Study plan

Name of study plan: PL nav.prez.17/18

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Technology in Transportation and Telecommunications

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: 99

The role of the block: Z

Code of the group: 1.S.NPPL 14/15

Name of the group: 1.sem.nav.prez.PL 14/15

Requirement credits in the group: In this group you have to gain 28 credits

Requirement courses in the group: In this group you have to complete 7 courses

Credits in the group: 28 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
21BLED	Aviation Safety	Z,ZK	4	2P+2C+14B	Z	Z
21CNSY	CNS Systems Stanislav Pleninger	Z,ZK	4	3P+1C+16B	Z	Z
21LKS	Aircraft Structures	Z,ZK	5	3P+2C	Z	Z
21PLD	Air Transport Operations	Z,ZK	5	2P+2C+14B	Z	Z
21POHL	Aircraft Propulsion	Z,ZK	6	3P+2C	Z	Z
22SLN	Air Traffic Accident Investigation	KZ	2	2P+0C+12B	Z	Z
15J2A1	Language - English 1 Barbora Horá ková, Jitka He manová, Dana Boušová, Lenka Monková, Peter Morpuss, Markéta Vojanová, Marie Michlová, Marek Tome ek, Markéta Musilová,	Z	2	0P+2C+10B	Z	Z

Characteristics of the courses of this group of Study Plan: Code=1.S NPPL 14/15 Name=1 sem.nav.prez.PL 14/15

Characteristics (of the courses of this group of Study Plan: Code=1.S.NPPL 14/15 Name=1.sem.nav.prez.PL 1	14/15	
21BLED	Aviation Safety	Z,ZK	4
Reliability and system	ı lifecycle. Basics of reliability theory. Reliability mathematical tools. Reliability analysis. Maintenance system. Safety and quality	theory. Basic cor	ncepts of safety.
Managing of safety. S	afety management. Safety management strategies. Hazard, risk. Risk management.		
21CNSY	CNS Systems	Z,ZK	4
Subject provides full t	echnical informations about CNS (communication, navigation, surveilance) systems used in aviation. Systems are presented in	perspective of futu	ire development.
21LKS	Aircraft Structures	Z,ZK	5
History and developm	ient of aeronautics. Classification of aircraft. Fundamental parts and systems. Safety, reliability and airworthiness. Limit states o	of aircraft structure	and strength
certification. Aviation	regulations. Load factor. Manoeuvring loads. Manoeuvring envelope of load factor. Gust load. Gust load factor and envelope of	gust load factor.	
21PLD	Air Transport Operations	Z,ZK	5
The mission and the	mportance of air transport. Legislation. Airlines. Strategy. Performance in air transport. The cost structure. Fuel management. C	argo. Quality. Aircr	aft maintenance
(organization) and the	e economics of aircraft operations. Ground services. Revenue management. Environment.		
21POHL	Aircraft Propulsion	Z,ZK	6
Theoretical background	nd. Earth atmosphere. Classification of aircraft engines, characteristics, domains of use, comparative parameters, characteristics	and criteria. Energ	y transformation
within aircraft propuls	ion systems, thermal cycles analysis, working substances, environmental constraints, efficiencies. Reciprocating and turbine e	ngines, their cons	truction and
material characteristi	cs and performance characteristics. Environmental impacts.		
22SLN	Air Traffic Accident Investigation	KZ	2
Specification of foren	sic expertise. Rregulations and establishments for exceptional events in air traffic. Analysis of air traffic accidents (cause investi	ation, time course	e, human factor).
Air traffic accidents p	revention. Exceptional aviation event report. Analysis of particular accidents in air traffic.		
15J2A1	Language - English 1	Z	2
Presentation Skills - 6	expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.		

Code of the group: 2.S.NPPL 14/15

Name of the group: 2.sem.nav.prez.PL (od) 14/15 (obor PL)

Requirement credits in the group: In this group you have to gain 24 credits

Requirement courses in the group: In this group you have to complete 7 courses

Credits in the group: 24 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
16PDP	Principles of Vehicle Design Jaroslav Machan, David Lehet Jaroslav Machan (Gar.)	ZK	2	2P+0C+8B	L	Z
21KST	Space Technology Jakub Hospodka, Jakub Trýb Jakub Hospodka (Gar.)	ZK	3	2P+0C+10B	L	Z
21NSR	Navigation and Flight Control Systems Jakub Hospodka, Milan Kameník, Ladislav Capoušek Jakub Hospodka	Z,ZK	5	3P+2C+14B	Z	Z
21SPOL	Aircraft Technology Reliability Old ich Štumbauer, Natalia Guskova, Kate ina Grötschelová Andrej Lališ (Gar.)	Z,ZK	4	2P+1C+12B	L	Z
21AITM	Air Traffic Management Terézia Pilmannová	KZ	4	3P+2C+14B	L	Z
23SCT	Airport Security	KZ	4	2P+1C+12B	L	Z
15JBA2	Language - English 2 Barbora Horá ková, Jitka He manová, Dana Boušová, Lenka Monková, Peter Morpuss, Markéta Vojanová, Marie Michlová, Marek Tome ek, Markéta Musilová,	Z	2	0P+2C+10B	L	Z

6PDP	Principles of Vehicle Design	ZK	2
Design of transport	rtation vehicle according to its usage and function. Marketing and user demands. Vehicle dynamics. Propulsion systems. Desig	n process, functional	design and
ehicle structure. E	Evaluation of variant concepts. Design phases. Realiability, technological aspects etc.		
21KST	Space Technology	ZK	3
Iniverse and its ba	asic characteristics. Fundamentals of astrophysics. Kepler's laws. Solar system. Earth's and its atmosphere and outer space. S	Space transport vehic	les. Rockets an
ocket engines and	d their structure and operational characteristics. Space crafts and satellites, space flight. Orbital mechanics. Application of spa	ce technologies for gl	obal navigation
nd communication	n. Space exploration and piloted space flights and missions.		
21NSR	Navigation and Flight Control Systems	Z,ZK	5
Navigation. Radiona	navigation. Satellite navigation. Flight management system. Autopilot. FMC. Practical execution of flight.		
1SPOL	Aircraft Technology Reliability	Z,ZK	4
21SPOL Subject deals with to	Aircraft Technology Reliability tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production a	1 '	4 pace engineering
Subject deals with to	,	and working of aerosp	
Subject deals with to General legalities a	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production of	and working of aerosp	
Subject deals with to General legalities a	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials a	and working of aerosp	
Subject deals with to General legalities a security in The Cze 21AITM	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials a ech Police Aviation Department.	and working of aerosp and they are practical	illustration of its
Subject deals with to General legalities a security in The Cze 21AITM Current ATM syster	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials a ech Police Aviation Department. Air Traffic Management	and working of aerosp and they are practical KZ Data exchange with r	illustration of its 4 neighboring ATM
subject deals with to General legalities a ecurity in The Cze 21 AITM current ATM syster systems. Monitoring	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials are holice Aviation Department. Air Traffic Management em and its functional blocks. View of ATM data (technical architecture and configuration, transmission systems and networks).	and working of aerosp and they are practical KZ Data exchange with r	illustration of its 4 neighboring ATM
subject deals with to General legalities a ecurity in The Cze 21 AITM current ATM system systems. Monitoring 23 SCT	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials are her Police Aviation Department. Air Traffic Management em and its functional blocks. View of ATM data (technical architecture and configuration, transmission systems and networks). In graystems and technical supervision. ATM simulation. ATM conceptions and strategies for next years. EUROCONTROL - CFMU	and working of aerosp and they are practical KZ Data exchange with r FAB. ATS's - AOC's or KZ	illustration of its 4 neighboring ATM data applications 4
Subject deals with to General legalities a security in The Cze 21AITM Current ATM system systems. Monitoring 23SCT Division of airport in	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials are ch Police Aviation Department. Air Traffic Management em and its functional blocks. View of ATM data (technical architecture and configuration, transmission systems and networks). In a systems and technical supervision. ATM simulation. ATM conceptions and strategies for next years. EUROCONTROL - CFMU Airport Security	and working of aerospand they are practical KZ Data exchange with r FAB. ATS's - AOC's or KZ Dund security, emerge	Illustration of its 4 neighboring ATM data applications 4 ency plans, mod
subject deals with to General legalities a ecurity in The Cze 21AITM Current ATM system systems. Monitoring 23SCT Division of airport in f airport security, id	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials are chief Police Aviation Department. Air Traffic Management and its functional blocks. View of ATM data (technical architecture and configuration, transmission systems and networks). In a systems and technical supervision. ATM simulation. ATM conceptions and strategies for next years. EUROCONTROL - CFMU Airport Security in terms of security, design, standards and conventions, forms of risk in general, the analysis and management of risk in the ground strategies.	and working of aerospand they are practical KZ Data exchange with r FAB. ATS's - AOC's or KZ Dund security, emerge	Illustration of its 4 neighboring ATM data applications 4 ency plans, mod
Subject deals with to General legalities a security in The Cze 21AITM Current ATM system systems. Monitoring 23SCT Division of airport in of airport security, io	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials are chief Police Aviation Department. Air Traffic Management and its functional blocks. View of ATM data (technical architecture and configuration, transmission systems and networks). In a systems and technical supervision. ATM simulation. ATM conceptions and strategies for next years. EUROCONTROL - CFMU Airport Security in terms of security, design, standards and conventions, forms of risk in general, the analysis and management of risk in the grain identification and security systems, radar systems and their role in security operations, scanning systems, X-rays and microwal	and working of aerospand they are practical KZ Data exchange with r FAB. ATS's - AOC's or KZ Dund security, emerge	Illustration of its 4 neighboring ATM data applications 4 ency plans, mod

Code of the group: 3.S.NPPL 18/19

Name of the group: 3.sem.nav.prez.PL 18/19

Requirement credits in the group: In this group you have to gain 25 credits

Requirement courses in the group: In this group you have to complete 7 courses

Credits in the group: 25 Note on the group:

Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their Code Completion Credits Scope Semester Role members) Tutors, authors and guarantors (gar.) Stochastic Systems 11STS Z,ZK 2P+2C+14B Ζ Evženie Uglickich, Šárka Vorá ová, Natálie Blahitka, Michal Matowicki, Pavla Pecherková **Pavla Pecherková** Šárka Vorá ová (Gar.) Z **Ergonomics in Aviation** 21ERGP ZK 2P+0C Ζ 4 Ζ Vladimír Socha 21PSAP Z,ZK Ζ 4 2P+2C+14B Ζ Aircraft and Spacecraft Instrumentation

21ULET		Z,ZK	6	3P+1C+16B	Z	Z
21LEN1	Aviation English 1 Terézia Pilmannová	Z	2	0P+2C+10B	Z	Z
21PRDP	Software means for thesis elaboration Vladimír Socha	Z	3	1P+1C	Z	Z
15JBA3	Language - English 3 Barbora Horá ková, Jitka He manová, Dana Boušová, Lenka Monková, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta Musilová, Eva Rezlerová	Z	2	0P+2C+10B	Z	Z

Characteristics of the courses of this group of Study Plan: Code=3.S.NPPL 18/19 Name=3.sem.nav.prez.PL 18/19

11STS	Stochastic Systems	Z,ZK	4
The subject deals with t	he problems of mathematical modelling of dynamical systems, estimation od these models and their utilization for prediction	The results are ill	ustrated on
practical transportation	tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian prob	abilistic approach	-
21ERGP	Ergonomics in Aviation	ZK	4
General concept of ergo	onomics. Visual system of a human. Aural system of a human. Information processing system of a human. Environmental infl	uences on human	performance.
Displays, control eleme	nts and design in line with ergonomics. Design of a flight deck in line with ergonomics.		
21PSAP	Aircraft and Spacecraft Instrumentation	Z,ZK	4
The course deals with a	theory and description of basic functions, structures and principles of aircraft and spacecraft instrumentation working in a low	-frequency band. V	Vithin the scope
of this course it is possib	le to get knowledge about instrument boards, propulsion parameters measurements, aerometrical systems, and fuselage health	monitoring system	ns. Furthermore,
gyroscopic systems and	systems for navigation are also covered.		
21ULET		Z,ZK	6
21LEN1	Aviation English 1	Z	2
Aircraft description. Airl	ne business and marketing. Airports and handling services. Maintenance. Air traffic services. Aviation history. Accident inves	tigation. Human fa	ctors. Aviation
economics. Developme	nt of air services. Low cost airlines. Airline history. Market development. Company management. Airport design. Ecology.		
21PRDP	Software means for thesis elaboration	Z	3
The subject syllabus is	oriented to solving associated problems with master's theses upon request from students, where individual classess will go t	hgrough given issi	ues on specific
examples according to	the needs and questions from students. The subject has flexible form owing to which it is possible to deepen students' knowe	dge of Matlab env	ironment.
15JBA3	Language - English 3	Z	2
Presentation Skills - exp	pert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.	Optional courses fo	or certificates
FCE, CAE.			

Code of the group: 4.S.NPPL 17/18

Name of the group: 4.sem.nav.prez. PL (od) 17/18 (obor PL)

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 2 courses

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
21LCA2	Aviation English 2 Slobodan Stoji	Z,ZK	2	0P+2C+10B	L	Z
15JBA4	Language - English 4 Barbora Horá ková, Jitka He manová, Lenka Monková, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta Musilová, Jan Feit, Eva Rezlerová	ZK	2	0P+2C+10B	L	Z

Characteristics of the courses of this group of Study Plan: Code=4.S.NPPL 17/18 Name=4.sem.nav.prez. PL (od) 17/18 (obor PL)

21LCA2	Aviation English 2	Z,ZK	2					
15JBA4	Language - English 4	ZK	2					
Presentation Skills - exp	sentation 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: XNDP 13/14

Name of the group: Diplomová práce (obory PL, DS, LA +[ID]) od 13/14 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
11XNDP	Master Thesis Evženie Uglickich	KZ	18	0P+20C+70B	L	Z
12XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
15XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z

16XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
17XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
14XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
20XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
21XNDP	Master Thesis Slobodan Stoji, Miloš Strouhal, Vladimír Socha, Peter Vittek, Iveta Kameníková, Petr Had, Petr Lukeš, Stanislav Pleninger, Petr en k,	KZ	18	0P+20C+70B	L	Z
22XNDP	Master Thesis Luboš Nouzovský	KZ	18	0P+20C+70B	L	Z
23XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z
18XNDP	Master Thesis	KZ	18	0P+20C+70B	L	Z

Characteristics of the courses of this group of Study Plan: Code=XNDP 13/14 Name=Diplomová práce (obory PL, DS, LA +[ID]) od 13/14

11XNDP	Master Thesis	KZ	18
12XNDP	Master Thesis	KZ	18
15XNDP	Master Thesis	KZ	18
16XNDP	Master Thesis	KZ	18
17XNDP	Master Thesis	KZ	18
14XNDP	Master Thesis	KZ	18
20XNDP	Master Thesis	KZ	18
21XNDP	Master Thesis	KZ	18
22XNDP	Master Thesis	KZ	18
23XNDP	Master Thesis	KZ	18
18XNDP	Master Thesis	KZ	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: XN1-4 14/15

Name of the group: Projekty nav.prez.1.-4.sem (obory PL + DS, LA, [BT]) od 14/15

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:

Note on the	<u> </u>	<u> </u>				
Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
11XN1	Master Project 1	Z	2	0P+2C+4B	Z	ZP
12XN1	Master Project 1 Zuzana arská, Dagmar Ko árková, Iva Šturmová, Kristýna Neubergová, Martin Jacura, Jan Kruntorád, Ond ej Trešl, David Vodák, Tomáš Javo ík,	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 P emysl Toman	Z	2	0P+2C+4B	Z	ZP
17XN1	Master Project 1 Václav Baroch, Michal Drábek, Alexandra Dvo á ková, Veronika Faifrová, Eliška Glaserová, Rudolf F. Heidu, Tomáš Horák, Vít Janoš, Milan K íž,	Z	2	0P+2C+4B	Z	ZP
18XN1	Master Project 1 Václav Rada, Nela Kr má ová	Z	2	0P+2C+4B	Z	ZP
20XN1	Master Project 1 Ji í R ži ka	Z	2	0P+2C+4B	Z	ZP
21XN1	Master Project 1 Jakub Hospodka, Natalia Guskova, Andrej Lališ, Slobodan Stoji , Vladimír Socha, Peter Vittek, Jakub Steiner, Terézia Pilmannová, Jakub Kraus,	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 Zuzana arská, Dagmar Ko árková, Kristýna Neubergová, Martin Jacura, Jan Kruntorád, Ond ej Trešl, David Vodák, Tomáš Javo ík, Pavel Purkart,	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 P emysl Toman, Josef Mik	Z	2	0P+2C+8B	L	ZP
17XN2	Master Project 2 Václav Baroch, Michal Drábek, Alexandra Dvo á ková, Veronika Faifrová, Rudolf F. Heidu, Tomáš Horák, Vít Janoš, Milan K íž, Olga Mertlová, Vít Janoš (Gar.)	Z	2	0P+2C+8B	L	ZP
18XN2	Master Project 2 Daniel Kytý	Z	2	0P+2C+8B	L	ZP
20XN2	Master Project 2 Ji í R ži ka, Patrik Horaž ovský	Z	2	0P+2C+8B	L	ZP
21XN2	Master Project 2	Z	2	0P+2C+8B	L	ZP
22XN2	Master Project 2 Michal Frydrýn, Karel Kocián, Luboš Nouzovský, Zden k Svatý, Jakub Nová ek	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 Zuzana arská, Dagmar Ko árková, Martin Jacura, Jan Kruntorád, Ond ej Trešl, David Vodák, Tomáš Javo ík, Pavel Purkart, Lukáš Týfa,	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 P emysl Toman, Josef Mík, Michal Cenkner, Josef Svoboda	Z	1	0P+4C	Z	ZP
17XN3	Master Project 3 Václav Baroch, Michal Drábek, Alexandra Dvo á ková, Veronika Faifrová, Eliška Glaserová, Rudolf F. Heidu, Tomáš Horák, Vít Janoš, Milan K íž,	Z	1	0P+4C	Z	ZP
18XN3	Master Project 3	Z	1	0P+4C	Z	ZP
20XN3	Master Project 3	Z	1	0P+4C	Z	ZP
21XN3	Master Project 3 Miloš Strouhal, Terézia Pilmannová	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 Zuzana arská, Dagmar Ko árková, Kristýna Neubergová, Martin Jacura, Jan Kruntorád, Ond ej Trešl, David Vodák, Tomáš Javo ík, Pavel Purkart,	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 Josef Mik, Michal Cenkner	Z	8	0P+4C	L	ZP
17XN4	Master Project 4 Václav Baroch, Michal Drábek, Alexandra Dvo á ková, Veronika Faifrová, Rudolf F. Heidu, Tomáš Horák, Vít Janoš, Milan K íž, Olga Mertlová, Václav Baroch (Gar.)	Z	8	0P+4C	L	ZP
18XN4	Master Project 4	Z	8	0P+4C	L	ZP
20XN4	Master Project 4	Z	8	0P+4C	L	ZP
21XN4	Master Project 4 Slobodan Stoji , Miloš Strouhal, Vladimír Socha, Peter Vittek, Iveta Kameníková, Petr Had, Petr Lukeš, Stanislav Pleninger, Jakub Steiner,	Z	8	0P+4C	L	ZP
22XN4	Master Project 4 Michal Frydrýn, Karel Kocián, Luboš Nouzovský, Zden k Svatý	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=XN1-4 14/15 Name=Projekty nav.prez.1.-4.sem (obory PL + DS, LA, [BT]) od 14/15

L 3/ · · ·			
11XN1	Master Project 1	Z	2
12XN1	Master Project 1	Z	2
14XN1	Master Project 1	Z	2
15XN1	Master Project 1	Z	2
16XN1	Master Project 1	Z	2
17XN1	Master Project 1	Z	2
18XN1	Master Project 1	Z	2
20XN1	Master Project 1	Z	2
21XN1	Master Project 1	Z	2
22XN1	Master Project 1	Z	2
23XN1	Master Project 1	Z	2
11XN2	Master Project 2	Z	2
12XN2	Master Project 2	Z	2

4.43/10	Martin Project 0	7	
14XN2	Master Project 2	Z	2
15XN2	Master Project 2	Z	2
16XN2	Master Project 2	Z	2
17XN2	Master Project 2	Z	2
18XN2	Master Project 2	Z	2
20XN2	Master Project 2	Z	2
21XN2	Master Project 2	Z	2
22XN2	Master Project 2	Z	2
23XN2	Master Project 2	Z	2
11XN3	Master Project 3	Z	1
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: 8

The role of the block: PV

Code of the group: Y2-NPPL 17/18

Name of the group: PVP nav.prez.PL 17/18

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:

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
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
23Y2BP	Security Class Zuzana Kosová	KZ	2	2P+0C	Z	PV
21Y2BS	Unmanned aircraft systems 2 Tomáš Tlu ho, Michal erný	KZ	2	2P+0C	L	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
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
17Y2FM	Financing in Urban Mass Transportation Václav Baroch	KZ	2	2P+0C	Z	PV
11Y2FX	Functions of Complex Variable	KZ	2	2P+0C	Z	PV
23Y2FB	Physics for Security Branches	KZ	2	2P+0C	Z	PV

18Y2FZ	Physical foundation of materials' properties Jaroslav Valach	KZ	2	2P+0C	L	PV
15Y2HS	Road Transport History Eva Rezlerová, Zuzana arská	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	KZ	2	2P+0C	Z	PV
14Y2KI	Capital Investment in Transportation and Telecommunications	KZ	2	2P+0C	L	PV
17Y2KI	Capital Investment in Transportation and Telecommunications	KZ	2	2+0	L	PV
16Y2KV	Car Body Design	KZ	2	2P+0C	L	PV
12Y2KS	Rail Transport in Settlements and Regions Miroslav Veliš	KZ	2	2P+0C	Z	PV
12Y2KE	Landscape Ecology Kristýna Neubergová	KZ	2	2P+0C	Z	PV
21Y2LS	Air Traffic Services	KZ	2	2P+0C+8B	L	PV
11Y2LG	Logics of Engineer's Judgement	KZ	2	2P+0C	L	PV
15Y2MS	Sociology for Managers Martina Šmidochová	KZ	2	2P+0C	Z	PV
21Y2MK	Marketing of Air Transport Peter Vittek Peter Vittek	KZ	2	2P+0C+8B	Z	PV
12Y2MH	Measurement and Modeling of Traffic Noise	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 Zuzana arská	KZ	2	2P+0C	L	PV
17Y2MS	Microsimulation of Railway Operation Zden k Michl	KZ	2	2P+0C	Z	PV
21Y2MS	Aerospace Engineering Simulation and Modelling	KZ	2	2P+0C	Z	PV
12Y2MZ	Modernization of Railway Lines and Stations Dagmar Ko árková, Miroslav Veliš	KZ	2	2P+0C	L	PV
14Y2OP	Object Oriented Programming in Transport	KZ	2	2P+0C	L	PV
15Y2OZ	Health Protection in Transportation and EU Eva Rezlerová, Petr Musil	KZ	2	2P+0C	Z	PV
15Y2OF	Specialised French for Transportation and Telecommunications	KZ	2	2P+0C	Z	PV
16Y2PG	Computer Graphics and Virtual Reality Stanislav Novotný, Petr Bouchner	KZ	2	2P+0C	Z	PV
22Y2PS	Traffic Accidents Computer Simulation and Analysis	KZ	2	2P+0C	L	PV
15Y2PT	Food in Transportation Eva Rezlerová, Petr Musil	KZ	2	2P+0C	L	PV
15Y2PD	Practical Spanish for Transportation	KZ	2	2P+0C	Z	PV
15Y2PS	Practical Spanish for Transportation, Management and Business	KZ	2	2+0	Z	PV
21Y2PP	Law and Operation in Air Transport Radoslav Zozu ák	KZ	2	2P+0C+8B	L	PV
20Y2PR	Prediction of time series	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	L	PV
11Y2PM	Programming in MATLAB Šárka Vorá ová	KZ	2	2P+0C	L	PV
21Y2PL	Operational Aspects of Aerodromes	KZ	2	2P+0C	Z	PV
17Y2PS	Case Studies in Transportation	KZ	2	2P+0C	Z	PV
15Y2PU	Publications and Their Creation	KZ	2	2P+0C	Z	PV
12Y2RD	Realization of Transport Buildings Dagmar Ko árková, Martin Höfler, Tomáš Honc	KZ	2	2P+0C	L	PV
17Y2RZ	Control of Transport Processes	KZ	2	2P+0C	Z	PV
15Y2SP	Seminar on Political Philosophy	KZ	2	2P+0C	Z	PV
17Y2SJ	Network Timetabling on the Railway Vít Janoš Vít Janoš (Gar.)	KZ	2	2P+0C	L	PV
16Y2ST	Special Technologies in Transport and Telecommunications	KZ	2	2P+0C	L	PV

18Y2SD	Reliability and Diagnostics, Experimental Methods Daniel Kytý	KZ	2	2P+0C	Z	PV
15Y2SR	Stylistics and Rhetorics	KZ	2	2P+0C	Z	PV
17Y2SK	Urban and Regional Rail Transport System	KZ	2	2P+0C	L	PV
15Y2TS	Technician and Contemporary Society Jan Feit, Eva Rezlerová	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
21Y2TL	Development Trends of Aircraft Construction	KZ	2	2+0	Z	PV
12Y2UD	Sustainable Transportation	KZ	2	2P+0C	L	PV
14Y2UI	Artificial Intelligence	KZ	2	2P+0C+8B	Z,L	PV
20Y2UA	Artificial Neural Networks, Realization and Applications	KZ	2	2P+0C	Z	PV
18Y2UB	Accident Biomechanics and Safety	KZ	2	2P+0C	L	PV
23Y2VZ	Leadership and Human Resource Development	KZ	2	2P+0C	L	PV
21Y2VA	Selected Chapters of Aerodynamics	KZ	2	2P+0C+8B	L	PV
18Y2VC	Computational Mechanics in Transportation Radek Kolman	KZ	2	2P+0C	L	PV
23Y2VR	Cope with Risks in Engineering Branches Danuše Procházková	KZ	2	2P+0C		PV
12Y2VT	High Speed Railways	KZ	2	2P+0C	Z	PV
12Y2ZK	Traffic Calming Zuzana arská	KZ	2	2P+0C	Z	PV
23Y2ZM	Intelligence Means and Methods Miloslav Ku era	KZ	2	2P+0C	Z	PV

ΚZ

2

Characteristics of the courses of this group of Study Plan: Code=Y2-NPPL 17/18 Name=PVP nav.prez.PL 17/18

17Y2AM | Application of Marketing Tools in Transportation |

7 Application of Marketing Toole in Transportation		
Application of marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere	·, · · ·	•
12Y2BM Safety on The Local Roads	KZ	2
Classification of road accidents rates, social looses. Collision points, diagrams. Tools and methods for safer road transportation. Crossroads from the	e point of view of safet	.y. Psychologica
right of way. Roundabouts. Pedestrian transport, cyclists. Traffic lights coordination. Transport control and regulation.		
23Y2BP Security Class	KZ	2
The most prevalent topics include data management, data and text mining applications, terrorism informatics, deception and intent detection, ter	rorist and criminal soc	ial network
analysis, crime analysis, cyber-infrastructure protection, transportation infrastructure security, and information assurance, among others.		
21Y2BS Unmanned aircraft systems 2	KZ	2
Modern trends in unmanned aircraft development. Use of unmanned aircraft. Managerial activities related to the operation of unmanned aircraft. Fli	ghts beyond the applic	able legislation
14Y2C1 CATIA I	KZ	2
Fundaments of working with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive	e models from 2D ske	tches. Import
and export of made parts and bodies. Making assemble and visualization.		
14Y2C2 CATIA II	KZ	2
Extension of basic course. Modeling compound bodies. Possibility of enumeration, comunications with other systems. Surface x solid bodies. Kir	ematic mechanism. P	roject making
and project cooperation. Outputs of projects.		
14Y2CS Sensitivity of Systems	KZ	2
Design of systems with defined reliability. The impact of changing parameters and subsystems within a system. System sensitivity computing, defined reliability.	finition of sensitivity fu	unctions and
matrices and their usability in system design.		
15Y2DN Transportation Psychology in German Speaking Countries	KZ	2
Introduction into broader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustio	n, getting of driving lic	ence, children
in traffic, traffic accident, traffic psychology in the internet etc.)		
18Y2DC Dynamics of Transport Routes and Vehicles	KZ	2
Basic theory and calculations of more mass systems. Analysis of the forces acting between the vehicle and transport route. Creation of dynamic m	odels of vehicles and t	ransport routes
Vibration of systems with a finite number of degrees of freedom. Methods of stiffness constants and pliability constants. Fundamentals of vibration	of bridges. Criteria for	the admissibility
of oscillation. Experimental methods in dynamics.		
17Y2FM Financing in Urban Mass Transportation	KZ	2
UMT history and development in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Under	ground building and or	peration. Other
UMT types. UMT development in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present	models of UMT finance	cing. Transport
inspection and blind passengers. Tourism & UMT. UMT typology & choice of optimum financing.		
11Y2FX Functions of Complex Variable	KZ	2
Derivation of complex function, holomorphic function, complex exponential series, integration, Cauchy theorem. Taylor series, Laurent series of complex function, holomorphic function, complex exponential series, integration, Cauchy theorem.	omplex variable functi	ion. Basics of
Laplace and Z-transformation.		
23Y2FB Physics for Security Branches	KZ	2
Grounds of physics of substances and phenomena at extreme conditions. Grounds of rheology. Physics of Earth's interior. Geophysics. Physics	of atmosphere. Applic	ations in
dengineering branches directed to safety.		
18Y2FZ Physical foundation of materials' properties	KZ	2
Atomistic models, lattice defects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects of el	nvironment and loadin	g on materials'
behavior are the main discussed topics.		

15Y2HS Road Transport History	KZ	2
Roads and road traffic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road traffic in the modern period acceleration of road traffic in the modern period acceleration of road traffic in the modern period acceleration of	1	lopment during
1st part of 20th century. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of	of road travelling in	modern period.
History of road intercections, bridges and traffic control, development of road signs.		
16Y2HP Vehicle Hygiene	KZ	2
Emissions and ergonomy of vehicles and the influence on man and nature. National and international law related to the hygiene. Noise and vibration		
physical values, ways of measuring, prevention, elimination. Exhausts - creation, measurement, reduction, non-regular fuels and drives. Ergonomy - s	itting, standing, co	ntrol, operational
reach. Condition - heating, ventilation, air-conditioning, filtration, tiredom.	1/7	
14Y2IS Intelligent Systems in Postal Services The use of information systems in the postal services (ITIS, and POST, T + T, PS, KMP, DS), application of information technology in the processing	KZ	a nodes in the
postal network, optimizing logistics processes in the post. The appreciation of the real implementation of the Czech post in operation both in lectures a	-	-
desk.		ik or the practical
12Y2IS Urban Networks	KZ	2
The importance and the position of UN as public and technical infrastructure / utillities, metodology of the UN master planning, of UN design, UN co		
operation (basic technical standards of UN, trenchless technologies for UN).		
14Y2JM One-Chip Controllers	KZ	2
One-chip controllers architecture, embedded peripherals (counters, timers, converters, ports) and their utilisation. Practical tasks are programmed visions are programmed visions.	with the aid of AVR	chips.
15Y2JH Job Hunting in English	KZ	2
The course provides a practical guide to applying for a job in English. The interview process is mapped out, with the course including skills practise	for all the stages of	of this process,
including specifics for job-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
Financial market, investment desicion making - long term goals and investment strategies, long term financing		
17Y2KI Capital Investment in Transportation and Telecommunications	KZ	2
Financial market, investment desicion making - long term goals and investment strategies, long temr financing.		
16Y2KV Car Body Design	KZ	2
Personal cars body, high-load car body, bus car body, and motorcycle as a construction set. Principles of design, production, testing and operation.	Materials used for	car body
construction. Active and passive safety parts. Ergonomics, HMI, view out of the vehicle, operational extent, view behind the car. Conditioning tools,	signaling function.	Aerodynamics
of the car body. Design and artistic design principles. Practical training.		,
12Y2KS Rail Transport in Settlements and Regions	KZ	2
Modernization and development of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway servi		iguration and
operation of metro systems. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected countries / re	-	r
12Y2KE Landscape Ecology	KZ	2
Landscape ecology. Landscape - definition, types, evolution. Landscape systems. Anthropogenic impacts on landscape. Methods using for evaluating the control of the control	ng landscape. Frac	tal geometry
and its potential applications in landscape ecology. Landscape planning.	1	
21Y2LS Air Traffic Services	KZ	2
Airspace structure in Czech Republic and other countries. Introduction and description of ATS units in Czech Republic. Practical examples of TWR,	APP a ACC contro	ol. History of ATS
at USA and Czechoslovakia. ATS - Model of financing. Training Systém of Air Traffic Controllers. Future development of ATS.	1/7	
11Y2LG Logics of Engineer's Judgement Logical structure of engineer's judgement, its propositional and predicative logical base. Solutions of logical tasks through the methods of truthfulne	KZ	2
Venn's diagram method. Logical basis for network design for the solution of technical tasks.	ss and semande a	maiysis charts.
	KZ	2
15Y2MS Sociology for Managers Sociological approach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation	1	l
Human's work position in free market economy. Corporate directorship, work groups, adaptation, strife, different roles and positions in corporation.	i, its culture and sc	ciai system.
21Y2MK Marketing of Air Transport	KZ	2
The content of the course "Marketing or Air transport" is the management of activities and processes using available marketing tools and processes	1	!
and implementation of sales of goods and services in the aviation industry. In addition to the theoretical foundations of marketing, the lectures present	=	
and product analysis, creation of marketing strategies and planning.		, , , , , , , , , , , , , , , , , , , ,
12Y2MH Measurement and Modeling of Traffic Noise	KZ	2
Theoretical introduction to noise from traffic. Noise from rail transport. Noise from road traffic. Measurement and calculation of noise from rail traffic	1	
noise from road traffic. Modelling of traffic noise in the CADNA A.		
18Y2MP Finite Element Method And Its Application	KZ	2
Basic mathematical formulation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices		nents using
variational principles. Element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, r	atural shape funct	ions and
isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming.		
16Y2MK Quality Methods for Vehicles	KZ	2
Quality management methods list, customer data acquisition and analysis of customer requirements, QFD, DFM, DFA, DFS. FMEA (Failure mode e	ffect analysis). Ele	ments of parallel
(team) design.		
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	(analogical and sy	nthetic methods,
modal split, traffic distribution to road network). Shock wave in traffic flow. Service levels and their traffic volumes. Acceleration noise.		
17Y2MS Microsimulation of Railway Operation	KZ	2
Introduction to the characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational co	· -	
adaptation of the infrastructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stabilia	ty tests and evalua	τιοns. Evaluation
of sensitivity of the operational concept to delays.	1/7	
21Y2MS Aerospace Engineering Simulation and Modelling	KZ	2
The course is designed as a set of exemplary tasks and problems based on practical aviation issues. The university degree mathematic skills and s		-
necessary for successful figuring out. Both simple tasks, where students create own model themselves (e.g. in Matlab), and more complicated probletools will be applied.	ems where broies:	oioriai ueveloped
	KZ	2
12Y2MZ Modernization of Railway Lines and Stations Line speed increasing. AGC and AGTC Agreement. AGC and AGTC railway network. Principles of modernization (conceptual papers, definitions of ba	1	
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.		_ 5.5.5pmont
· · · · · · · · · · · · · · · · · · ·		

14Y2OP Object Oriented Programming in Transport	1/7	
14Y2OP Object Oriented Programming in Transport Class, object, encapsulation, inheritance, polymorphism, templates, retyping, stream, exceptions, repository, collections, virtual methods and clas	KZ KZ	2 wil he chosen
from microscopic simulation system, discrete event simulation, celular automata simulation and virtual life area.	ises. I Toblem cases	wii be chosen
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. Harmoni		
members. Fundamental principles of health protection and support in selected EU countries.	· ·	
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 sp	eaking and writing sl	kills.
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. Ac		with professional
and freeware tools for creation and processing of 2D, 3D and interactive graphics, and basics of programming language VRML and graphic librari	es (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 te	sts evaluation, single-	-track vehicle,
vehicle passangers, pedestrian, traffic accident simulation and analysis.	1/7	
15Y2PT Food in Transportation	KZ	2
The nutrition policy. Interaction transportation and foodstuffs. The health risks. Hygienic safeguard. The practical examples from the Czech Repub dining cars, work trains and other railroad equipment. Legislation.	lic and from the world	d. The issues of
	KZ	2
15Y2PD Practical Spanish for Transportation Development of communication skills, training of correct written expression of formal character, basic technical vocabulary, cultural specifics of the		
Terminology of transport and commerce.	s Spariisii speakirig c	countries.
15Y2PS Practical Spanish for Transportation, Management and Business	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, business letter.	, ,	
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 controls.		_
aviation. Execution of state administration and state supervision in matters of civil aviation, in accordance with Act No. 49/1997 Col. Facilitation. R	esponsibilities 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	statistics, MAE, MAP	PE, RMSE, naive
prediction, prediction for general formula of loss function. Calculation and programming environment R. Regression models, basics of linear regre	ssion, simple regress	sion. Multiple
regression, statistical tests of linear dependence, selection of input variables.		
14Y2PI Process Information Systems in Transportation	KZ	2
Introduction and detailed usage of transport information systems, e.g. EFC, ePurse and transport check-in systems for public transport with focus		-
SOA (Service Oriented Architecture). Inforamtion systems implementation and operations description in the Czech Republic (technical and proce		
14Y2PJ C++ Programming Language OOP philosophy and basics of C++ programming language. Class, object, constructor, destructor, inheritance, abstract class, virtual methods, exce	KZ	2
overloading, abstract data type implementation in C++.	phons, streams, meth	iou and operator
14Y2PH CAD Interface Programming	KZ	2
Introduction to CAD interface programming techniques with the help of LIST and VBA programming languages. Possibilities of proper objects (co		-
applications creation in CAD systems. Programming of cooperation with other applications (databases, spread-sheets).	,, 5 ,	•
11Y2PM Programming in MATLAB	KZ	2
To explain the principle of modelling and simulation, description of Matlab environment and its settings, optimization and program code debugging		signing GUI in
Matlab.		
21Y2PL Operational Aspects of Aerodromes	KZ	2
Operational aspects of aerodromes. Location of aerodrome and orientation of runways. Requirements for apron. Capacity of airports runways and	terminals. Operation	n under winter
conditions. Firefighting units. Protection against unlawful interference. Local transport connection. Environmental protection.		
17Y2PS Case Studies in Transportation	KZ	2
Simulation expert discussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infra		
lesson presented one current and the real issue, which solutions will have to think of each other. Each of them will be represent another role (pub	lic authorities, investo	ors, carrier
representative interest groups, residents, etc.).	1/7	
15Y2PU Publications and Their Creation Scientific texts types. Footnotes and references. Exploration of facts. Quotations. Formal document layout. Working with information databases. Ty	KZ	2 Typographic
editors - MS Word, Tex/LaTeX. Practical creation of simple scientific documents.	pograpriic principies.	. Typographic
12Y2RD Realization of Transport Buildings	KZ	2
Transport Buildings Types. Project Documentation Types. Building Code. Land Permission and Building Permission Process. Building Process. Project Documentation Types.		
17Y2RZ Control of Transport Processes	KZ	2
Theoretical bases, transport system, decomposition, factors influencing control, quality diagnosis, methods of control, systems for decision making	1 1	
telematics.	g capport, non or do	o.o.o.,ag,
15Y2SP Seminar on Political Philosophy	KZ	2
Interpreting of philosophical texts, view of society, state and their system of government.		_
17Y2SJ Network Timetabling on the Railway	KZ	2
Timetable samples. Capacity allocation, technological intervals in railway operation. Rules and regulations of train paths, running times, time adds		
circulation planning. Rules of train-diagramm creating. Timetables for more service-levels on the line. Construction slot conflicts between passenge		-
relations and waiting times, timetables for lines under construction.		
16Y2ST Special Technologies in Transport and Telecommunications	KZ	2
Micro, nano and special technologies, electric arc and its applications, plasma technologies, dipping, beam technologies, electron beams technol	ogy in roduction and	mending of
vehicles, laser and laser technologies, soldering, gluing, ultrasound, diffusion, friction and explosion technologies, micro stoves, gas.		
18Y2SD Reliability and Diagnostics, Experimental Methods	KZ	2
The course is focused on theoretical background and practical experience in the field of reliability of constructions, implementation of diagnostic properties of the course is focused on theoretical background and practical experience in the field of reliability of constructions, implementation of diagnostic properties of the course of		
defects and determination of residual life of structures. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge m	easurement, photoel	asticimetry) and
optical methods, including electron microscopy, will be used.		

15Y2SR Stylistics and Rhetorics	KZ	2
Basic skills of oral and written expression as a means of human communication. Basic information about speech, articulation, oral and written	language. Teaching to s	peak well-vocal
organs, voice training. Language semantics, language syntactic and the pragmatic aspect. Creative thought and its oral and written expression.	Practice - cultivating the	skills of speech.
17Y2SK Urban and Regional Rail Transport System	KZ	2
Factors influencing transport demand, modal-split, traffic flows distribution on public transit network. Line network optimization and configuration		
accenting integrated periodic timetable. Rolling stock circulation, staff and crew services optimization and their order to rosters. Framework legisl	ation, non-barrier effects	and preference
of public transport. Marketing.	1/7	
15Y2TS Technician and Contemporary Society Why to take off a hat 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 to	KZ	2
Internet and in newspapers, what are the sights for, interest in public affairs - a hangover from the past?	um on a PC, it must be	ilue - il s on lile
20Y2TE Technology of Electronic Systems	KZ	2
Principle technologies for an effective operation of electronically controlled systems. Maintaining, meassuring, optimization of safety and reliab	I I	
technologies, printed circuits, assembly operations, interconnection and repairs technologiesusers and operators.	, , ,	
14Y2TU Telecommunications Systems and Multimedia	KZ	2
New trends in telecommunications namely applied in transport solutions, identification and quantification of telecommunications networks and se	rvices performance base	ed on redundant
architecture, provissioning of guaranteed service quality, two generations of the handover principles.		
16Y2TT Transportation and Building Technology and Equipment	KZ	2
Transportation and building technology and equipment. Transport of solid and mass material, soil and rock above all. Highway and underground	d constructions. Transpo	rt surface
vehicles, description and construction features, delivered mass calculation, economy of operation. Technics and technology of underground cor	structions. Terrestrial ve	hicles operation
management methodology (ultrasound, laser, GPS, total stations).		
21Y2TL Development Trends of Aircraft Construction	KZ	2
Historical and nowadays trends. Future scenarios. Space industry. Economy.	1/7	
12Y2UD Sustainable Transportation Sustainable development definition history local framework. Sustainable development indicators. Sustainable transportation, definition, history	KZ KZ	2
Sustainable development, definition, history, legal framework. Sustainable development indicators. Sustainable transportation, definition, history of sustainable development theory, case study.	y, legal framework. Prac	ilical application
14Y2UI Artificial Intelligence	KZ	2
History of artificial intelligence, knowledge, its representation including frames, state space search, constraints, genetic algorithms, machine le		2
20Y2UA Artificial Neural Networks, Realization and Applications	KZ	2
History of neural networks. Basic principles. Comparing the structure of a natural and an artificial neuron. Neural classificators, predictors, comp		
functional blocs and systems. Modelling of neurons. Grossberg's equations. Learning principles. Leyered and Hopfield's nets.	, ,	.
18Y2UB Accident Biomechanics and Safety	KZ	2
Anatomy of man. Methods of Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an acc	dent and the extent of a	traffic accident.
Injuries in road traffic. Pedestrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their con	nputational modeling. Pr	inciples of
treatment and rehabilitation. Protective elements and safety measures in transport.		
23Y2VZ Leadership and Human Resource Development	KZ	2
Introduction to the study of human resources, human resources management, corporate goals, strategies, cultural and ethical aspects. Team r	nanagement, communic	ation in teams,
strategy and planning in human resources, ethics and corporate culture, cross-cultural differences. The labor code. Introduction into protocols.	1/7	
21Y2VA Selected Chapters of Aerodynamics Physical properties of real gases, atmosphere, aeronautical applications of external and internal aerodynamics, compressible internal flow, inlet	KZ	2
external flow, supercritical wings and profiles, vertical and oblique shock wave, energy losses, aeronautical aerodynamic profiles of wings, pro		
viscosity, laminar and turbulent flow, boundary layer.	zonoro, biadoo graningo,	iiit, alag, polai,
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		
Elastic, elastoplastic and viscoelastic material. FEM in problems of biomechanics. Numerical analysis of structural parts with programme ANS	-	
23Y2VR Cope with Risks in Engineering Branches	KZ	2
Types of engineering branches directed to risks, procedures used in risk engineering, ensuring the secured systems, ensuring the safe systems	s, ensuring the safe syste	ems of systems.
12Y2VT High Speed Railways	KZ	2
High speed rail (HSR) transport characteristics and position in transportation system. HSR vehicles types and characteristics and control-comm	and and signalling syste	m. HSR system
interoperability. Non-adhesion HSR systems. City traffic service by HSR. HSR operating points. HSR worldwide network. HSR routing and traff	ic conception. Specifics	of HSR track
construction and geometrical characteristics.		
12Y2ZK Traffic Calming	KZ	2
Principles of traffic calming. Solution of road network organization. Urban road layouts. Psychological and physical obstacles (measures of traffic calming second in proceedings of the second	iic calming) and their co	mbinations.
Traffic calming measures in crossroads. Pedestrian zones. Residential streets and zones.	1/7	
23Y2ZM Intelligence Means and Methods History and the present of intelligence pay less and their role in the modern world. How intelligence convices handle with information. Methods are	KZ K	2
History and the present of intelligence services and their role in the modern world. How intelligence services handle with information. Methods and information. Means of intelligence services. Internal and external intelligence, military intelligence. The means and methods of state security see		
services within NATO, EU. The organization of the intelligence services.	" 11000. Cooperation all	ong intelligence
-,		

List of courses of this pass:

Code	е	Name of the course	Completion	Credits
1	I1STS	Stochastic Systems	Z,ZK	4
The	•	s with the problems of mathematical modelling of dynamical systems, estimation od these models and their utilization for prediction. Insportation tasks. Mathematical theory roots from probability and mathematical statistics and they use the methods of the Bayesian		
1	I1XN1	Master Project 1	Z	2
1	I1XN2	Master Project 2	Z	2

11 VNO	Moster Project 2	7 7	1 1
11XN3 11XN4	Master Project 3	Z	8
	Master Project 4		
11XNDP	Master Thesis	KZ	18
11Y2FX Perivation of com	Functions of Complex Variable plex function, holomorphic function, complex exponential series, integration, Cauchy theorem. Taylor series, Laurent series of complex function, below the function for the following series of complex function.	KZ lex variable function	n. Basics
11Y2LG	Logics of Engineer's Judgement	KZ	2
	of engineer's judgement, its propositional and predicative logical base. Solutions of logical tasks through the methods of truthfulness Venn's diagram method. Logical basis for network design for the solution of technical tasks.	1	1
11Y2PM	Programming in MATLAB	KZ	2
	nciple of modelling and simulation, description of Matlab environment and its settings, optimization and program code debugging, da Matlab.		_
12XN1	Master Project 1	Z	2
12XN2	Master Project 2	Z	2
12XN3	Master Project 3	Z	1
12XN4	Master Project 4	Z	8
12XNDP	Master Thesis	KZ	18
12Y2BM	Safety on The Local Roads	KZ	2
	ad accidents rates, social looses. Collision points, diagrams. Tools and methods for safer road transportation. Crossroads from the poin	1	_
	right of way. Roundabouts. Pedestrian transport, cyclists. Traffic lights coordination. Transport control and regulation.		
12Y2IS	Urban Networks	KZ	2
e importance an	id the position of UN as public and technical infrastructure / utillities, metodology of the UN master planning, of UN design, UN coord	lination, UN install	ation and
	operation (basic technical standards of UN, trenchless technologies for UN).		
12Y2KE	Landscape Ecology	KZ	2
andscape ecolo	gy. Landscape - definition, types, evolution. Landscape systems. Anthropogenic impacts on landscape. Methods using for evaluating	j landscape. Fracta	al geomet
	and its potential applications in landscape ecology. Landscape planning.		
12Y2KS	Rail Transport in Settlements and Regions	KZ	2
	nd development of railway infrastructure in Czech Republic. Arrangement of railway networks and junctions. Suburban railway service		uration ar
	ation of metro systems. Network configuration and operation of tram systems. Special thematic lectures (rail transport in selected co		
12Y2MD	Methods of Traffic Regulation and Prediction	KZ	2
sic ways or traini	c prognosis, traffic prognosis for large area (calculation of future traffic volumes, calculation of future traffic volumes between areas (an modal split, traffic distribution to road network). Shock wave in traffic flow. Service levels and their traffic volumes. Acceleration	-	euc meun
12Y2MH		KZ	2
	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. M	1	_
neoretical introd	noise from road traffic. Modelling of traffic noise in the CADNA A.	leasurement and t	alculation
12Y2MZ	Modernization of Railway Lines and Stations	KZ	2
	ing. AGC and AGTC Agreement. AGC and AGTC railway network. Principles of modernization (conceptual papers, definitions of basic		_
•	I characteristics on modernized railway lines. Superstructure and substructure on upgraded lines. Designing of railway stations. Bridg	•	
	and realization of projects. Technical description of the tranzit corridors.		
12Y2RD	Realization of Transport Buildings	KZ	2
ansport Buildings	Types. Project Documentation Types. Building Code. Land Permission and Building Permission Process. Building Process. Project Ed	conomics. Project I	Managem
12Y2UD	Sustainable Transportation	KZ	2
ustainable develo	ppment, definition, history, legal framework. Sustainable development indicators. Sustainable transportation, definition, history, legal f	iramework. Practic	al applica
	of sustainable development theory, case study.		
12Y2VT	High Speed Railways	KZ	2
	SR) transport characteristics and position in transportation system. HSR vehicles types and characteristics and control-command and		-
nteroperability. N	on-adhesion HSR systems. City traffic service by HSR. HSR operating points. HSR worldwide network. HSR routing and traffic conc	eption. Specifics o	of HSR tra
	construction and geometrical characteristics.		
12Y2ZK	Traffic Calming	KZ	2
Principles of traff	fic calming. Solution of road network organization. Urban road layouts. Psychological and physical obstacles (measures of traffic calm	ming) and their co	mbination
4 43 43 14	Traffic calming measures in crossroads. Pedestrian zones. Residential streets and zones.		
14XN1	Master Project 1	Z	2
14XN2	Master Project 2	Z	2
14XN3	Master Project 3	Z	1
14XN4	Master Project 4	Z	8
14XNDP	Master Thesis	KZ	18
14Y2C1 undaments of w	CATIA I orking with CATIA, making basic parts and bodies. Making 2D sketches, geometric stucture, parametric linking, making adaptive mo	KZ odels from 2D sket	2 ches. Imp
4.0/000	and export of made parts and bodies. Making assemble and visualization.	T	T -
14Y2C2	CATIA II c course. Modeling compound bodies. Possibility of enumeration, comunications with other systems. Surface x solid bodies. Kinemat	KZ	2 niect mak
ALCHOIUH UI DASI	and project cooperation. Outputs of projects.	.io medianism. Pl	Jeol mak
14Y2CS	Sensitivity of Systems	KZ	2
	Sensitivity of Systems s with defined reliability. The impact of changing parameters and subsystems within a system. System sensitivity computing, definiti		- 1
zesigi i di system	is with defined reliability. The impact of changing parameters and subsystems within a system. System sensitivity computing, definiting matrices and their usability in system design.	on or sensitivity tu	nouons al
14Y2IS	Intelligent Systems in Postal Services	KZ	2
	ation systems in the postal services (ITIS, and POST, T + T, PS, KMP, DS), application of information technology in the processing c	1	
	imizing logistics processes in the post. The appreciation of the real implementation of the Czech post in operation both in lectures and		
, opt	desk.		5 pruo

14Y2JM	One Obia Ocatastlana	1/7	^
One-chip con	One-Chip Controllers trollers architecture, embedded peripherals (counters, timers, converters, ports) and their utilisation. Practical tasks are programmed	KZ with the aid of AVF	2 R chips.
14Y2KI	Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing	KZ	2
14Y2OP	Object Oriented Programming in Transport	KZ	2
	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.	1	1
14Y2PH	CAD Interface Programming	KZ	2
	D interface 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).	1	1
14Y2PI	Process Information Systems in Transportation	KZ	2
	detailed usage of transport information systems, e.g. EFC, ePurse and transport check-in systems for public transport with focus on a	rchitecture of this	system and
•	riented Architecture). Inforamtion systems implementation and operations description in the Czech Republic (technical and process)	included lectures a	and visits.
14Y2PJ	C++ Programming Language	KZ	2
OP philosophy ar	nd basics of C++ programming language. Class, object, constructor, destructor, inheritance, abstract class, virtual methods, exceptions, overloading, abstract data type implementation in C++.	, streams, method a	and operat
14Y2TU	Telecommunications Systems and Multimedia	KZ	2
lew trends in telec	communications namely applied in transport solutions, identification and quantification of telecommunications networks and services pe	rformance based o	n redunda
4.070111	architecture, provissioning of guaranteed service quality, two generations of the handover principles.	1.7	
14Y2UI	Artificial Intelligence	KZ	2
	story of artificial intelligence, knowledge, its representation including frames, state space search, constraints, genetic algorithms, made and the state of the	Z	2
	Language - English 1 Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work	engagement.	!
15JBA2 P	Language - English 2 Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work	Z engagement.	2
15JBA3	Language - English 3	Z	2
	s - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Op FCE, CAE.	otional courses for o	certificates
15JBA4	Language - English 4	ZK	2
	Is - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Op FCE, CAE.	1	1
15XN1	Master Project 1	Z	2
15XN2	Master Project 2	Z	2
15XN3	Master Project 3	Z	1
15XN4	Master Project 4	Z	
	iviación i rojoct i		
	Master Thesis		8 18
15XNDP	Master Thesis Transportation Psychology in German Speaking Countries	KZ	18
15XNDP 15Y2DN	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, gett	KZ KZ	18 2
15XNDP 15Y2DN ntroduction into b	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, gett in traffic, traffic accident, traffic psychology in the internet etc.)	KZ KZ ing of driving licend	18 2 ce, childre
15XNDP 15Y2DN Introduction into b	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, gett in traffic, traffic accident, traffic psychology in the internet etc.) Road Transport History	KZ KZ ing of driving licend	18 2 ce, childre
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr	Transportation Psychology in German Speaking Countries roader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, gett 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	KZ KZ ing of driving licend KZ transport developr	18 2 ce, childre 2 ment durin
15XNDP 15Y2DN Introduction into b 15Y2HS Roads and road tr	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, gett in traffic, traffic accident, traffic psychology in the internet etc.) Road Transport History	KZ KZ ing of driving licend KZ transport developr	18 2 ce, childre 2 ment durin
15XNDP 15Y2DN Introduction into b 15Y2HS Roads and road tr	Transportation Psychology in German Speaking Countries roader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, gett 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 ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road	KZ KZ ing of driving licend KZ transport developr	18 2 ce, childre 2 ment durin
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice	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, gett 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 ntury. 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 les a practical guide to applying for a job in English. The interview process is mapped out, with the course including skills practise for	KZ KZ ing of driving licence KZ transport developr ad travelling in mod KZ all the stages of the	18 2 ce, childre 2 ment durin dern perio 2 alis process
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice includion	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, gett 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 ntury. 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 less 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 su	KZ KZ ing of driving licence KZ transport developr ad travelling in mode KZ all the stages of the	18 2 ce, childre 2 ment durin dern perio 2 is process
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provic includit 15Y2MS	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, gett 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 ntury. 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 less 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 su Sociology for Managers	KZ KZ ing of driving licence KZ transport developr ad travelling in mode KZ all the stages of the cocessful interview.	18 2 ce, childre 2 ment durin dern perio 2 pis process
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provic includit 15Y2MS Sociological app	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, gett 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 ntury. 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 less 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 su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation, i	KZ KZ ing of driving licence KZ transport developr ad travelling in mod KZ all the stages of the ccessful interview. KZ ts culture and social	18 2 ce, childre 2 ment durin dern perio 2 nis process
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provic includi 15Y2MS Sociological app	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, gett 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 ntury. 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 Job Hunting in English Jos Hunting in English vocabulary and phraseology necessary for a su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporations in	KZ KZ ing of driving licence KZ transport developr ad travelling in mode KZ all the stages of the iccessful interview. KZ ts culture and social	18 2 ce, childre 2 ment durin dern perio 2 his process 2 al system.
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provic includi 15Y2MS Sociological app	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, gett 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 ntury. 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 less 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 su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation, in Human's work position in free market economy. Corporate directorship, work groups, adaptation, strife, different roles and positions in Specialised French for Transportation and Telecommunications	KZ KZ ing of driving licence KZ transport developre and travelling in model and travelling in the stages of the coessful interview. KZ ts culture and social corporation. KZ	18 2 ce, childre 2 ment durin dern perio 2 nis process 2 al system.
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice includit 15Y2MS Sociological app H 15Y2OF Basic transp	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, gett 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 ntury. 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 Les 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 su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation, in Human's work position in free 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 specialised.	KZ KZ ing of driving licence KZ transport developre and travelling in more KZ all the stages of the increase o	18 2 ce, childre 2 ment durin dern perio 2 ais process 2 al system. 2 skills.
15XNDP 15Y2DN Introduction into b 15Y2HS Roads and road tr 1st part of 20th ce 15Y2JH The course provice includion 15Y2MS Sociological app H 15Y2OF Basic transpon 15Y2OZ	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, gett 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 ntury. 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 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 ng specifics for job-hunting in English. Students will also be introduced to the English vocabulary and phraseology necessary for a su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation and runnan's work position in free 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 in transportation in CR in the past and present. Conditions before 1989 and after, current legislature, future prospects. Harmonisation	KZ KZ ing of driving licence KZ transport developre and travelling in mode and travelling in mode and travelling in travelling in travelling in travelling in travelling in travelling in KZ all the stages of the increase of	18 2 ce, children 2 ment durin dern perior 2 nis process 2 al system. 2 skills. 2
15XNDP 15Y2DN Introduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice includin 15Y2MS Sociological app H 15Y2OF Basic transport 15Y2OZ Health protection	Transportation Psychology in German Speaking Countries roader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, gett in traffic, traffic accident, traffic psychology in the internet etc.) Road Transport History affic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road ntury. 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 su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation in duman's work position in free 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 sp Health Protection in Transportation and EU in transportation in CR in the past and present. Conditions before 1989 and after, current legislature, future prospects. Harmonisatio members. Fundamental principles of health protection and support in selected EU countries.	KZ KZ ing of driving licence KZ transport developre and travelling in mode and travelling in mode and travelling in mode and travelling in travelling in the stages of the increase of the inc	18 2 ce, childre 2 ment durin dern perio 2 nis process 2 al system. 2 skills. 2 h other EU
15XNDP 15Y2DN Introduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice including 15Y2MS Sociological app H 15Y2OF Basic transp 15Y2OZ Health protection	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, getter in traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getter in traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getter in traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getter in traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, getter in traffic problems with regard to the work with the course including acceleration of road regard regard and traffic in the modern period, acceleration of road nury. Development of road regard regard regard and traffic in the modern period, acceleration of road regard regar	KZ KZ ing of driving licence KZ transport developr ad travelling in mode KZ all the stages of the incressful interview. KZ ts culture and social corporation. KZ eaking and writing KZ on of legislation with	18 2 ce, children 2 ment durin dern period 2 nis process 2 al system. 2 skills. 2 h other EU
15XNDP 15Y2DN Introduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice including 15Y2MS Sociological app H 15Y2OF Basic transp 15Y2OZ Health protection	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, getter in traffic, traffic accident, traffic psychology in the internet etc.) Road Transport History affic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road nury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road intercections, bridges and traffic control, development of road signs. Job Hunting in English les a practical guide to applying for a job in English. The interview process is mapped out, with the course including skills practise for not specifics for job-hunting in English. Students will also be introduced to the English vocabulary and phraseology necessary for a su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation, in Human's work position in free market economy. Corporate directorship, work groups, adaptation, strife, different roles and positions in Specialised French for Transportation and Telecommunications sourtation (public transport, railway, air, road and ship transport) and telecommunications terminology. Special focus on independent special focus on in	KZ KZ ing of driving licence KZ transport developr ad travelling in mode KZ all the stages of the incressful interview. KZ ts culture and social corporation. KZ eaking and writing KZ on of legislation with	18 2 ce, children 2 ment durin dern period 2 nis process 2 al system. 2 skills. 2 n other EU
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice including 15Y2MS Sociological app H 15Y2OF Basic transp 15Y2OZ Health protection 15Y2PD Development of	Transportation Psychology in German Speaking Countries roader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, gett 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 ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction periodic for controllayers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction froad signs. Job Hunting in English Beginning of modern road civil engineering. Development of road ntury. Development of road signs. Job Hunting in English Beginning of modern road civil engineering. Development of road ntury. Development of road signs. Job Hunting in English Beginning of modern road civil engineering. Development of road ntury. Development of road straffic control, development of road signs. Job Hunting in English Beginning of modern road civil engineering. Development of road ntury. Development of road straffic control, development of road signs. Job Hunting in English Beginning of modern road civil engineering. Development of road ntury. Development of road straffic control, development of road sig	KZ KZ ing of driving licence KZ transport developr ad travelling in mode KZ all the stages of the accessful interview. KZ ts culture and social corporation. KZ eaking and writing KZ on of legislation with	18 2 ce, childre 2 ment durin dern perior 2 nis process 2 al system. 2 skills. 2 h other EU 2 countries.
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice including 15Y2MS Sociological app H 15Y2OF Basic transp 15Y2OZ Health protection 15Y2PD Development of	Transportation Psychology in German Speaking Countries roader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, gett 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 ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road ntury. Development of road layout, geometric and constructions proad traffic in the modern period, acceleration of road ntury. Development of road layout, geometric and construction in English Beginning of modern road civil engineering. Development of road ntury. Development of road traffic in the modern period, acceleration of road ntury. Development of road traffic in the modern period, acceleration of road ntury. Development of road traffic in the modern period, acceleration of road ntury. Development of road traffic in the modern period, acceleration of road ntury. Development of road traffic in the modern period, acceleration of road	KZ KZ ing of driving licence KZ transport developre and travelling in mode and travelling in mode and travelling in travelling in travelling in travelling in travelling in the stages of the stages o	18 2 ce, childre 2 ment durin dern perio 2 is process 2 al system. 2 skills. 2 h other EU 2 countries.
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice including 15Y2MS Sociological app H 15Y2OF Basic transp 15Y2OZ Health protection 15Y2PD Development of	Transportation Psychology in German Speaking Countries roader view of traffic problems with regard to the work with texts (Physics for drivers, abusing alcohol during driving, exhaustion, gett in traffic, traffic accident, traffic psychology in the internet etc.) Road Transport History affic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road nutry. 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 les 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 su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation in Human's work position in free 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 of transportation in CR in 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 formal character, basic technical vocabulary, cultural specifics of the Samunication skills, training of correct written expression of formal character, basic technical vocabulary, cultural specifics of the Samunication skills, training of correct written expression of formal character, basic technical vocabulary, cultural specifics o	KZ KZ ing of driving licence KZ transport developr ad travelling in mode KZ all the stages of the incressful interview. KZ ts culture and social corporation. KZ eaking and writing KZ on of legislation with KZ Spanish speaking companish speak	18 2 ce, childre 2 ment durin dern perior 2 nis process 2 al system. 2 skills. 2 h other EU 2 countries.
15XNDP 15Y2DN Introduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice including 15Y2MS Sociological app H 15Y2OF Basic transp 15Y2OZ Health protection 15Y2PD Development of 15Y2PS Development of	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, gett in traffic, traffic accident, traffic psychology in the internet etc.) Road Transport History affic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road nury. 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 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 layout, geometric and construction in Feglish. Beginning of modern road civil engineering. Development of road layout, geometric and construction in English. Beginning of modern road civil engineering. Development of road layout, geometric and construction in English the sea apractical 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. The interview process is mapped out, with the course including skills practise for ng specifics for job-hunting in English. The interview process is mapped out, with the course including skills practise for a su or specific soft in the English vocabulary, cultural specific in the Specific soft	KZ KZ ing of driving licence KZ transport developer ad travelling in mode and travelling in mode and travelling in travelling in the stages of the increase of	18 2 ce, childre 2 ment durin dern perior 2 nis process 2 al system. 2 skills. 2 h other EU 2 countries.
15XNDP 15Y2DN ntroduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice including 15Y2MS Sociological app H 15Y2OF Basic transp 15Y2OZ Health protection 15Y2PD Development of 15Y2PS Development of	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, gett in traffic, traffic accident, traffic psychology in the internet etc.) Road Transport History afficin the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road netury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road traffic control, development of road signs. Job Hunting in English Ises a practical guide to applying for a job in English. The interview process is mapped out, with the course including skills practise for not a specific for job-hunting in English. Students will also be introduced to the English vocabulary and phraseology necessary for a su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation, i Human's work position in free market economy. Corporate directorship, work groups, adaptation, strife, different roles and positions in Specialised French for Transportation and Telecommunications or attation (public transport, railway, air, road and ship transport) and telecommunications terminology. Special focus on independent special for transportation in CR in 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 fransportation and Business framinology of transport and commerce, business letter. Food in Transportation fransportation fransportation transportation and foodstuffs. The health risks. Hygienic safeguard. The practical examples fr	KZ KZ ing of driving licence KZ transport developr ad travelling in mode KZ all the stages of the incressful interview. KZ ts culture and social corporation. KZ eaking and writing KZ on of legislation with KZ spanish speaking ce KZ Granish speaking ce KZ d from the world. The	18 2 ce, childre 2 ment durin dern perior 2 nis process 2 al system. 2 skills. 2 h other EU 2 countries. 2 he issues
15XNDP 15Y2DN Introduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice including 15Y2MS Sociological app H 15Y2OF Basic transp 15Y2OZ Health protection 15Y2PD Development of 15Y2PS Development of 15Y2PT The nutrition policy	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, gett in traffic, traffic accident, traffic psychology in the internet etc.) Road Transport History affic in the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road nury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road intercections, bridges and traffic control, development of road signs. Job Hunting in English Is 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 su Sociology for Managers roach to a corporation. Corporation and its organization. Corporation and its running - human role and communication. Corporation, i human's work position in free 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 sp Health Protection in Transportation and EU in transportation in CR in 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 forminology of transport and commerce. Practical Spanish for Transportation, Management and Business forminology of transport and commerce, business letter. Food in Transportation Publications and Their Creation Publications and Their Creation Publications and Their Creation	KZ KZ ing of driving licence KZ transport developr ad travelling in mode and travelling in mode and travelling in mode and travelling in travelling in the stages of the increase of the incre	18 2 ce, children 2 ment durin dern period 2 nis process 2 al system. 2 skills. 2 h other EU 2 countries. 2 he issues of
15XNDP 15Y2DN Introduction into b 15Y2HS Roads and road tr st part of 20th ce 15Y2JH The course provice including 15Y2MS Sociological app H 15Y2OF Basic transp 15Y2OZ Health protection 15Y2PD Development of 15Y2PS Development of 15Y2PT The nutrition policy	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, gett in traffic, traffic accident, traffic psychology in the internet etc.) Road Transport History afficin the Ancient Age, corridors of main mediveal pathways. Development of road traffic in the modern period, acceleration of road nury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road traffic in the modern period, acceleration of road nury. Development of road layout, geometric and construction layers. Beginning of modern road civil engineering. Development of road nury. 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 nog specifics for job-hunting in English. Students will also be introduced to the English vocabulary and phraseology necessary for a su 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 rotation (public transport, railway, air, road and ship transport) and telecommunications terminology. Special focus on independent specialised French for Transportation in Transportation and EU in transportation in CR in 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, Management and Business f communication skills, training of correct written expression of formal character, basic technical vocabulary, cultural specifics of the Second in Transporta	KZ KZ ing of driving licence KZ transport developr ad travelling in mode and travelling in mode and travelling in mode and travelling in travelling in the stages of the increase of the incre	18 2 ce, childre 2 ment durin dern perior 2 nis process 2 al system. 2 skills. 2 h other EU 2 countries. 2 he issues

1-1/205			
15Y2SR	Stylistics and Rhetorics and written expression as a means of human communication. Basic information about speech, articulation, oral and written language	KZ	2
	ing. Language semantics, language syntactic and the pragmatic aspect. Creative thought and its oral and written expression. Practice -	• .	
15Y2TS	Technician and Contemporary Society	KZ	2
	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 F		1
	Internet and in newspapers, what are the sights for, interest in public affairs - a hangover from the past?		
16PDP	Principles of Vehicle Design	ZK	2
Design of transpo	ortation vehicle according to its usage and function. Marketing and user demands. Vehicle dynamics. Propulsion systems. Design pro	cess, functional d	esign and
	vehicle structure. Evaluation of variant concepts. Design phases. Realiability, technological aspects etc.		
16XN1	Master Project 1	Z	2
16XN2	Master Project 2	Z	2
16XN3	Master Project 3	Z	1
16XN4	Master Project 4	Z	8
16XNDP	Master Thesis	KZ	18
16Y2HP	Vehicle Hygiene	KZ	2
Emissions and ergo	nomy of vehicles and the influence on man and nature. National and international law related to the hygiene. Noise and vibrations - s	ources, creation,	propagation
physical values, way	s of measuring, prevention, elimination. Exhausts - creation, measurement, reduction, non-regular fuels and drives. Ergonomy - sitting	, standing, control	, operationa
	reach. Condition - heating, ventilation, air-conditioning, filtration, tiredom.		1
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. N		
construction. Active	e and passive safety parts. Ergonomics, HMI, view out of the vehicle, operational extent, view behind the car. Conditioning tools, sign	aling function. Ae	rodynamics
16\/0\41/	of the car body. Design and artistic design principles. Practical training.	1/7	_ ^
16Y2MK	Quality Methods for Vehicles	KZ	2
auaniy managemer	nt methods list, customer data acquisition and analysis of customer requirements, QFD, DFM, DFA, DFS. FMEA (Failure mode effect (team) design.	anaiysis). Elemen	is oi paraile
16Y2PG	Computer Graphics and Virtual Reality	KZ	2
	n and processing of bitmap and vector 2D graphics, 3D virtual scenes and algorithms used for their computerized processing. Adopting		
•	ware tools for creation and processing of 2D, 3D and interactive graphics, and basics of programming language VRML and graphic li		•
16Y2ST	Special Technologies in Transport and Telecommunications	KZ	2
	special technologies, electric arc and its applications, plasma technologies, dipping, beam technologies, electron beams technology is	· 	_
•	vehicles, laser and laser technologies, soldering, gluing, ultrasound, diffusion, friction and explosion technologies, micro stoves,		Ü
16Y2TT	Transportation and Building Technology and Equipment	KZ	2
Transpartation			· .
rransportation a	nd building technology and equipment.Transport of solid and mass material, soil and rock above all. Highway and underground consi	tructions. Transpo	rt surface
	nd building technology and equipment. Iransport of solid and mass material, soil and rock above all. Highway and underground const n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions		
vehicles, description		s. Terrestrial vehicl	
	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions		
vehicles, description	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations).	s. Terrestrial vehicl	es operation
vehicles, description	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1	s. Terrestrial vehicl	es operation
vehicles, description 17XN1 17XN2	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2	z. Terrestrial vehicl	es operation 2 2
17XN1 17XN2 17XN3	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3	s. Terrestrial vehicl Z Z Z	es operation 2 2 1
17XN1 17XN2 17XN3 17XN4	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4	z. Terrestrial vehicl Z Z Z Z	es operation 2 2 1 8
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis	Z Z Z Z X KZ KZ	2 2 1 8 18 2
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation	Z Z Z Z X KZ KZ	2 2 1 8 18 2
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of principles.	Z Z Z Z Z KZ KZ kZ ublic passenger tr	2 2 1 8 18 2 ansport. 2
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and de	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation narketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of progressing in Urban Mass Transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models	Z Z Z Z KZ KZ wblic passenger tr KZ building and oper	2 2 1 8 18 2 2 ansport. 2 2 ation. Other
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation narketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of progression of the use of marketing in	Z Z Z Z KZ KZ ublic passenger tr KZ building and opers of UMT financing	2 2 1 8 18 2 2 ansport. 2 2 ation. Other g. Transport
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and de	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of progression of the use of marketing in the sphere of progression of the use of marketing in the sphere of progression of the use of marketing in the sphere of progression of the use of marketing in the sphere of progression of the use of marketing in the sphere of progression of the use of marketing in the sphere of progression of the use of marketing in the sphere of progression of the use of marketing in the sphere of progression of public transportation of public transportation of public transportation and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Durt. UMT typology & Durt. UMT t	Z Z Z Z KZ KZ wblic passenger tr KZ building and oper	2 2 1 8 8 18 2 2 ansport. 2 2 ation. Other
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and di UMT types. UMT d	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of properties in transport issues, marketing tools suitable for transportation evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Durban Mass Transportation Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing.	Z Z Z KZ KZ ublic passenger tr KZ building and opers of UMT financing	es operation 2 2 1 8 18 2 ansport. 2 ation. Other g. Transport
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and do UMT types. UMT d	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of provide principles in transport is in the world. Building and operation of public tram, bus, and trolleybus networks. Underground levelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground levelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Dunt UMT. UMT typology & Deptimum financing. Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation	Z Z Z Z KZ KZ ublic passenger tr KZ building and opers of UMT financing	2 2 1 8 8 18 2 2 ansport. 2 ation. Other g. Transport 2
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2MS Introduction to the	Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of progred in small towns. Particularities of investment and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Duty. UMT. UMT typology & Duty. Historic and present models inspection and blind passengers. Tourism & Duty. UMT. UMT typology & Duty. Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concepts.	Z Z Z Z KZ KZ ublic passenger tr KZ building and opers of UMT financin. KZ KZ to the given inf	2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure,
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2MS Introduction to the	Master Project 1 Master Project 2 Master Project 3 Master Thesis Application of Marketing Tools in Transportation arketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of principle in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Dampt Lours (UMT. UMT typology & Dampt Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation model of railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept frastructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability tes	Z Z Z Z KZ KZ ublic passenger tr KZ building and opers of UMT financin. KZ KZ to the given inf	2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure,
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2KI 17Y2MS Introduction to the adaptation of the information of	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of properties in transports in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Description and Telecommunications Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept frastructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability tes of sensitivity of the operational concept to delays.	Z Z Z KZ KZ ublic passenger tr KZ building and oper s of UMT financing KZ KZ type on the given infets and evaluations	2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluation
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2MS Introduction to the adaptation of the inf	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of properties in transports in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Deration and Telecommunications Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept frastructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability tes of sensitivity of the operational concept to delays. Case Studies in Transportation	Z Z Z Z KZ KZ ublic passenger tr KZ building and oper s of UMT financin. KZ KZ KZ KZ KZ KZ KZ KZ KZ KZ KZ KZ KZ	2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluatior
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2MS Introduction to the adaptation of the inf	Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation avelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Amp; UMT. UMT typology & Amp; choice of optimum financing. Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept frastructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability tes of sensitivity of the operational concept to delays. Case Studies in Transportation liscussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infrastructure.	Z Z Z Z KZ KZ ublic passenger tr KZ building and oper s of UMT financing KZ KZ KZ KZ LOW	es operation 2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluatior 2 nts will each
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2MS Introduction to the adaptation of the inf	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of properties in transports in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Deration and Telecommunications Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept frastructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability tes of sensitivity of the operational concept to delays. Case Studies in Transportation	Z Z Z Z KZ KZ ublic passenger tr KZ building and oper s of UMT financing KZ KZ KZ KZ LOW	2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluatior 2 nts will each
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2MS Introduction to the adaptation of the interest of the second presented	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of proper in principles in transport cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Dutt. UMT typology & Department of optimum financing. Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept frastructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability tes of sensitivity of the operational concept to delays. Case Studies in Transportation discussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infrastructure one current and the real issue, which solutions will have to think of each other. Each of them will be represent another role (public a representative interest groups, residents, etc.).	Z Z Z Z KZ KZ ublic passenger tr KZ building and oper s of UMT financing KZ ts and evaluations KZ tre etc. The studer uthorities, investo	2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluatior 2 nts will each rs, carrier
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and do UMT types. UMT d 17Y2MS Introduction to the adaptation of the inf	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of project in small towns. Particularities of investment and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Department of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation of nancing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Department of Individual UMT types. Historic and present models inspection and blind passengers. Tourism & Department of Individual UMT types. Historic and present models inspection and blind passengers. Tourism & Department of Individual UMT types. Historic and present models inspection and blind passengers. Tourism & Department of Individual UMT types. Historic and present models. Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept frastructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability tes of sensitivity of the operational concept to delays. Case Studies in Transportation In concept to delays. Case Studies in Transportation	Z Z Z Z KZ KZ Wblic passenger tr KZ building and opers of UMT financing KZ pt on the given infets and evaluations KZ KZ with the studer withorities, investo	es operation 2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluation 2 tts will each rs, carrier 2
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2MS Introduction to the adaptation of the inf	mand construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of property in the sphere of property in the sphere of programment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Durism	Z Z Z Z KZ KZ Wblic passenger tr KZ building and opers of UMT financing KZ pt on the given infets and evaluations KZ KZ with the studer withorities, investo	es operation 2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluation 2 tts will each rs, carrier 2
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2MS Introduction to the adaptation of the inf	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation narketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of properties of t	Z Z Z Z KZ KZ Wblic passenger tr KZ building and opers of UMT financing KZ pt on the given infets and evaluations KZ KZ with the studer withorities, investo	es operation 2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluation 2 tts will each rs, carrier 2
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and d UMT types. UMT d 17Y2MS Introduction to the adaptation of the interpret of lesson presented 17Y2RZ Theoretical bases,	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of proposed principles in transport issues, marketing tools suitable for transportation sevelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & amp; UMT. UMT typology & amp; choice of optimum financing. Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept and the delays. Case Studies in Transportation liscussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infrastructure one current and the real issue, which solutions will have to think of each other. Each of them will be represent another role (public a representative interest groups, residents, etc.). Control of Transport Processes transport system, decomposition, factors influencing control, quality diagnosis, methods of control, systems for decision making sup telematics.	Z Z Z Z Z KZ KZ Wiblic passenger tr KZ building and opers of UMT financing KZ pt on the given infets and evaluations KZ tre etc. The studer uthorities, investo KZ port, risk of decisions KZ	2 2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluatior 2 ts will each rs, carrier 2 on making, 2
17XN1 17XN2 17XN3 17XN4 17XNA 17XNDP 17Y2AM Application of n 17Y2FM UMT history and de UMT types. UMT d 17Y2KI 17Y2MS Introduction to the adaptation of the interpretation of t	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation narketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of principles in transport issues, marketing and operation of public tram, bus, and trolleybus networks. Underground evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Dumpton of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Dumpton of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Dumpton of Individual UMT types. Historic and present models inspection and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept restructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability terms of sensitivity of the operational concept to delays. Case Studies in Transportation iscussions on the topics - the impact of transport on the environment and the e	Z Z Z Z Z KZ KZ Wollic passenger tr KZ building and opers of UMT financing KZ pt on the given infets and evaluations KZ tre etc. The studer uthorities, investo KZ port, risk of decisions KZ supplements. Ro	2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluation 2 rs, carrier 2 on making, 2 alling stock
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and de UMT types. UMT d 17Y2KI 17Y2MS Introduction to the adaptation of the interpretation of the int	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Project 4 Master Project 5 Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of provided provided provided in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present models inspection and blind passengers. Tourism & Departion and Telecommunications Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept frastructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability terms of sensitivity of the operational concept to delays. Case Studies in Transportation liscussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infrastructure one current and the real issue, which solutions will have to think of each other. Each of them will be represent another role (public a representative interest groups, residents, etc.). Control of Transport Processes transport system, decomposition, factors influencing control, quality diagnosis, methods of control, systems for decision making sup telematics. Network	Z Z Z Z Z KZ KZ Wollic passenger tr KZ building and opers of UMT financing KZ pt on the given infets and evaluations KZ tre etc. The studer uthorities, investo KZ port, risk of decisions KZ supplements. Ro	2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluation 2 rs, carrier 2 on making, 2 alling stock
17XN1 17XN2 17XN3 17XN4 17XNA 17XNDP 17Y2AM Application of n 17Y2FM UMT history and de UMT types. UMT de 17Y2KI 17Y2KI 17Y2MS Introduction to the adaptation of the inference of	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Thesis Application of Marketing Tools in Transportation narketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of property of the state of the	Z Z Z Z Z KZ KZ Wollic passenger tr KZ building and opers of UMT financing KZ pt on the given infets and evaluations KZ tre etc. The studer uthorities, investo KZ port, risk of decisions KZ supplements. Roferight transport. KZ	2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluation 2 nts will each rs, carrier 2 on making, 2 llling stock Network line
17XN1 17XN2 17XN3 17XN4 17XNA 17XNDP 17Y2AM Application of n 17Y2FM UMT history and de UMT types. UMT de 17Y2KI 17Y2KI 17Y2MS Introduction to the adaptation of the inference	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Project 4 Master Project 9 Master Proje	Z Z Z Z Z KZ KZ WSZ WSZ WSZ WSZ WSZ WSZ WSZ WSZ WSZ WS	2 1 1 8 18 2 2 ansport. 2 2 ation. Other g. Transport 2 2 rastructure, s. Evaluation 2 nts will each rs, carrier 2 2 lling stock Network line 2 d evaluation
17XN1 17XN2 17XN3 17XN4 17XNA 17XNDP 17Y2AM Application of n 17Y2FM UMT history and de UMT types. UMT de 17Y2KI 17Y2KI 17Y2MS Introduction to the adaptation of the inference	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Project 4 Master Project 5 Application of Marketing Tools in Transportation arketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of principles in transport issues, marketing tools usuable for transport, case studies of the use of marketing in the sphere of principles in transport issues, marketing principles in transportation are project 4 Master Project 4 Master Project 3 Master Project 4 Master Project 2 Master Project 3 Master Project 4 Master Project 4 Master Project 3 Master Project 3 Master Project 4 Master Project 4 Master Project 4 Master Project 3 Master Project 4 Master Project 4 Master Project 2 Master Project 2 Master Project 2 Master Project 3 Master Project 2 Master Project 2 Master Project 4 Master Project 2 Master Project 2 Master Project 2 Master Project 4 Master Proj	Z Z Z Z Z KZ KZ WSZ WSZ WSZ WSZ WSZ WSZ WSZ WSZ WSZ WS	2 1 1 8 18 2 2 ansport. 2 2 ation. Other g. Transport 2 2 rastructure, s. Evaluation 2 nts will each rs, carrier 2 2 lling stock Network line 2 d evaluation
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and de UMT types. UMT de 17Y2KI 17Y2MS Introduction to the adaptation of the inference of the inferen	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Project 4 Master Project 5 Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of provelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation infinancing of individual UMT types. Historic and present model inspection and blind passengers. Tourism & Damp, UMT. UMT typology & Damp, choice of optimum financing. Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept astructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability tes of sensitivity of the operational concept to delays. Case Studies in Transportation liscussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infrastructure one current and the real issue, which solutions will have to think of each other. Each of them will be represent another role (public a representative interest groups, residents, etc.) Control of Transport Processes transport system, decomposition, factors influencing control, quality diagnosis, methods of control, systems for decision making sup telematics. Network Timetabling on the Railway ss. Capacity allocation, technological intervals in railway operatio	Z Z Z Z Z KZ KZ WSZ WSZ WSZ WSZ WSZ WSZ WSZ WSZ WSZ WS	2 1 1 8 18 2 2 ansport. 2 2 ation. Other g. Transport 2 2 rastructure, s. Evaluation 2 nts will each rs, carrier 2 2 on making, 2 4 2 2 2 2 2 3 2 3 3 3 3 3 3 3 3 3 3 3
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and du UMT types. UMT du 17Y2KI 17Y2KI 17Y2KS Introduction to the adaptation of the information of the infor	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 3 Master Project 4 Master Project 4 Master Project 5 Application of Marketing Tools in Transportation narketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of programment in Prague and other cities in the word. Building and operation of public trans, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation financing of individual UMT types. Historic and present model inspection and blind passengers. Tourism & army; UMT. UMT typology & amp; choice of optimum financing. Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept restructure model and modification to the infrastructure to allow the implementation of the proposed operational concept restructure model and modification to the infrastructure to allow the implementation of the proposed operational concept restructure model and modification to the infrastructure to allow the implementation of the proposed operational concept restructure model and modification with the proposed operational concept to delays. Case Studies in Transportation ilscussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infrastructure to environment and the economy, energy, construction of transport infrastructure to environment and the economy, energy, construction from the representative interest groups, residents, etc.). C	Z Z Z Z Z KZ KZ Wollic passenger tr KZ building and opers of UMT financing KZ pt on the given infests and evaluations KZ pressor the studer uthorities, investo KZ port, risk of decisions KZ supplements. Roferight transport. KZ able designing and observer effects an Z	2 1 1 8 18 2 ansport. 2 2 ation. Other g. Transport 2 2 rastructure, s. Evaluation 2 ation making, 3 ation mak
17XN1 17XN2 17XN3 17XN4 17XNDP 17Y2AM Application of n 17Y2FM UMT history and de UMT types. UMT de 17Y2KI 17Y2KI 17Y2KS Introduction to the adaptation of the inference of the i	n and construction features, delivered mass calculation, economy of operation. Technics and technology of underground constructions management methodology (ultrasound, laser, GPS, total stations). Master Project 1 Master Project 2 Master Project 3 Master Project 4 Master Project 4 Master Project 5 Application of Marketing Tools in Transportation marketing principles in transport issues, marketing tools suitable for transport, case studies of the use of marketing in the sphere of provelopment in Prague and other cities in the world. Building and operation of public tram, bus, and trolleybus networks. Underground evelopment in small towns. Particularities of investment and operation infinancing of individual UMT types. Historic and present model inspection and blind passengers. Tourism & Damp, UMT. UMT typology & Damp, choice of optimum financing. Capital Investment in Transportation and Telecommunications Financial market, investment desicion making - long term goals and investment strategies, long term financing. Microsimulation of Railway Operation characteristics of simulation tools, creation of a simulation model of railway infrastructure, verification of a specific operational concept astructure model and modification to the infrastructure to allow the implementation of the proposed operational concept. Stability tes of sensitivity of the operational concept to delays. Case Studies in Transportation liscussions on the topics - the impact of transport on the environment and the economy, energy, construction of transport infrastructure one current and the real issue, which solutions will have to think of each other. Each of them will be represent another role (public a representative interest groups, residents, etc.) Control of Transport Processes transport system, decomposition, factors influencing control, quality diagnosis, methods of control, systems for decision making sup telematics. Network Timetabling on the Railway ss. Capacity allocation, technological intervals in railway operatio	Z Z Z Z Z KZ KZ Wiblic passenger tr KZ building and opers of UMT financing KZ pt on the given infects and evaluations KZ For the studer of the structure of the	2 1 8 18 2 ansport. 2 ation. Other g. Transport 2 rastructure, s. Evaluation 2 nts will each rs, carrier 2 on making, 2 diling stock Network line 2 d evaluation d preference

Vibration of systems with a fir 18Y2FZ Atomistic models, lattice definition of the systems with a fir 18Y2MP Basic mathematical formulariational principles. Electorial principles and the defects and determination of the defects a	Master Project 4 Master Thesis KZ Dynamics of Transport Routes and Vehicles of more mass systems. Analysis of the forces acting between the vehicle and transport route. Creation of dynamic models of vehicles and trite number of degrees of freedom. Methods of stiffness constants and pliability constants. Fundamentals of vibration of bridges. Criteria for to of oscillation. Experimental methods in dynamics. Physical foundation of materials' properties Physical foundation of materials' properties Exacts influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects of environment and loading behavior are the main discussed topics. Finite Element Method And Its Application KZ Ation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for the basic element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape furisoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods Reliability and Diagnostics, Experimental Methods Reresidual life of structures. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoels optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation	phe admissibility 2 g on materials' 2 ements using nctions and 2 ection of material asticimetry) and 2 traffic accident
18Y2DC Basic theory and calculations Vibration of systems with a fir 18Y2FZ Atomistic models, lattice defination and principles. Ele 18Y2ND The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Pedination of the principle of virtual work and Elastic, elastoplation.	Dynamics of Transport Routes and Vehicles of more mass systems. Analysis of the forces acting between the vehicle and transport route. Creation of dynamic models of vehicles and training the number of degrees of freedom. Methods of stiffness constants and pliability constants. Fundamentals of vibration of bridges. Criteria for the first of the number of degrees of freedom. Methods of stiffness constants and pliability constants. Fundamentals of vibration of bridges. Criteria for the first of the properties of constants. Fundamentals of vibration of bridges. Criteria for the first of the properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects of environment and loading behavior are the main discussed topics. Finite Element Method And Its Application KZ ation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for the basic element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape furile isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods KZ pretical background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the detector of the structures. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoelector optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety KZ Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport.	aransport routes the admissibility 2 g on materials' 2 ements using anctions and 2 ction of material asticimetry) and 2 traffic accident
Basic theory and calculations Vibration of systems with a fir 18Y2FZ Atomistic models, lattice definition and the same and the systems with a fir 18Y2MP Basic mathematical formular variational principles. Elements of the systems of the system	of more mass systems. Analysis of the forces acting between the vehicle and transport route. Creation of dynamic models of vehicles and traite number of degrees of freedom. Methods of stiffness constants and pliability constants. Fundamentals of vibration of bridges. Criteria for the of oscillation. Experimental methods in dynamics. Physical foundation of materials' properties Expects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects of environment and loading behavior are the main discussed topics. Finite Element Method And Its Application KZ Ation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for the basic element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape for isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods Reliability and Diagnostics, Experimental Methods Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	ransport routes he admissibility 2 g on materials' 2 ements using nctions and 2 ction of materia asticimetry) and traffic accident
Atomistic models, lattice definition of systems with a firm 18Y2FZ Atomistic models, lattice definition 18Y2MP Basic mathematical formular variational principles. Electrical 18Y2SD The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Pedin 18Y2VC Principle of virtual work and Elastic, elastoplates.	ite number of degrees of freedom. Methods of stiffness constants and pliability constants. Fundamentals of vibration of bridges. Criteria for to of oscillation. Experimental methods in dynamics. Physical foundation of materials' properties Extended in the properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects of environment and loading behavior are the main discussed topics. Finite Element Method And Its Application Attion of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for the basic element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape furing isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods Reliability and Diagnostics, Experimental Methods Residual life of structures. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoeles optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	phe admissibility 2 g on materials' 2 ements using nctions and 2 ection of material asticimetry) and 2 traffic accident
Atomistic models, lattice definition and principles. Ele 18Y2SD The course is focused on the defects and determination of lay2UB Anatomy of man. Methods of Injuries in road traffic. Pedins 18Y2VC Principle of virtual work and Elastic, elastopla:	Physical foundation of materials' properties ects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects of environment and loadin behavior are the main discussed topics. Finite Element Method And Its Application ation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for the basic element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape furisoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods RZ Directical background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the determination of stiffness matrices for the determination of diagnostic procedures for the determination of stiffness matrices. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoeless optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	g on materials' 2 ements using nctions and 2 ction of materia asticimetry) and
Atomistic models, lattice definition and principles. Ele 18Y2SD The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Peditor 18Y2VC Principle of virtual work and Elastic, elastoplate.	ects influence on properties of materials, stiffness, plasticity, strength, fracture, fatigue, creep, corrosion, effects of environment and loading behavior are the main discussed topics. Finite Element Method And Its Application ation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for the basic element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape furisoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods RZ Diretical background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the determination of stiffness matrices for the determination of stiffness matrices for the determination of stiffness matrices. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoeless optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	g on materials' 2 ements using nctions and 2 ction of materia asticimetry) and
18Y2MP Basic mathematical formu variational principles. Ele 18Y2SD The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	behavior are the main discussed topics. Finite Element Method And Its Application ation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for the basic element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape fur isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods REJ Diagnostic and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the determinated by the determination of the structures. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoeless optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	2 ements using notions and 2 ction of materia asticimetry) and 2 traffic accident
Basic mathematical formu variational principles. Ele 18Y2SD The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	Finite Element Method And Its Application ation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for the basic element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape fur isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods REPROFERM OF STRUCTURES. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoelem optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	ements using nctions and 2 ction of materia asticimetry) and 2 traffic accident
Basic mathematical formu variational principles. Ele 18Y2SD The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	ation of the Finite Element Method. Direct Stiffness Method used in structural mechanics. Evaluation of stiffness matrices for the basic element formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape fur isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods Reliability and Diagnostics, Experimental Methods residual background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the determinated by the determination of stiffness matrices for the determination of diagnostic procedures for the determination of stiffness matrices for the determination of diagnostic procedures for the determination of stiffness matrices for the determination of diagnostic procedures for the determination of stiffness matrices for the determination of diagnostic procedures for the determinatio	ements using nctions and 2 ction of materia asticimetry) and 2 traffic accident
variational principles. Ele 18Y2SD The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	ment formulation (bar and beam elements, CST, LST, quadrilateral, tetrahedral and brick elements). Natural coordinates, natural shape fu isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods retical background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the determinated background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the determinated background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the determination of security of an accident security, photoelast president life of structures. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoelast optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety KZ Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	2 ction of materia asticimetry) and
18Y2SD The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	isoparametric representation. Numerical integration. Introduction to dynamics. FEM programming. Reliability and Diagnostics, Experimental Methods oretical background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the determinated life of structures. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoelar optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	2 ction of materia asticimetry) and 2 traffic accident
The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	Reliability and Diagnostics, Experimental Methods KZ Directical background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the detector residual life of structures. For this purpose, non-destructive methods of experimental mechanics (e.g. strain-gauge measurement, photoelst optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	ction of materia asticimetry) and 2 traffic accident
The course is focused on the defects and determination of 18Y2UB Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	oretical background and practical experience in the field of reliability of constructions, implementation of diagnostic procedures for the deterestical life of structures. For this purpose, non-destructive methods of experimental mechanics (e. g. strain-gauge measurement, photoela optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	ction of materia asticimetry) and 2 traffic accident
18Y2UB Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	optical methods, including electron microscopy, will be used. Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	2 traffic accident
Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	Accident Biomechanics and Safety Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	traffic accident
Anatomy of man. Methods of Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	Medical Diagnostics - RTG, CT, MRI, US. Dynamics of traumatic events. Factors influencing the severity of an accident and the extent of a estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	traffic accident
Injuries in road traffic. Ped 18Y2VC Principle of virtual work and Elastic, elastopla:	estrian injuries. Injury in railway and air traffic accidents. Analysis of biomechanical events in accidents and their computational modeling. treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	
18Y2VC Principle of virtual work and Elastic, elastopla	treatment and rehabilitation. Protective elements and safety measures in transport. Computational Mechanics in Transportation KZ	i ilioipios di
Principle of virtual work and Elastic, elastoplas	Computational Mechanics in Transportation KZ	
Principle of virtual work and Elastic, elastoplas	•	2
	variational principles in FEM. Bar shaped, planar and three - dimensional structures in FEM. FEM in statics and in dynamics of transporta	1
20XN1	stic and viscoelastic material. FEM in problems of biomechanics. Numerical analysis of structural parts with programme ANSYS on instances	ces.
	Master Project 1 Z	2
20XN2	Master Project 2 Z	2
20XN3	Master Project 3 Z	1
20XN4	Master Project 4 Z	8
20XNDP	Master Thesis KZ	18
20Y2PR	Prediction of time series KZ	2
· ·	ediction, meaning of prediction, basics of quantitative prediction. Methods for predictive quality evaluation, descriptive statistics, MAE, MAP	
prediction, prediction for ge	neral formula of loss function. Calculation and programming environment R. Regression models, basics of linear regression, simple regres	sion. Multiple
00)/075	regression, statistical tests of linear dependence, selection of input variables.	
20Y2TE	Technology of Electronic Systems KZ	2 Samisandusta
Filliciple technologies for all	effective operation of electronically controlled systems. Maintaining, meassuring, optimization of safety and reliability of complex systems. technologies, printed circuits, assembly operations, interconnection and repairs technologiesusers and operators.	Serriconductor
20Y2UA	Artificial Neural Networks, Realization and Applications KZ	2
	asic principles. Comparing the structure of a natural and an artificial neuron. Neural classificators, predictors, compresors, expanders and o	
•	unctional blocs and systems. Modelling of neurons. Grossberg's equations. Learning principles. Leyered and Hopfield's nets.	
21AITM	Air Traffic Management KZ	4
	functional blocks. View of ATM data (technical architecture and configuration, transmission systems and networks). Data exchange with ne	
· · · · · · · · · · · · · · · · · · ·	and technical supervision. ATM simulation. ATM conceptions and strategies for next years. EUROCONTROL - CFMU. FAB. ATS's - AOC's da	ta applications
21BLED	Aviation Safety Z,ZK le. Basics of reliability theory. Reliability mathematical tools. Reliability analysis. Maintenance system. Safety and quality theory. Basic con	ents of safety
Reliability and System lifecyt	Managing of safety. Safety management. Safety management strategies. Hazard, risk. Risk management.	septs of salety.
21CNSY	CNS Systems Z,ZK	4
	I informations about CNS (communication, navigation, surveilance) systems used in aviation. Systems are presented in perspective of futur	l l
21ERGP	Ergonomics in Aviation ZK	4
General concept of ergonor	nics. Visual system of a human. Aural system of a human. Information processing system of a human. Environmental influences on human	performance.
	Displays, control elements and design in line with ergonomics. Design of a flight deck in line with ergonomics.	
21KST	Space Technology ZK	3
	teristics. Fundamentals of astrophysics. Kepler's laws. Solar system. Earth's and its atmosphere and outer space. Space transport vehicle	
rocket engines and their stru	cture and operational characteristics. Space crafts and satellites, space flight. Orbital mechanics. Application of space technologies for glo and communication. Space exploration and piloted space flights and missions.	bai navigation
21LCA2	Aviation English 2 Z,ZK	2
21LEN1	Aviation English 1 Z	2
	usiness and marketing. Airports and handling services. Maintenance. Air traffic services. Aviation history. Accident investigation. Human fa	
	s. Development of air services. Low cost airlines. Airline history. Market development. Company management. Airport design. Ecology.	
21LKS	Aircraft Structures Z,ZK	5
	aeronautics. Classification of aircraft. Fundamental parts and systems. Safety, reliability and airworthiness. Limit states of aircraft structure	
	regulations. Load factor. Manoeuvring loads. Manoeuvring envelope of load factor. Gust load. Gust load factor and envelope of gust load	
certification. Aviation	Navigation and Flight Control Systems Z,ZK	5
	Notice that the state of the st	
certification. Aviation	Navigation. Radionavigation. Satellite navigation. Flight management system. Autopilot. FMC. Practical execution of flight.	_
certification. Aviation 21NSR 21PLD	Air Transport Operations Z,ZK	5
certification. Aviation 21NSR 21PLD	Air Transport Operations Z,ZK nce of air transport. Legislation. Airlines. Strategy. Performance in air transport. The cost structure. Fuel management. Cargo. Quality. Aircra	_
certification. Aviation 21NSR 21PLD The mission and the importa	Air Transport Operations Z,ZK nce of air transport. Legislation. Airlines. Strategy. Performance in air transport. The cost structure. Fuel management. Cargo. Quality. Aircra (organization) and the economics of aircraft operations. Ground services. Revenue management. Environment.	aft maintenance
21NSR 21PLD The mission and the importa	Air Transport Operations Z,ZK nce of air transport. Legislation. Airlines. Strategy. Performance in air transport. The cost structure. Fuel management. Cargo. Quality. Aircra	aft maintenance

21PRDP	Software means for thesis elaboration	Z	3
The subject syllab	us is oriented to solving associated problems with master's theses upon request from students, where individual classess will go ther	ough given issues	on specific
examples accor	ding to the needs and questions from students. The subject has flexible form owing to which it is possible to deepen students' knowed	dge of Matlab envi	ronment.
21PSAP	Aircraft and Spacecraft Instrumentation	Z,ZK	4
	rith a theory and description of basic functions, structures and principles of aircraft and spacecraft instrumentation working in a low-free		-
of this course it is po	possible to get knowledge about instrument boards, propulsion parameters measurements, aerometrical systems, and fuselage health mo	nitoring systems. F	urthermore,
24.000	gyroscopic systems and systems for navigation are also covered.	7 71/	4
21SPOL	Aircraft Technology Reliability	Z,ZK	4
=	uition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production and worl are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials and they	-	
Contoral logalitics t	security in The Czech Police Aviation Department.	aro praotical indo	iration of ito
21ULET	, , , , , , , , , , , , , , , , , , , ,	Z,ZK	6
21XN1	Master Project 1	Z	2
21XN2	Master Project 2	Z	2
21XN3	Master Project 3	Z	1
21XN4	Master Project 4	Z	8
21XNDP	Master Thesis	KZ	18
21Y2BS	Unmanned aircraft systems 2 manned aircraft development. Use of unmanned aircraft. Managerial activities related to the operation of unmanned aircraft. Flights bev	KZ	2 Legislation
21Y2LS	Air Traffic Services	KZ	2
	in Czech Republic and other countries. Introduction and description of ATS units in Czech Republic. Practical examples of TWR, APP		
7 mopado di adiare	at USA and Czechoslovakia. ATS - Model of financing. Training Systém of Air Traffic Controllers. Future development of ATS		3.01 y 01 7 11 O
21Y2MK	Marketing of Air Transport	KZ	2
	course "Marketing in air transport" is the management of activities and processes using available marketing tools and processes for a		_
	n of sales of goods and services in the aviation industry. In addition to the theoretical foundations of marketing, the lectures present s	-	· ·
	and product analysis, creation of marketing strategies and planning.		
21Y2MS	Aerospace Engineering Simulation and Modelling	KZ	2
The course is designated	gned as a set of exemplary tasks and problems based on practical aviation issues. The university degree mathematic skills and softw	are applications us	sage will be
necessary for succ	essful figuring out. Both simple tasks, where students create own model themselves (e.g. in Matlab), and more complicated problems	where professiona	l developed
	tools will be applied.		
21Y2PL	Operational Aspects of Aerodromes	KZ	2
Operational aspec	ts of aerodromes. Location of aerodrome and orientation of runways. Requirements for apron. Capacity of airports runways and term	· ·	naer winter
21Y2PP	conditions. Firefighting units. Protection against unlawful interference. Local transport connection. Environmental protection	KZ	2
	Law and Operation in Air Transport iation law. International conventions on civil aviation. International organisations and including of the Czech Republic in these organis		_
•	on of state administration and state supervision in matters of civil aviation, in accordance with Act No. 49/1997 Col. Facilitation. Respire	_	
	passengers, luggage and cargo. The safe transport of dangerous goods.		
21Y2TL	Development Trends of Aircraft Construction	KZ	2
	Historical and nowadays trends. Future scenarios. Space industry. Economy.	'	
21Y2VA	Selected Chapters of Aerodynamics	KZ	2
	of real gases, atmosphere, aeronautical applications of external and internal aerodynamics, compressible internal flow, inlet nozzles are		-
external flow, supe	rcritical wings and profiles, vertical and oblique shock wave, energy losses, aeronautical aerodynamic profiles of wings, propellers, bl	ades gratings, lift,	drag, polar,
	viscosity, laminar and turbulent flow, boundary layer.		
22SLN	Air Traffic Accident Investigation	KZ	2
Specification of fore	ensic expertise. Rregulations and establishments for exceptional events in air traffic. Analysis of air traffic accidents (cause investigatio Air traffic accidents prevention. Exceptional aviation event report. Analysis of particular accidents in air traffic.	n, time course, nu	man factor).
22XN1		Z	2
	Master Project 1		2
22XN2	Master Project 2	Z	2
22XN3	Master Project 3	Z	1
22XN4	Master Project 4	Z	8
22XNDP	Master Thesis	KZ	18
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 tests even vehicle passangers, pedestrian, traffic accident simulation and analysis.	aluation, single-tra	ck vehicle,
22CCT		V7	4
23SCT	Airport Security n terms of security, design, standards and conventions, forms of risk in general, the analysis and management of risk in the ground sec	KZ	4 Nans mode
="	dentification and security systems, radar systems and their role in security operations, scanning systems, X-rays and microwave scan		
,,	security services at the airport, the technology used to ensure the security.		
23XN1	Master Project 1	Z	2
23XN2	Master Project 2	Z	2
23XN3	Master Project 3	 Z	_ 1
23XN4	Master Project 4	Z	8
23XNDP	Master Thesis	KZ	18
23Y2BP	Security Class	KZ	2
_	ent topics include data management, data and text mining applications, terrorism informatics, deception and intent detection, terrorist		
	analysis, crime analysis, cyber-infrastructure protection, transportation infrastructure security, and information assurance, among		
23Y2FB	Physics for Security Branches	KZ	2
	sics of substances and phenomena at extreme conditions. Grounds of rheology. Physics of Earth's interior. Geophysics. Physics of at		
	dengineering branches directed to safety.		

23Y2VR	Cope with Risks in Engineering Branches	KZ	2	
Types of engineering branches directed to risks, procedures used in risk engineering, ensuring the secured systems, ensuring the safe systems, ensuring the safe systems of systems.				
23Y2VZ	Leadership and Human Resource Development	KZ	2	
Introduction to the	Introduction to the study of human resources, human resources management, corporate goals, strategies, cultural and ethical aspects. Team management, communication in teams,			
	strategy and planning in human resources, ethics and corporate culture, cross-cultural differences. The labor code. Introduction into protocols.			
23Y2ZM	Intelligence Means and Methods	KZ	2	
History and the present of intelligence services and their role in the modern world. How intelligence services handle with information. Methods and procedures of collecting and evaluating				
information. Means of intelligence services. Internal and external intelligence, military intelligence. The means and methods of state security services. Cooperation among Intelligence				
services within NATO, EU. The organization of the intelligence services.				

For updated information see http://bilakniha.cvut.cz/en/FF.html Generated: day 2024-03-28, time 20:09.