	2	0P+2C+10E	L	J
15JBS2	Language - Spanish 2 Zuzana Krinková (Gar.)	Z	2	0P+2C+10E	L L	J
15JBF3	Language - French 3 Irena Veselková	Z	2	0P+2C+10E	Z	J
15JBI3	Language - Italian 3 Irena Veselková	Z	2	0P+2C+10E	B Z	J
15JBN3	Language - German 3 Eva Rezlerová, Martina Navrátilová, Jana Štikarová	Z	2	0P+2C+10E	B Z	J
15JBR3	Language - Russian 3 Marie Michlová	Z	2	0P+2C+10E	B Z	J
15JBS3	Language - Spanish 3 Zuzana Krinková Zuzana Krinková (Gar.)	Z	2	0P+2C+10E	Z	J
15JBF4	Language - French 4	ZK	2	0P+2C+10E	B L	J
15JBI4	Language - Italian 4	ZK	2	0P+2C+10E	L	J
15JBN4	Language - German 4 Eva Rezlerová, Martina Navrátilová, Jana Štikarová	ZK	2	0P+2C+10E	B L	J
15JBR4	Language - Russian 4	ZK	2	0P+2C+10E	B L	J
15JBS4	Language - Spanish 4 Zuzana Krinková (Gar.)	ZK	2	0P+2C+10E	L L	J

## Characteristics of the courses of this group of Study Plan: Code=.I7-NP-DS-20/21 Name=I anguage Courses Master Full-Time DS from

15J2F1	Language - French 1	Z	2
Grammatical Struct	ures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative sk	ills, feedback skil	ls, summarising
technical text conte	nt, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and	d technical registe	rs and their use
language of manag	ement.		
15J2l1	Language - Italian 1	Z	2
Grammatical Struct	ures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative sk	ills, feedback skil	s, summarising
	ures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative sk nt, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and		_
technical text conte	nt, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and		-
technical text conte language of manag	nt, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and		-
technical text contellanguage of manage 15J2N1	nt, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and ement.	t technical registe	rs and their use
technical text conte language of manag 15J2N1 Grammatical Struct	nt, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and ement.  Language - German 1	t technical registe  Z  kills, feedback skil	rs and their use

15J2R1 Language - Russian 1	Z	2
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative stable and provided application formal and provided application formal and		_
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal an language of management.	a technical register	is and their use,
15J2S1 Language - Spanish 1	Z	2
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative s	1	
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal an	d technical register	rs and their use,
language of management.		
15JBF2 Language - French 2	Z	2
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative structures and style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative structures are provided application formal and provided application formal and provided applications.		-
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal an language of management.	a technical register	is and their use,
15JBI2 Language - Italian 2	Z	2
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative s	1	
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal an	d technical register	rs and their use,
language of management.		
15JBN2 Language - German 2	Z	2
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative s technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal an		
language of management.	a technical register	is and their use,
15JBR2 Language - Russian 2	Z	2
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative s	1	
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal an	d technical register	rs and their use,
language of management.		
15JBS2 Language - Spanish 2	Z	2
Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative structures and style. Selection of conversations and most in a plant to transportation and protection application formal and protection and protection application formal and		
technical text content, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal an language of management.	a technical register	is and their use,
15JBF3 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	1	
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (profession	nal) text and its
features. Practice of oral and written presentation.		
15JBI3 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. Improvement		-
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W features. Practice of oral and written presentation.	ork with (profession	iai) text and its
15JBN3 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	_	
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (profession	nal) text and its
features. Practice of oral and written presentation.		
15JBR3 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 and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W		
features. Practice of oral and written presentation.	Jik with (profession	iai) text and its
15JBS3 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	1	
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (profession	nal) text and its
features. Practice of oral and written presentation.		
15JBF4 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 and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W		-
features. Practice of oral and written presentation.	JIK WITH (PROTESSION	iai) text and its
15JBI4 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. Improvement	1	
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (profession	nal) text and its
features. Practice of oral and written presentation.		
15JBN4   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 and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W		-
features. Practice of oral and written presentation.	YIV MILL (PLOIGSSIOI	ומון נטאנ מוזע ונס
15JBR4 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	1 .	
and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W	ork with (profession	nal) text and its
features. Practice of oral and written presentation.		
15JBS4   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 and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. W		-
features. Practice of oral and written presentation.	with (biolession	ion tont and its

## List of courses of this pass:

Code	Name of the course	Completion	Credits
00Y2XN	Active participation in a scientific project, workshop, short-term trip abroad	KZ	2
11STS	Stochastic Systems	Z,ZK	4
	s with the problems of mathematical modelling of dynamical systems, estimation od these models and their utilization for prediction.		
	ansportation tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian		
11XN1	Master Project 1	Z	2
11XN2	Master Project 2	Z	2
11XN3	Master Project 3	Z	1
11XN4	Master Project 4	Z	8
11XNDD	Master Thesis for study programme DS	Z	18
11Y2LG	Logics of Engineer's Judgement	KZ	2
	Logics of Engineer's Judgement, its propositional and predicative logical base. Solutions of logical tasks through the methods of truthfulness		_
Logical structure (	Venn's diagram method. Logical basis for network design for the solution of technical tasks.	and semantic analy	y SIS CHAIRS
11Y2PM	Programming in MATLAB	KZ	2
	nciple of modelling and simulation, description of Matlab environment and its settings, optimization and program code debugging, da	1	l
	Matlab.		· ·
12BED	Road Safety Audit	Z,ZK	4
Schedules of appli	cations of safety assessments (especially Road Safety Audit, Road Safety Inspection) during the process of preparations, and of the p	articular realization	of the roa
network that shoul	d minimize traffic accident risks for all those who take part in road traffic. Application of European Directive 2008/96/EC on road safe	ty infrastructure ma	anagement
12DAZP	Transport and Environment	Z,ZK	4
his course aims th	ne impact of transport on environment. The accent is put mainly on noise and vibration, emission, barrier effect and energy demands.	The noise measury	, is part an
	parcel of this course.		•
12IDOS	Integrated Transport Systems	ZK	3
Reasons for build	ling of integrated transport systems, principle of integration, dividing of integration methods, traffic, infrastructure, technical, organiza	tional methods, inte	egration of
	tariff, sales systems, information systems, marketing of system, examples of non-integration.		1
12IKD	Rail Transport Infrastructure	Z,ZK	5
lon-compensated	lateral acceleration, parameters eduction for transition curve and cant transition, curves without straight, track spacing change. Track det		Substructui
1011151	design, slab track. Tram-train. Interoperability. Noise precautions. Railway line modernization for non-tilting and tilting trains		
12NAPI	Design and Maintenance of Transportation Structures	Z,ZK	4
Design and const	ruction of cement-concrete pavements and their maintenance. Construction of bridge objects, examples and choice of bridge constru and operation of tunnels.	action materials. Co	onstruction
12TEAP		7 71/	7
	Theory of Road Traffic Operation  rs and their measurement, acquisition and processing. Road capacity analysis. Theoretical foundations and applications of mathema	Z,ZK	
•	croscopic traffic models. Theory of traffic management. Traffic light signals, roundabouts, coordination, public transport priority. Urban		-
otationous arra m	Traffic excesses management. Road assessment and maintenance methods. Health risks assessment.	· and mgrmay man	agomom
12TKVP	Highway Engineering Materials	Z.ZK	4
	d construction - Material Aspects. The course emphasizes the development of road construction from the beginning of the 20th centure.	, ,	ocusing on
	materials, understanding the production and placing of asphalt mixtures.		
12UMUP	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 urb	an growth in conne	ection with
ransport. Basic pri	nciples of the transport solution. The impact of transport on the size and shape of the city, on the development of the street and the s	quare and the road	ls. Solution
	for pedestrian and bicycle transport. Suburbanization and transport. City economics.		
12VRZ	High Speed Rail Transport	KZ	3
	(HSR) transport characteristics and position in transportation system. Types / models of HSR systems, preparation of high speed rail	-	
Republic conditions	s. Non-adhesion HSR systems. City and region traffic service by HSR. HSR operating points. HSR worldwide network. HSR routing a	nd traffic conception	n. Specific
407/14	of HSR track construction and layout track parameteres.	7	
12XN1	Master Project 1	Z	2
12XN2	Master Project 2	Z	2
12XN3	Master Project 3	Z	1
12XN4	Master Project 4	Z	8
12XNDD	Master Thesis for study programme DS	Z	18
12Y2BM	Safety on The Local Roads	KZ	2
Classification of roa	ad accidents rates, social looses. Collision points, diagrams. Tools and methods for safer road transportation. Crossroads from the point	of view of safety. Ps	sychologica
	right of way. Roundabouts. Pedestrian transport, cyclists. Traffic lights coordination. Transport control and regulation.	T	T
12Y2DU	Transport in the Context of Sustainability	KZ	2
Definitions of susta	inable transport, historical context, development in our country and in the world. Sustainable development and sustainable transport. I	Demand for transpo	rt. Inductio
1631515	of transport. Examples of sustainable transport. Biofuels. Electromobility. New trends in transport. Practical examples.		-
40000	Urban Networks	KZ	2
12Y2IS	d the position of LIN as public and technical intrastructure / utilities, metodology of the LIN master planning, of LIN design, LIN coord	nation UN installa	tion and U
	d the position of UN as public and technical infrastructure / utilities, metodology of the UN master planning, of UN design, UN coord	mation, Ort motana	
	operation (basic technical standards of UN, trenchless technologies for UN).  Landscape Ecology	KZ	2

			1
12Y2KS	Rail Transport in Settlements and Regions	KZ	2
	d development of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway service	•	ration and
· .	tion of metro systems. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected cou		
12Y2MD	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 (ana modal split, traffic distribution to road network). Shock wave in traffic flow. Service levels and their traffic volumes. Acceleration		tic methods,
12/2/4		KZ	2
12Y2MH	Measurement and Modeling of Traffic Noise uction to noise from traffic. Noise from rail transport. Noise from road traffic. Measurement and calculation of noise from rail traffic. Me		I
Theoretical introdu	noise from road traffic. Modelling of traffic noise in the CADNA A.	asurement and ca	ilculation of
12Y2MI	Urban Engineering	KZ	2
	eaching aming on utilities storage in area, coordination engineering activities in area, arrangement of public space, concepement of p		_
12Y2MZ	Modernization of Railway Lines and Stations	KZ	2
	ng. AGC and AGTC Agreement. AGC and AGTC railway network. Principles of modernization (conceptual papers, definitions of basic of	· · · · · · · · · · · · · · · · · · ·	_
	characteristics on modernized railway lines. Superstructure and substructure on upgraded lines. Designing of railway stations. Bridgi		
_	and realization of projects. Technical description of the tranzit corridors.		·
12Y2NS	Shared Space Design	KZ	2
Introducing studen	ts to the concept of integrated use of public spaces by sharing space with all users. Active promotion of settlements and sustainable	mobility in the pub	lic space of
towns and cities. A	Analysis of implemented foreign examples, principles of zone design in the context of legal and technical requirements. Linking traffic	engineering, urba	n planning
	and architecture in the process of designing quality public spaces.		
12Y2PV	Public transport priority	KZ	2
•	the backbone of sustainable mobility. Public transport priority (PTP) in strategic documents. PTP in the Czech Republic and abroad. Ty	•	_
of PTP measures.	Relationship between Basics of public transport stops and stations design. PTP measures and evaluation of their operation. Econom	ic and enviroment	al effects of
	PTP. The process of preparing PTP measures.		1
12Y2RD	Realization of Transport Buildings	KZ	2
_ · _ ·	Types. Project Documentation Types. Building Code. Land Permission and Building Permission Process. Building Process. Project Eco		anagement.
12Y2ZK	Traffic Calming	KZ	2
Principles of traffi	ic calming. Solution of road network organization. Urban road layouts. Psychological and physical obstacles (measures of traffic calm	ing) and their com	binations.
	Traffic calming measures in crossroads. Pedestrian zones. Residential streets and zones.		ı
12ZSUZ	Railway Stations and Centres	Z,ZK	3
Equipment for pass	enger transport. Platform construction. Access roads to platforms. Modification of railway stations according to the TSI PRM. Station h	_	ant solutions
	of station heads for current ride. Junction stations. Crossing stations. Passenger stations. Moving stations. Public transport term		ı
14GISS	Geographical Information Systems	KZ	2
	n of saving format of space-oriented information land-survey and cartography minimum basic tasks of spatial operations principles of	territorial identifica	ation
14XN1	Master Project 1	Z	2
14XN2	Master Project 2	Z	2
,	Madiel 1 Tojout 2	_	4
14XN3	Master Project 3	Z	1
	Master Project 3		
14XN3 14XN4	Master Project 3 Master Project 4	Z Z	1 8
14XN3 14XN4 14XNDD	Master Project 3  Master Project 4  Master Thesis for study programme DS	Z Z Z	1 8 18
14XN3 14XN4 14XNDD 14Y2C1	Master Project 3  Master Project 4  Master Thesis for study programme DS  CATIA I	Z Z Z KZ	1 8 18 2
14XN3 14XN4 14XNDD 14Y2C1	Master Project 3  Master Project 4  Master Thesis for study programme DS	Z Z Z KZ	1 8 18 2
14XN3 14XN4 14XNDD 14Y2C1 Fundaments of wo	Master Project 3  Master Project 4  Master Thesis for study programme DS  CATIA I  Orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive moderand export of made parts and bodies. Making assemble and visualization.	Z Z Z KZ els from 2D sketch	1 8 18 2
14XN3 14XN4 14XNDD 14Y2C1 Fundaments of wo	Master Project 3  Master Project 4  Master Thesis for study programme DS  CATIA I  Orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive modes.	Z Z Z KZ els from 2D sketch	1 8 18 2 hes. Import
14XN3 14XN4 14XNDD 14Y2C1 Fundaments of wo	Master Project 3  Master Project 4  Master Thesis for study programme DS  CATIA I  Orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive moderand export of made parts and bodies. Making assemble and visualization.  CATIA II	Z Z Z KZ els from 2D sketch	1 8 18 2 hes. Import
14XN3 14XN4 14XNDD 14Y2C1 Fundaments of wo	Master Project 3  Master Project 4  Master Thesis for study programme DS  CATIA I  Orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive mode and export of made parts and bodies. Making assemble and visualization.  CATIA II  c course. Modeling compound bodies. Possibility of enumeration, comunications with other systems. Surface x solid bodies. Kinematic and project cooperation. Outputs of projects.	Z Z Z KZ els from 2D sketch	1 8 18 2 nes. Import 2 ect making
14XN3 14XN4 14XNDD 14Y2C1 Fundaments of word 14Y2C2 Extension of basic	Master Project 3  Master Project 4  Master Thesis for study programme DS  CATIA I  Orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive mode and export of made parts and bodies. Making assemble and visualization.  CATIA II  c course. Modeling compound bodies. Possibility of enumeration, comunications with other systems. Surface x solid bodies. Kinematic	Z Z Z KZ fels from 2D sketch KZ c mechanism. Proj.	1 8 18 2 nes. Import 2 ect making 2
14XN3 14XN4 14XNDD 14Y2C1 Fundaments of word 14Y2C2 Extension of basic	Master Project 3  Master Project 4  Master Thesis for study programme DS  CATIA I  orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive moderand export of made parts and bodies. Making assemble and visualization.  CATIA II  c course. Modeling compound bodies. Possibility of enumeration, comunications with other systems. Surface x solid bodies. Kinematical and project cooperation. Outputs of projects.  Sensitivity of Systems	Z Z Z KZ fels from 2D sketch KZ c mechanism. Proj.	1 8 18 2 nes. Import 2 ect making 2
14XN3 14XN4 14XNDD 14Y2C1 Fundaments of word 14Y2C2 Extension of basic	Master Project 3  Master Project 4  Master Thesis for study programme DS  CATIA I  Orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive mode and export of made parts and bodies. Making assemble and visualization.  CATIA II  c course. Modeling compound bodies. Possibility of enumeration, comunications with other systems. Surface x solid bodies. Kinematic and project cooperation. Outputs of projects.  Sensitivity of Systems s with defined reliability. The impact of changing parameters and subsystems within a system. System sensitivity computing, definition	Z Z Z KZ fels from 2D sketch KZ c mechanism. Proj.	1 8 18 2 nes. Import 2 ect making 2
14XN3 14XN4 14XNDD 14Y2C1 Fundaments of word 14Y2C2 Extension of basic 14Y2CS Design of systems	Master Project 3  Master Project 4  Master Thesis for study programme DS  CATIA I  Orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive mode and export of made parts and bodies. Making assemble and visualization.  CATIA II  course. Modeling compound bodies. Possibility of enumeration, comunications with other systems. Surface x solid bodies. Kinematic and project cooperation. Outputs of projects.  Sensitivity of Systems s with defined reliability. The impact of changing parameters and subsystems within a system. System sensitivity computing, definitio matrices and their usability in system design.	Z Z Z KZ lels from 2D sketch KZ c mechanism. Proj. KZ n of sensitivity func	1 8 18 2 2 nes. Import 2 ect making 2 ctions and 2
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14XN3 14XN4 14XNDD 14Y2C1 Fundaments of work 14Y2C2 Extension of basic 14Y2CS Design of systems 14Y2IS The use of informate postal network, option 14Y2JM One-chip control 14Y2VI Class, object, encount 14Y2PH Introduction to CAE 14Y2PI Introduction and dison (Service Or 14Y2PJ OOP philosophy an	Master Project 3 Master Project 4  Master Thesis for study programme DS  CATIA I  Orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive mode and export of made parts and bodies. Making assemble and visualization.  CATIA II  course. Modeling compound bodies. Possibility of enumeration, comunications with other systems. Surface x solid bodies. Kinematic and project cooperation. Outputs of projects.  Sensitivity of Systems  s with defined reliability. The impact of changing parameters and subsystems within a system sensitivity computing, definition matrices and their usability in system design.  Intelligent Systems in Postal Services  ation systems in the postal services (ITIS, and POST, T + T, PS, KMP, DS), application of information technology in the processing of mizing logistics processes in the post. The appreciation of the real implementation of the Czech post in operation both in lectures and in desk.  One-Chip Controllers  Collers architecture, embedded peripherals (counters, timers, converters, ports) and their utilisation. Practical tasks are programmed of Capital Investment in Transportation and Telecommunications  Financial market, investment desicion making - long term goals and investment strategies, long term financing  Object Oriented Programming in Transport  apsulation, inheritance, polymorphism, templates, retyping, stream, exceptions, repository, collections, virtual methods and classes. from microscopic simulation system, discrete event simulation, celular automata simulation and virtual life area.  CAD Interface Programming  Oiterface programming techniques with the help of LIST and VBA programming languages. Possibilities of proper objects (comman applications creation in CAD systems. Programming of cooperation with other applications (databases, spread-sheets).  Process Information Systems in Transport tation  etailed usage of transport information systems, e.g. EFC, ePurse and transport check-in systems for public tran	Z Z Z KZ lels from 2D sketch KZ mechanism. Proje KZ n of sensitivity fund KZ mail processing not the framework of KZ with the aid of AVF KZ Problem cases will KZ ds), dialogues, inter KZ streams, method as KZ	1 8 8 18 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1

14Y2UI	Artificial Intelligence	KZ	2
Н	istory of artificial intelligence, knowledge, its representation including frames, state space search, constraints, genetic algorithms, mac		1
15J2A1 F	Language - English 1 Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work e	Z engagement.	2
15J2F1	Language - French 1	Z	2
	actures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		•
technical text con	tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec language of management.	nnicai registers ai	na their use
15J2I1	Language - Italian 1	Z	2
	uctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec		ū
15J2N1	language of management.  Language - German 1	Z	2
	Language - German     		
	tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec language of management.		
15J2R1	Language - Russian 1	Z	2
	uctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec language of management.		_
15J2S1	Language - Spanish 1	Z	2
	ectures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec language of management.		-
15JBA2	Language - English 2	Z	2
	Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work of		
15JBA3	Language - English 3	. Z	2
Presentation Ski	ills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Opt FCE, CAE.	tional courses for	certificates
15JBA4	Language - English 4	ZK	2
Presentation Ski	ills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Opt	tional courses for	certificates
15JBF2	FCE, CAE.  Language - French 2	Z	2
	Language - French 2   actures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,	<del>-</del>	_
	tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec		_
45 IDEO	language of management.		1 0
15JBF3 Grammar and sty	Language - French 3 /listics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	Z anguage structure	2 knowledge
	nd communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v features. Practice of oral and written presentation.		
15JBF4	Language - French 4	ZK	2
-	rlistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of land communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work values features. Practice of oral and written presentation.		-
15JBI2	Language - Italian 2	Z	2
	uctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		
	tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec  language of management.		
15JBI3 Grammar and sty	Language - Italian 3 /Iistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	Z anguage structure	knowledge
=	nd communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v features. Practice of oral and written presentation.		_
15JBI4	Language - Italian 4	ZK	2
Grammar and etc	rlistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of land communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v		J
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and perceptive ar	features. Practice of oral and written presentation.	Z	2
and perceptive are 15JBN2 Grammatical Stru			-
and perceptive are 15JBN2 Grammatical Stru	features. Practice of oral and written presentation.  Language - German 2  uctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	feedback skills, s	ummarising
15JBN2 Grammatical Strutechnical text cont 15JBN3 Grammar and sty	features. Practice of oral and written presentation.  Language - German 2  Inctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and technique language of management.  Language - German 3  Visitics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of land communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we have the standard professional topics based on the language level and study focus at the Faculty.	feedback skills, s hnical registers and Z anguage structure	ummarising nd their use
15JBN2 Grammatical Strutechnical text cont 15JBN3 Grammar and sty and perceptive ar	features. Practice of oral and written presentation.  Language - German 2  Inctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and technique language of management.  Language - German 3  Visitics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of land communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation.	feedback skills, s chnical registers an Z anguage structure with (professional)	ummarising and their use 2 knowledge text and its
15JBN2 Grammatical Strutechnical text cont 15JBN3 Grammar and sty and perceptive ar	features. Practice of oral and written presentation.  Language - German 2  Inctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills, tent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and technique language of management.  Language - German 3  Visitics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of land communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we have the standard professional topics based on the language level and study focus at the Faculty.	feedback skills, s thnical registers an  Z anguage structure with (professional)	ummarising nd their use.  2 knowledge text and its

15JBR2			
	Language - Russian 2 ctures and Style. Selection of conversation topics relating to transportation sciences. Developing perceptive and communicative skills,		
ecnnical text conti	ent, structuring presentations and meeting minutes, elementary rhetorics of foreign language and practical application, formal and tec	nnicai registers a	ına tneir u
	language of management.		_
15JBR3	Language - Russian 3	Z	2
	listics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la		
nd perceptive an	nd communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	vith (professional	) text and
	features. Practice of oral and written presentation.		
15JBR4	Language - Russian 4	ZK	2
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nd perceptive an	nd communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	vith (professional	) text and
	features. Practice of oral and written presentation.		
15JBS2	Language - Spanish 2	Z	2
rammatical Struc	ctures 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 tec	feedback skills, s	
	language of management.		
15JBS3	Language - Spanish 3	Z	2
	listics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of l	anguage structure	knowled
-	nd communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v		
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15JBS4	Language - Spanish 4	ZK	2
	Lariguage - Spariish 4  listics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la		-
	ilstics. Selection of conversation and professional topics based on the language level and study locus at the Faculty. Improvement of its ild communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v		
a beroebuve du	features. Practice of oral and written presentation.	viiii (biolessioilgi	, text all
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15JCZ1	Czech Language for Foreign Students 1	Ζ	0
	es of Czech language, common communication situations, study, work, leisure time activities, introduction of myself, phonetics of Czec		
15JCZ2	Czech Language for Foreign Students 2	Z	0
Basic structure	es of Czech language, common communication situations, study, work, leisure time activities, introduction of myself, phonetics of Czec	ch language, writi	ing skills.
15JCZ3	Czech Language for Foreign Students 3	Z	
	Language structures with regard to the group level. Listening and oral fluency drill. Basic terminology.		1
15JCZ4	Czech Language for Foreign Students 4	Z	T
100021	Language structures with regard to the group level. Listening and oral fluency drill. Basic terminology.	_	Į.
15XN1		Z	2
	Master Project 1		
15XN2	Master Project 2	Z	2
15XN3	Master Project 3		
13/(143	Master i Toject 5	Z	1
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15XN4	Master Project 4	Z	8
15XN4 15XNDD	Master Project 4  Master Thesis for study programme DS	Z Z	8
15XN4 15XNDD 15Y2DN	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries	Z Z KZ	8 18 2
15XN4 15XNDD 15Y2DN	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries  proader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getti	Z Z KZ	8 18 2
15XN4 15XNDD 15Y2DN troduction into b	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries  proader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getting in traffic, traffic accident, traffic psychology in the internet etc.)	Z Z KZ ng of driving licer	8 18 2 ace, child
15XN4 15XNDD 15Y2DN troduction into b	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries  proader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getti in traffic, traffic accident, traffic psychology in the internet etc.)  Road Transport History	Z Z KZ ng of driving licer	8 18 2 nce, child
15XN4 15XNDD 15Y2DN troduction into b 15Y2HS pads and road tr	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries  proader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getti in traffic, traffic accident, traffic psychology in the internet etc.)  Road Transport History  raffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road intury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road	Z Z KZ ng of driving licer KZ transport develop	8 18 2 2 nce, child
15XN4 15XNDD 15Y2DN troduction into b 15Y2HS pads and road tr t part of 20th ce	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries  broader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getting in traffic, traffic accident, traffic psychology in the internet etc.)  Road Transport History  raffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road intury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road History of road intercections, bridges and traffic control, development of road signs.	Z Z KZ ng of driving licer KZ transport develop d travelling in mo	8 18 2 2 nce, child
15XN4 15XNDD 15Y2DN troduction into b 15Y2HS pads and road tr t part of 20th ce 15Y2JH ne course provice	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries  proader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getti in traffic, traffic accident, traffic psychology in the internet etc.)  Road Transport History  raffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road intury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road	Z Z KZ ng of driving licer KZ transport develop d travelling in mo KZ	8 8 18 2 2 nce, child 2 2 ment dur odern per 2 2 his proce
15XN4 15XNDD 15Y2DN troduction into b 15Y2HS bads and road tr part of 20th ce 15Y2JH ne course provice includio	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries  proader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getting in traffic, traffic accident, traffic psychology in the internet etc.)  Road Transport History  raffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road intury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road History of road intercections, bridges and traffic control, development of road signs.  Job Hunting in English  des a practical guide to applying for a job in English. The interview process is mapped out, with the course including skills practise for	Z Z KZ ng of driving licer KZ transport develop d travelling in mo KZ	8 18 2 2 ance, child 2 2 amment duri odern per
15XN4 15XNDD 15Y2DN troduction into b 15Y2HS pads and road tr part of 20th ce 15Y2JH ne course provice includit 15Y2MS	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries  proader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getting in traffic, traffic accident, traffic psychology in the internet etc.)  Road Transport History  raffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road intury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road History of road intercections, bridges and traffic control, development of road signs.  Job Hunting in English  des a practical guide to applying for a job in English. The interview process is mapped out, with the course including skills practise for ng specifics for job-hunting in English. Students will also be introduced to the English vocabulary and phraseology necessary for a surface.	Z Z KZ ng of driving licer KZ transport developed travelling in mo KZ all the stages of tecessful interview KZ	18 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
15XN4 15XNDD 15Y2DN roduction into b 15Y2HS pads and road tr part of 20th ce 15Y2JH the course provice includit 15Y2MS tociological app	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries  proader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getting in traffic, traffic accident, traffic psychology in the internet etc.)  Road Transport History  raffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road intury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road History of road intercections, bridges and traffic control, development of road signs.  Job Hunting in English  des a practical guide to applying for a job in English. The interview process is mapped out, with the course including skills practise for ng specifics for job-hunting in English. Students will also be introduced to the English vocabulary and phraseology necessary for a sur	Z Z KZ ng of driving licer KZ transport developed travelling in moderate the stages of tracessful interview KZ s culture and soc	18 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
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15XN4 15XNDD 15Y2DN roduction into b 15Y2HS lads and road tr part of 20th ce 15Y2JH le course provice includit 15Y2MS lociological app 15Y2OF Basic transp 15Y2OZ lealth protection 15Y2PD Development of 15Y2PT le nutrition policy 15Y2PU cientific texts typ 15Y2SR	Master Project 4  Master Thesis for study programme DS  Transportation Psychology in German Speaking Countries or oader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getting in traffic, traffic accident, traffic psychology in the internet etc.)  Road Transport History  raffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road nutury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road signs.  Job Hunting in English  Bes a practical guide to applying for a job in English. The interview process is mapped out, with the course including skills practise for group specifics for job-hunting in English. Students will also be introduced to the English vocabulary and phraseology necessary for a surpose sociology for Managers  roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation in the market economy. Corporate directorship, work groups, adaptation, strife, different roles and positions in Specialised French for Transportation and Telecommunications  ortation (public transport, railway, air, road and ship transport) and telecommunications terminology. Special focus on independent special forms that provide the past and present. Conditions before 1989 and after, current legislature, future prospects. Harmonisation members. Fundamental principles of health protection and support in selected EU countries.  Practical Spanish for Transportation  for communication skills, training of correct written expression of formal character, basic technical vocabulary, cultural specifics of the S Terminology of transport and	Z Z KZ ng of driving licer KZ transport developed travelling in moderate the stages of tracessful interview KZ so culture and soccorporation. KZ to eaking and writing KZ to of legislation with the stages of the s	8 8 8 18 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

15Y2TS	Technician and Contemporary Society	KZ	2
Why to take off a ha	at in a room and open a door for a lady, are there simple solutions, science vs belief, do we need to know or is it enough to turn on a	PC, it must be true	- it's on the
	Internet and in newspapers, what are the sights for, interest in public affairs - a hangover from the past?		
15Y2ZA Theory	Basic Principles of English Academic Writing and Abstract in English , creating a phrasal bank according to students' specialisations, rhetorical analysis or texts/abstracts, drafting an abstract, providing e	KZ effective feedback.	2
16PDP	Principles of Vehicle Design	ZK	2
Design of transp	ortation vehicle according to its usage and function. Marketing and user demands. Vehicle dynamics. Propulsion systems. Design pro	cess, functional de	esign and
40071/	vehicle structure. Evaluation of variant concepts. Design phases. Realiability, technological aspects etc.	717	
16STK	Simulation and Testing of Vehicle Body and Systems  Computing equipment for simulation. Modeling of mechanical and dynamic systems. Simulation and optimization methods. Hardware	ZK	3 Simulation
	for vehicle design. Simulation of propulsion and electric systems. Strength and material analyses of dynamical phenomena for vehicle		
16XN1	Master Project 1	Z	2
16XN2	Master Project 2	Z	2
16XN3	Master Project 3	Z	
16XN4	Master Project 4	Z	8
16XNDD	Master Thesis for study programme DS	Z	18
16Y2EE	Emissions and Ergonomics of Vehicles	KZ	2
	pnomy of vehicles and the influence on man and nature. National and international law related to the hygiene. Noise and vibrations - s		_
physical values, wa	ys of measuring, prevention, elimination. Exhausts - creation, measurement, reduction, non-regular fuels and drives. Ergonomy - sitting	, standing, control,	operational
	reach. Condition - heating, ventilation, air-conditioning, filtration, tiredom.		
16Y2HP	Vehicle Hygiene	KZ	2
_	onomy of vehicles and the influence on man and nature. National and international law related to the hygiene. Noise and vibrations - s		
pnysical values, wa	ys of measuring, prevention, elimination. Exhausts - creation, measurement, reduction, non-regular fuels and drives. Ergonomy - sitting reach. Condition - heating, ventilation, air-conditioning, filtration, tiredom.	, standing, control,	operational
16Y2KV	Car Body Design	KZ	2
	ody, high-load car body, bus car body, and motorcycle as a construction set. Principles of design, production, testing and operation.		
	e and passive safety parts. Ergonomics, HMI, view out of the vehicle, operational extent, view behind the car. Conditioning tools, sign		
	of the car body. Design and artistic design principles. Practical training.		
16Y2MK	Quality Methods for Vehicles	KZ	2
Quality manageme	nt methods list, customer data acquisition and analysis of customer requirements, QFD, DFM, DFA, DFS. FMEA (Failure mode effect	analysis). Element	s of parallel
10)/000	(team) design.	1/7	
16Y2PG	Computer Graphics and Virtual Reality n and processing of bitmap and vector 2D graphics, 3D virtual scenes and algorithms used for their computerized processing. Adopting	KZ KZ	2
	eware tools for creation and processing of 2D, 3D and interactive graphics, and basics of programming language VRML and graphic I		
16Y2ST	Special Technologies in Transport and Telecommunications	KZ	2
	special technologies, electric arc and its applications, plasma technologies, dipping, beam technologies, electron beams technology	in roduction and m	
	vehicles, laser and laser technologies, soldering, gluing, ultrasound, diffusion, friction and explosion technologies, micro stoves	, gas.	
16Y2SV	Special technologies in vehicle manufacturing	KZ	2
Micro, nano and	special technologies, electric arc and its applications, plasma technologies, dipping, beam technologies, electron beams technology		ending of
40V0TT	vehicles, laser and laser technologies, soldering, gluing, ultrasound, diffusion, friction and explosion technologies, micro stoves		
16Y2TT	Transportation and Building Technology and Equipment and building technology and equipment. Transport of solid and mass material, soil and rock above all. Highway and underground cons	tructions Transpor	2 t surface
· ·	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions		
	management methodology (ultrasound, laser, GPS, total stations).		
17DOPD	Transportation Planning and Modeling	Z,ZK	4
Basic steps and to	ols used within four step model (trip generation, trip distribution, mode choice and trip distribution). Mobility and availability in urban a	reas, land use. Ne	w trends for
	transportation planning and modelling.		
17TZND	Technology of Railway Transport	Z,ZK	4
' '	assesment, model operational situation with a system running time between IPT-nodes, calculation of traction energy savings comp seting crossing station, solving of capacity problem and blocking time in relation to train protection system, robustness of timetable, s		
lor designing of he	paths, guidelines for centralised operational traffic control and management.	ystem concept of n	roigint traini
17XN1	Master Project 1	Z	2
17XN2	Master Project 2	Z	2
17XN3	Master Project 3	Z	1
17XN4	Master Project 4	Z	8
17XNDD	Master Thesis for study programme DS	Z	18
17Y2AM	Application of Marketing Tools in Transportation	KZ	2
	narketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of p		
17Y2FM	Financing in Urban Mass Transportation	KZ	2
	evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground		
UMT types. UMT o	development in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present model	s of UMT financing	j. Transport
17\/0\4D	inspection and blind passengers. Tourism & Dut. UMT typology & Dut	l/7	2
17Y2MD	Modelling and optimization on transport networks  lems on public transport networks, scheduling vehicles, design of control plans for light-controlled intersections including green wave	KZ modelling service	2 systems
200. dilidalori prob	modelling of advanced problems in distribution systems - exact, heuristic and metaheuristic principles of solving problems	-	. 5,5001110,
17Y2MO	International Organisations in Transportation	KZ	2
	tions in transport, UN, EEC UN, Intergovernmental organisations, EU Offices and Agencies, Conference of European Ministries of tr		
	organisations of public transport, Air-Rail, railways, roads, air, waterways, forwarding and postal services.		

471/01/0	Minus in Long (D. ii)	1/7	_
17Y2MS	Microsimulation of Railway Operation  e characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept	KZ	2
	e characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept. Stability test of sensitivity of the operational concept to delays.	•	
17Y2MT	Modern History for Engineering Students	KZ	2
	s from the 19. century history. Geopolitical situation in Europe explained on the examples of Great Britain, Germany and Austrian Empi		
	War, transatlantic transportation development. Imperial China: Late Qing dynasty. Selected chapters from the 20. century history: From Czechoslovak historical myths.		
17Y2SJ	Network Timetabling on the Railway	KZ	2
	oles. Capacity allocation, technological intervals in railway operation. Rules and regulations of train paths, running times, time adds and ig. Rules of train-diagramm creating. Timetables for more service-levels on the line. Construction slot conflicts between passenger- and relations and waiting times, timetables for lines under construction.		-
18GAZ	Geomechanics and Foundation Engineering	Z,ZK	3
Geology (basics o	of pertrographyand stratigraphy), mechanics of soils (classification of fundamental soils, mechanic properties of fundamental soils, perr , plates, depth of founding), determination of planar foundations bearing and deformation, depth foundations classification of depth four	neability), planar	foundation
4075414	of their use, piles (classification, technology od performing).	7.71/	1 4
18TEAM	Theoretical and Applied Mechanics	Z,ZK	4
Fundamentals of	f theory of plasticity. Plasticity conditions. Elastoplastic and plastic states of cross-sections and beams. Reliability and durability of struc state around a notch. Stress intensity factor. Fracture toughness. Energy methods of linear fracture mechanics. Crack driving fo		and strain
18TIK	Theory of Engineering Structures	Z,ZK	4
	upon the knowledge gained in basic mechanics courses in bachelor study (especially Statics and Elasticity) in the field of mathematical		1 -
	ne and axisymmetric problems, as well as on the calculation of stress and strain in plates and shells. Students are further acquainted w behavior of subsoil used in the design of line structures.	=	
18XN1	Master Project 1	Z	2
18XN2	Master Project 2	Z	2
18XN3	Master Project 3	Z	1
18XN4	Master Project 4	Z	8
18XNDD	Master Thesis for study programme DS	Z	18
18Y2DC	Dynamics of Transport Routes and Vehicles	KZ	2
Basic theory and ca	calculations of more mass systems. Analysis of the forces acting between the vehicle and transport route. Creation of dynamic models of	vehicles and tran	sport route
ibration of system	ns with a finite number of degrees of freedom. Methods of stiffness constants and pliability constants. Fundamentals of vibration of bridge	s Criteria for the	admissibil
	of oscillation. Experimental methods in dynamics.	o. Official for the	
18Y2EM		KZ	2
	of oscillation. Experimental methods in dynamics.	KZ	1
Basic principles	of oscillation. Experimental methods in dynamics.  Electron microscopy	KZ ata evaluation us	ing image
Basic principles	of oscillation. Experimental methods in dynamics.  Electron microscopy s of electron microscopy, construction, control and maintenance of SEM, sample preparation, signal detection, types of detectors and detection of results and automation of data processing, energy dispersive X-ray microanalysis and other analytical methods in electron microscopy.	KZ ata evaluation us	ing image
Basic principles analysis, quantifice 18Y2FZ	of oscillation. Experimental methods in dynamics.  Electron microscopy  of electron microscopy, construction, control and maintenance of SEM, sample preparation, signal detection, types of detectors and dication of results and automation of data processing, energy dispersive X-ray microanalysis and other analytical methods in electron microscopy dispersive X-ray microanalysis on samples.	KZ ata evaluation us croscopy. Evalua KZ	ing image tion of data
Basic principles analysis, quantifice 18Y2FZ	of oscillation. Experimental methods in dynamics.  Electron microscopy s of electron microscopy, construction, control and maintenance of SEM, sample preparation, signal detection, types of detectors and dication of results and automation of data processing, energy dispersive X-ray microanalysis and other analytical methods in electron microscopy obtained from ED detector, practical examples of ED microanalysis on samples.  Physical foundation of materials' properties tattice defects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects of environments.	KZ ata evaluation us croscopy. Evalua KZ	ing image tion of data
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Basic principles analysis, quantifice 18Y2FZ Atomistic models, 18Y2MP Basic mathemat	of oscillation. Experimental methods in dynamics.  Electron microscopy s of electron microscopy, construction, control and maintenance of SEM, sample preparation, signal detection, types of detectors and detection of results and automation of data processing, energy dispersive X-ray microanalysis and other analytical methods in electron microscopy, construction of the finite Element Method of the finite Element Method and Its Application  Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for aciples. Element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, na	KZ ata evaluation us croscopy. Evalua  KZ ent and loading of  KZ or the basic eleme	ing image tion of data  2 n material  2 ents using
Basic principles analysis, quantific 18Y2FZ Atomistic models, 18Y2MP Basic mathemat variational prin	of oscillation. Experimental methods in dynamics.  Electron microscopy s of electron microscopy, construction, control and maintenance of SEM, sample preparation, signal detection, types of detectors and detection of results and automation of data processing, energy dispersive X-ray microanalysis and other analytical methods in electron microscopy, construction of the finite Element Method of materials properties  Physical foundation of materials properties I tattice defects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects of environmental behavior are the main discussed topics.  Finite Element Method And Its Application  It is a population of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for inciples. Element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, na isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming.	KZ ata evaluation us croscopy. Evalua  KZ ent and loading c  KZ or the basic elemetural shape funct	ing image tion of data 2 n material 2 ents using ions and
Basic principles analysis, quantific 18Y2FZ Atomistic models, 18Y2MP Basic mathemat variational prin 18Y2OB	of oscillation. Experimental methods in dynamics.  Electron microscopy s of electron microscopy, construction, control and maintenance of SEM, sample preparation, signal detection, types of detectors and detection of results and automation of data processing, energy dispersive X-ray microanalysis and other analytical methods in electron microscopy, construction of data processing, energy dispersive X-ray microanalysis and other analytical methods in electron microscopy obtained from ED detector, practical examples of ED microanalysis on samples.  Physical foundation of materials' properties physical foundation of materials' properties phavior are the main discussed topics.  Finite Element Method And Its Application physical formulation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for aciples. Element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, na isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming.  Optical Contactless Strain Measurements	KZ ata evaluation us croscopy. Evalua  KZ ent and loading c  KZ or the basic elemetural shape funct	ing image tion of data 2 n material 2 ents using ions and 2
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21XN3	· · · · · · · · · · · · · · · · · · ·	Z	
	Master Project 3		1
21XN4	Master Project 4	Z	8
21XNDD	Master Thesis for study programme DS	Z	18
21Y2CR	CRM	KZ	2
	M. Analysis of air accidents. Human factor. Error. Historical development of CRM. Health and fitness. Stress and its effect on the human factor. Error. Historical development of CRM. Health and fitness. Stress and its effect on the human factor.		
	nformation Processing. Situational Awareness. Workload Management. Decision Making. Communication. Leadership & Decision Making. Communication & Decision Making. Communication & Decision		_
21Y2FM	Aviation Company Financial Management	KZ	2
i neories of corpo	orate finance - financial statements, budget, forecast. Financial policy of the company. Financial resources - long-term finan	irces, depreciation	n, retained
21Y2MC		KZ	1 2
-	CNS Systems Modelling  ned as a set of model tasks in the field of communication navigation and surveillance systems in aviation, addressed using mathema		2
The course is design	tools. A large part is devoted to air targets tracking, measurement-to-track association, track filtering and multisensor tracking.		and Sonware
21Y2MG	Military Aerospace Technologies: Applications and Global Dynamics	KZ	2
		KZ	2
21Y2MK	Marketing of Air Transport		_
	course "Marketing in air transport" is the management of activities and processes using available marketing tools and processes for a of sales of goods and services in the aviation industry. In addition to the theoretical foundations of marketing, the lectures present s		•
and implementation	and product analysis, creation of marketing strategies and planning.	ysterns or market	, competition
21Y2MQ	Quality Management	KZ	2
	ition. Pioneers in the field of quality. International quality organisations and quality promotion in the Czech Republic. Quality manage		1
	ns. Integrated management systems. Risk management in the context of the requirements of ISO standards. Sectoral quality manager		
	quality management, excellence models and corporate social responsibility. Quality audits.		
	quality management, excellence models and corporate social responsibility. Quality addits.		
21Y2PP		K7	2
21Y2PP Development of avia	Law and Operation in Air Transport	KZ	2
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