Recomended pass through the study plan

Name of the pass: Bachelor Full-Time TET-ITS from 2025/26

Faculty/Institute/Others:

Department:

Pass through the study plan: Bachelor TET-ITS Full-Time from 2025/26

Branch of study guranteed by the department: Welcome page

Guarantor of the study branch:

Program of study: Technology in Transportation and Telecommunications

Type of study: Bachelor full-time

Note on the pass:

Coding of roles of courses and groups of courses:

P - compulsory courses of the program, PO - compulsory courses of the branch, Z - compulsory courses, S - compulsory elective courses, PV - compulsory elective courses, F - elective specialized courses, V - elective courses, T - physical training courses

Coding of ways of completion of courses (KZ/Z/ZK) and coding of semesters (Z/L):

KZ - graded assesment, Z - assesment, ZK - examination, L - summer semester, Z - winter semester

Number of semester: 1

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
14ASD	Algorithm and Data Structures Tomáš Brandejský, Michal Jeřábek, Alena Kubáčová, Jan Procházka, Vít Fábera, Martin Fiala, Lukáš Svoboda, Tereza Panská Vít Fábera Vít Fábera (Gar.)	KZ	3	0P+2C+8E	3 Z	Z
11CAL1	Calculus 1 Tomáš Třasák, Olga Vraštilová, Magdalena Hykšová, Bohumil Kovář, Ondřej Navrátil Bohumil Kovář Ondřej Navrátil (Gar.)	Z,ZK	7	2P+4C+22E	B Z	Z
11GIE	Geometry Oldřich Hykš, Pavel Provinský, Šárka Voráčová Oldřich Hykš Oldřich Hykš (Gar.)	KZ	3	2P+2C+12E	B Z	Z
11LA	Linear Algebra Magdalena Hykšová, Pavel Provinský, Lucie Kárná, Martina Bečvářová Magdalena Hykšová Martina Bečvářová (Gar.)	Z,ZK	3	2P+1C+10E	B Z	Z
18MTY	Materials Science and Engineering Tomáš Doktor, Jaromír Kylar, Veronika Drechslerová, Nela Krčmářová, Jitka Řezníčková, Jaroslav Valach, Vít Malinovský, Jaromír Kylar Jaroslav Valach Tomáš Doktor (Gar.)	Z,ZK	3	2P+1C+10E	3 Z	Z
18TKK	Technical Drawing and Designing Lukáš Svoboda, Jitka Řezníčková, Vít Malinovský, Jan Šleichrt, Martin Brumovský, Jan Mejstřík, Drahomír Schmidt, Jan Vogl, Jiří Zeisek, Jan Šleichrt Jan Šleichrt (Gar.)	KZ	4	2P+2C+16E	3 Z	Z
TV-1	Physical Education	Z	1		Z	Z
16UDOP	Introduction into Vehicles Zuzana Radová, Petr Bouchner	Z	2	2P+0C+8E	B Z	Z
12ZADY	Introduction to Transportation Engineering Zuzana Čarská, Dagmar Kočárková, Jana Štikarová Dagmar Kočárková (Gar.)	Z,ZK	4	2P+2C	Z	Z
18STD	Seminary from Technical Documentation	Z	0	0P+2C	Z	٧
TVKZV	Physical Education Course	Z	0	7dní	Z	V

Number of semester: 2

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
11CAL2	Calculus 2 Magdalena Hykšová	Z,ZK	5	2P+3C+20E	B L	Z
14PRG	Programming Jana Kaliková	KZ	2	0P+2C+8E	L	Z
18SAT	Structural Analysis	Z,ZK	4	2P+2C+14E	B L	Z
11STAT	Statistics Pavla Pecherková	Z,ZK	4	2P+2C+12E	B L	Z
20SYSA	Systems Analysis	Z,ZK	5	2P+2C+14E	B L	Z
17TEDL	Transport Technology and Logistics	KZ	3	2P+1C	L	Z

TV-2	Physical Education	Z	1		L	Z
21ZALD	Basics of Air Transport	KZ	2	0P+2C+8B	L	Z
12ZTS	Railway Lines and Stations	Z,ZK	4	2P+2C+10B	L	Z
14DZT	Digital Support for Railway Lines Martin Brumovský	Z	0	0P+2C	L	V
21SLD	Seminar of Air Transport	Z	0	0P+2C	L	V
18SS	Seminary from Structural Analysis	Z	0	0P+2C	L	V
11SSF	Secondary School Physics Course Zuzana Malá	Z	0	0P+2C	L	V
TVKLV	Physical Education Course	Z	0	7dní	L	V

Number of semester: 3

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
15JZ1A	Foreign Language - English 1 Markéta Vojanová, Dana Boušová, Marie Michlová, Marek Tomeček, Jan Feit, Markéta Musilová, Peter Morpuss, Jitka Heřmanová, Eva Rezlerová Lenka Monková (Gar.)	Z	3	0P+4C+10E	3 Z	Z
14DATS	Database Systems Jan Krčál, Jana Kaliková Jana Kaliková (Gar.)	KZ	2	1P+1C+10E	3 Z	Z
11FYZ	Physics Oldřich Hykš, Pavel Demo, Zuzana Malá, Tomáš Vítů, Jana Kuklová Jana Kuklová Pavel Demo (Gar.)	Z,ZK	5	2P+2C+18E	B Z	Z
12MDE	Transport Models and Transport Excesses Tomáš Padělek, Josef Kocourek	Z,ZK	3	2P+1C+8E	Z	Z
12PPOK	Designing Roads, Highways and Motorways Tomáš Padělek, Josef Kocourek, Petr Kumpošt Josef Kocourek (Gar.)	KZ	3	1P+2C+10E	B Z	Z
18PZP	Elasticity and Strength Tomáš Doktor, Jitka Řezničková, Jan Šleichrt, Josef Jíra, Jan Vyčichl, Daniel Kytýř, Ondřej Jiroušek Ondřej Jiroušek (Gar.)	Z,ZK	3	2P+1C+10E	3 Z	Z
11TGA	Graph Theory and its Applications in Transport Alena Rybičková, Denisa Mocková, Dušan Teichmann Alena Rybičková Alena Rybičková (Gar.)	Z,ZK	4	2P+2C+12E	B Z	Z
20UITS	Introduction to Intelligent Transport Systems Martin Šrotýř, Martin Langr, Jiří Růžička, Patrik Horažďovský, Vladimír Faltus, Pavel Hrubeš, Kristýna Navrátilová, Eva Hajčiarová Martin Langr	Z,ZK	7	3P+2C+20E	B Z	Z
14DPK	Digital Support for Designing of Roads and Highways Drahomír Schmidt, Libor Žídek Drahomír Schmidt Drahomír Schmidt (Gar.)	Z	0	0P+2C	Z	V
11SCFZ	Seminar of Physics Oldřich Hykš, Zuzana Malá, Tomáš Vítů, Jana Kuklová Zuzana Malá Zuzana Malá (Gar.)	Z	0	0P+2C	Z	V
18SPP	Seminary from Elasticity and Strength Tomáš Doktor, Jan Vyčichl Jan Vyčichl Jan Vyčichl (Gar.)	Z	0	0P+2C	Z	V

Number of semester: 4

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
14AM	Automation and Measurement Vít Fábera	Z,ZK	6	3P+3C	L	Z
15JZ2A	Foreign Language - English 2 Marek Tomeček (Gar.)	Z,ZK	3	0P+4C+10B	L	Z
16DOTE	Transport Technology Josef Mík	Z,ZK	6	3P+3C	L	Z
11MAMY	Mathematical Methods Jan Přikryl	Z,ZK	7	3P+3C	L	Z
11SEMO	Seminar of Electromagnetic Field and Optics Zuzana Malá	Z	0	0P+2C	L	ZP
X1-BP-ITS-22/23	Projekty Bc. prezenční TET-ITS od 2022/23 15X31S,14X31S, (see the list of groups below)	Min. cours. 3 Max. cours. 3	Min/Max 6/6			ZP
4S-BP-ITS-V1-22/23	4. sem. Bc. prezenční TET-ITS výběr předmětu od 2022/23 11EMO,20ZEKT	Min. cours. 1 Max. cours.	Min/Max 4/4			Z

		1			
		Min. cours.			
Y1-BP-ITS-24/25	PVP-B Bc. prezenční TET-ITS od 2024/25	3	Min/Max		D) /
11-DF-113-24/25	21Y1AM,00Y1XB, (see the list of groups below)	Max. cours.	6/6		PV
		3			

Number of semester: 5

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
20ELKA	Qualification in Electrical Engineering Daniel Beránek, Jindřich Sadil Daniel Beránek	KZ	2	2P+0C	Z	Z
14ISYD	Information Systems in Transportation Jan Krčál, Jana Kaliková, Marek Kalika Marek Kalika Marek Kalika (Gar.)	Z,ZK	7	2P+4C	Z	Z
20RIZE	Railway Traffic Management Martin Leso, Jindřich Sadil, Dušan Kamenický, Petr Koutecký Dušan Kamenický	Z,ZK	7	3P+3C	Z	ZP
20TAMS	Telecommunications and Local Area Networks Martin Šrotýř, Zdeněk Lokaj, Tomáš Zelinka Tomáš Zelinka (Gar.)	Z,ZK	7	3P+3C	Z	Z
X1-BP-ITS-22/23	Projekty Bc. prezenční TET-ITS od 2022/23 15X31S,14X31S, (see the list of groups below)	Min. cours. 3 Max. cours. 3	Min/Max 6/6			ZP
JZ-BP-TET-22/23	Bc. TET (mimo LED) druhý jazyk od 2022/23 15JZ3F,15JZ3I, (see the list of groups below)	Min. cours. 2 Max. cours. 2	Min/Max 6/6			J
Y1-BP-ITS-24/25	PVP-B Bc. prezenční TET-ITS od 2024/25 21Y1AM,00Y1XB, (see the list of groups below)	Min. cours. 3 Max. cours. 3	Min/Max 6/6			PV

Number of semester: 6

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
20APEL	Applied Electronics	KZ	2	0P+2C	L	Z
20ATEL	Applied Telematics	Z,ZK	7	3P+3C	L	Z
20RISI	Road Traffic Control	Z,ZK	7	3P+3C	L	ZP
16SVIR	Vehicle Systems and Interaction with Driver	Z,ZK	7	3P+3C	L	Z
X1-BP-ITS-22/23	Projekty Bc. prezenční TET-ITS od 2022/23 15X31S,14X31S, (see the list of groups below)	Min. cours. 3 Max. cours. 3	Min/Max 6/6			ZP
JZ-BP-TET-22/23	Bc. TET (mimo LED) druhý jazyk od 2022/23 15JZ3F,15JZ3I, (see the list of groups below)	Min. cours. 2 Max. cours. 2	Min/Max 6/6			J
Y1-BP-ITS-24/25	PVP-B Bc. prezenční TET-ITS od 2024/25 21Y1AM,00Y1XB, (see the list of groups below)	Min. cours. 3 Max. cours. 3	Min/Max 6/6			PV

List of groups of courses of this pass with the complete content of members of individual groups

Kód		group (for specificat	of courses a tion see here	nd codes of members of the or below the list of course	is s) Con	pletion	Credits	Scope	Semester	Role
4S-BP-IT	S-V1-22/23	4. sem. Bc. prezen	ční TET-ITS v	výběr předmětu od 2022/23		cours. 1 cours. 1 1	Min/Ma 4/4	x		z
11EMO	Electromag	gnetic Field and Optics	20ZEKT	Fundamentals of Electrical Engi	1	<u> </u>				
JZ-BP-1	TET-22/23	Bc. TET (mi	mo LED) dru	hý jazyk od 2022/23		cours. 2 cours. 2	Min/Ma 6/6	x		J
I5JZ3F		nguage - French 3	15JZ3I	Foreign Language - Italian 3	'	15JZ3N	F	oreign Langı	uage - German	3
5JZ3R		nguage - Russian 3	15JZ3S	Foreign Language - Spanish 3		15JZ4F			uage - French 4	
5JZ4I 5JZ4S		nguage - Italian 4 nguage - Spanish 4	15JZ4N	Foreign Language - German 4		15JZ4R		oreign Langi	uage - Russian	4
	ITS-22/23		c. prezenční	TET-ITS od 2022/23		cours. 3 cours.	Min/Ma 6/6	x		ZP
15X31S	Project 1 IT	re	14X31S	Project 1 ITS		12X31S		Project 1 ITS		
1X31S	Project 1 II		22X31S	Project 1 ITS		17X31S		Project 1 ITS		
8X31S	Project 1 II		20X31S	Project 1 ITS		21X31S		Project 1 ITS		
6X31S	Project 1 I7	ΓS	15X32S	Project 2 ITS		14X32S	F	Project 2 ITS		
2X32S	Project 2 IT	ΓS	11X32S	Project 2 ITS		16X32S	F	Project 2 ITS		
2X32S	Project 2 IT		21X32S	Project 2 ITS		20X32S		Project 2 ITS		
8X32S	Project 2 IT	rs	17X32S	Project 2 ITS		11X33S		Project 3 ITS		
	D :		1.11/1000	D : : 0.1TO				Project 3 ITS		
	Project 3 IT		14X33S	Project 3 ITS		15X33S				
2X33S 22X33S 7X33S	Project 3 I7 Project 3 I7 Project 3 I7	rs	14X33S 20X33S 16X33S	Project 3 ITS Project 3 ITS Project 3 ITS	Min	18X33S 21X33S . cours.	F	Project 3 ITS Project 3 ITS		
22X33S 7X33S	Project 3 IT	rs rs	20X33S 16X33S	Project 3 ITS		18X33S 21X33S . cours. 3 . cours.	F	Project 3 ITS Project 3 ITS		PV
22X33S 7X33S Y1-BP-	Project 3 ITS-24/25	rs rs PVP-B Bc	20X33S 16X33S	Project 3 ITS Project 3 ITS Project 3 ITS FT-ITS od 2024/25	Max	18X33S 21X33S . cours. 3 . cours. 3	Min/Ma 6/6	Project 3 ITS Project 3 ITS X	rms of Transpo	
2X33S 7X33S Y1-BP- I	Project 3 IT Project 3 IT ITS-24/25 Aeronautic	rs PVP-B Bc al Information Managem	20X33S 16X33S	Project 3 ITS Project 3 ITS	Max	18X33S 21X33S . cours. 3 . cours.	Min/Ma 6/6	Project 3 ITS Project 3 ITS X	rms of Transpor	
2X33S 7X33S Y1-BP- I 1Y1AM 8Y1AM	Project 3 IT Project 3 IT ITS-24/25 Aeronautic	PVP-B Bc al Information Managem Mobility and Safety of	20X33S 16X33S . prezenční T	Project 3 ITS Project 3 ITS Project 3 ITS FET-ITS od 2024/25 Active participation in a scient	Max	18X33S 21X33S . cours. 3 . cours. 3	Min/Ma 6/6	Project 3 ITS Project 3 ITS X Alternative Fo	<u> </u>	rtat
2X33S 7X33S Y1-BP- I 1Y1AM 8Y1AM 0Y1AE	Project 3 IT Project 3 IT ITS-24/25 Aeronautic Anatomy, N Applied Ele	PVP-B Bc al Information Managem Mobility and Safety of	20X33S 16X33S . prezenční T	Project 3 ITS Project 3 ITS Project 3 ITS ET-ITS od 2024/25 Active participation in a scient Animation and Visualization	Max	18X33S 21X33S . cours. 3 . cours. 3 20Y1AF 12Y1AE	Min/Ma 6/6	Project 3 ITS Project 3 ITS X Alternative Fo	gy and Health Prote	rtat
2X33S 7X33S Y1-BP- I 1Y1AM 8Y1AM 0Y1AE 1Y1BK 5Y1DZ	Project 3 IT Project 3 IT ITS-24/25 Aeronautic Anatomy, N Applied Ele Error Detect History of F	PVP-B Bc al Information Managem Mobility and Safety of ectronics ction Codes for Interl Railway	20X33S 16X33S . prezenční T 00Y1XB 14Y1AV 14Y1BE 21Y1BS 12Y1DS	Project 3 ITS Project 3 ITS Project 3 ITS FET-ITS od 2024/25 Active participation in a scient Animation and Visualization Barrierless Transport Unmanned aircraft systems 1 Project Documentation in Practic	Max	18X33S 21X33S . cours. 3 . cours. 3 20Y1AF 12Y1AE 15Y1BO 14Y1BM 20Y1EK	Min/Ma 6/6	Project 3 ITS Project 3 ITS Alternative For Applied Ecolo Work Safety & Biometric Met	gy and Health Prote	rtat ectio
2X33S 7X33S Y1-BP-I 1Y1AM 8Y1AM 0Y1AE 1Y1BK 5Y1DZ 6Y1EN	Project 3 IT Project 3 IT Project 3 IT ITS-24/25 Aeronautic Anatomy, N Applied Ele Error Detect History of F Energy Rec	PVP-B Bc al Information Managem Mobility and Safety of ectronics ction Codes for Interl Railway quirements of Vehicles	20X33S 16X33S . prezenční T 00Y1XB 14Y1AV 14Y1BE 21Y1BS 12Y1DS 20Y1EA	Project 3 ITS Project 3 ITS Project 3 ITS FET-ITS od 2024/25 Active participation in a scient Animation and Visualization Barrierless Transport Unmanned aircraft systems 1 Project Documentation in Practic Environmental Aspects of Trans	Max	18X33S 21X33S . cours. 3 . cours. 3 20Y1AF 12Y1AE 15Y1BO 14Y1BM 20Y1EK 15Y1EH	Min/Ma 6/6	Project 3 ITS Project 3 ITS Alternative For Applied Ecolo Work Safety a Biometric Met Qualification i European Inter	gy and Health Prote hods n Electrical Engegration within H	rtat ectio
2X33S 7X33S Y1-BP-I 1Y1AM 8Y1AM 0Y1AE 1Y1BK 5Y1DZ 6Y1EN 8Y1EM	Project 3 IT Project 3 IT Project 3 IT ITS-24/25 Aeronautic Anatomy, N Applied Ele Error Detect History of F Energy Rec Experiment	PVP-B Bc al Information Managem Mobility and Safety of ectronics ction Codes for Interl Railway quirements of Vehicles tal Methods in Mechanic	20X33S 16X33S . prezenční T 00Y1XB 14Y1AV 14Y1BE 21Y1BS 12Y1DS 20Y1EA 15Y1FD	Project 3 ITS Project 3 ITS Project 3 ITS FET-ITS od 2024/25 Active participation in a scient Animation and Visualization Barrierless Transport Unmanned aircraft systems 1 Project Documentation in Practic Environmental Aspects of Transport French Area Studies and Transp	Max	18X33S 21X33S 21X33S . cours. 3 20Y1AF 12Y1AE 15Y1BO 14Y1BM 20Y1EK 15Y1EH 14Y1HW	Min/Ma 6/6	Project 3 ITS Project 3 ITS Alternative Fo Applied Ecolo Work Safety a Biometric Met Qualification i European Inte Computer Hai	gy and Health Prote hods n Electrical Engegration within H	rtat ectio
2X33S 7X33S Y1-BP-I 1Y1AM 8Y1AM 0Y1AE 1Y1BK 5Y1DZ 6Y1EN 8Y1EM 5Y1HL	Project 3 IT Project 3 IT Project 3 IT ITS-24/25 Aeronautic Anatomy, N Applied Ele Error Detect History of F Energy Rec Experimen History of O	PVP-B Bc al Information Managem Mobility and Safety of ectronics ction Codes for Interl Railway quirements of Vehicles tal Methods in Mechanic Civil Aviation	20X33S 16X33S 16X33S . prezenční T 00Y1XB 14Y1AV 14Y1BE 21Y1BS 12Y1DS 20Y1EA 15Y1FD 15Y1HD	Project 3 ITS Project 3 ITS Project 3 ITS FET-ITS od 2024/25 Active participation in a scient Animation and Visualization Barrierless Transport Unmanned aircraft systems 1 Project Documentation in Practic Environmental Aspects of Transport History of City Mass Transport	Max	18X33S 21X33S 21X33S . COURS. 3 20Y1AF 12Y1AE 15Y1BO 14Y1BM 20Y1EK 15Y1EH 14Y1HW 12Y1HD	Min/Ma 6/6	Project 3 ITS Project 3 ITS Alternative For Applied Ecolo Work Safety a Biometric Met Qualification in European Interpretation of Computer Hairraffic Noise	gy and Health Prote hods n Electrical Eng egration within H	rtat ectio
2X33S 7X33S Y1-BP-I 1Y1AM 8Y1AM 0Y1AE 1Y1BK 5Y1DZ 6Y1EN 8Y1EM 5Y1HL 5Y1HE	Project 3 IT Project 3 IT Project 3 IT ITS-24/25 Aeronautic Anatomy, M Applied Ele Error Detect History of F Energy Rec Experiment History of C Work Hygic	PVP-B Bc al Information Managem Mobility and Safety of ectronics ction Codes for Interl Railway quirements of Vehicles tal Methods in Mechanic Civil Aviation ene and Ergonomics in T	20X33S 16X33S 16X33S . prezenční T 00Y1XB 14Y1AV 14Y1BE 21Y1BS 12Y1DS 20Y1EA 15Y1FD 15Y1HD 16Y1IS	Project 3 ITS Project 3 ITS Project 3 ITS Project 3 ITS FET-ITS od 2024/25 Active participation in a scient Animation and Visualization Barrierless Transport Unmanned aircraft systems 1 Project Documentation in Practic Environmental Aspects of Transp French Area Studies and Transp History of City Mass Transport Interactive simulators and simul	Max	18X33S 21X33S 21X33S . COURS. 3 20Y1AF 12Y1AE 15Y1BO 14Y1BM 20Y1EK 15Y1EH 14Y1HW 12Y1HD 12Y1KN	Min/Ma 6/6	Project 3 ITS Project 3 ITS Alternative For Applied Ecolo Work Safety a Biometric Met Qualification in European Interpretation of Traffic Noise Combined Traffic Noise	gy and Health Prote shods n Electrical Eng egration within F rdware	rtat ectio gi Hist
2X33S 7X33S 7X1-BP-I 1Y1-AM 8Y1-AM 0Y1-AE 1Y1-BK 5Y1-DZ 6Y1-EN 8Y1-EM 5Y1-HL 5Y1-HE 2Y1-KP	Project 3 IT Project 3 IT Project 3 IT ITS-24/25 Aeronautic Anatomy, M Applied Ele Error Detect History of F Energy Rec Experiment History of C Work Hygic	PVP-B Bc al Information Managem Mobility and Safety of ectronics ction Codes for Interl Railway quirements of Vehicles tal Methods in Mechanic Civil Aviation ene and Ergonomics in T ation and Promotion of T	20X33S 16X33S 16X33S . prezenční T 00Y1XB 14Y1AV 14Y1BE 21Y1BS 12Y1DS 20Y1EA 15Y1FD 15Y1HD	Project 3 ITS Project 3 ITS Project 3 ITS FET-ITS od 2024/25 Active participation in a scient Animation and Visualization Barrierless Transport Unmanned aircraft systems 1 Project Documentation in Practic Environmental Aspects of Transport History of City Mass Transport	Max	18X33S 21X33S 21X33S . COURS. 3 20Y1AF 12Y1AE 15Y1BO 14Y1BM 20Y1EK 15Y1EH 14Y1HW 12Y1HD	Min/Ma 6/6	Project 3 ITS Project 3 ITS Alternative For Applied Ecolo Work Safety a Biometric Met Qualification in European Interpretation of Traffic Noise Combined Traffic Noise	gy und Health Prote shods n Electrical Eng egration within F rdware unsportation Radio and Fligh	rtat ectio gi Hist
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14Y1ZJ	Fundamentals of programming in J	12Y1ZU	Principles of Urbanism	15Y1ZV	East-West dichotomy: Prelude to
16Y1ZL	Vehicle Testing, Legislation and				

List of courses of this pass:

Code	Name of the course	Completion	Credits
00Y1XB	Active participation in a scientific project, workshop, short-term trip abroad	KZ	2
11CAL1	Calculus 1	Z,ZK	7
	numbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton integral, Newton integral, Newton integral, Newton integral. First-order differential equations, linear differential equations.	1 '	ral, imprope
11CAL2	Calculus 2	Z,ZK	5
Line	ar differential equations and their systems, differential calculus of functions of several real variables. Riemann integral in Rn. Line and	surface integrals.	
11EMO	Electromagnetic Field and Optics Electric field. Electric current. Magnetic field. Electromagnetic field. Optics. Basics of solid-state physics.	Z,ZK	4
11FYZ	Physics Kinematics, dynamics, Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and ele	Z,ZK ctric current.	5
11GIE	Geometry	KZ	3
Differential geom	etry of curves - parameterization, the arc of the curve, torsion and curvature, Frenet's trihedron. Kinematics - a curve as a trajectory acceleration of a particle moving on a curved path.	of the motion, the v	elocity, and
11LA	Linear Algebra	Z,ZK	3
	ear combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and the their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classifications.	eir solvability. Deter	
	Mathematical Methods odeling. The system and its mathematical description. Types of signals. Basic system responses. Convolution. State models. Principle. Data measurement. Uncertainty in measured data. Data normalization. Preparation of data for further processing. Linear state models condition estimation. Statistical learning methods. Regression, classification.	-	-
11SCFZ	Seminar of Physics Solving problems on kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermore	Z dynamics	0
11SEMO	Seminar of Electromagnetic Field and Optics Solving problems on electric and magnetic field, electromagnetic field, optics and basics of solid-state physics.	Z	0
11SSF	Secondary School Physics Course Basics of kinematics, dynamics, thermodynamics, electric field and magnetic field.	Z	0
11STAT	Statistics	Z,ZK	4
	Citation illity Descriptive statistics Population and sample, limit theorem Point estimate, construction and properties Interval estimates Paramo Regression and correlation analysis		1 -
11TGA	Graph Theory and its Applications in Transport	Z,ZK	4
	of graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in	1	iplines.
11X31S	Project 1 ITS	Z	2
11X32S	Project 2 ITS	Z	2
11X33S	Project 3 ITS	Z	2
11Y1BK	Error Detection Codes for Interlocking Systems	KZ	2
Safe communicat	on and methods for its assuring. Safety codes linear codes, cyclic codes, BCH codes, Reed-Solomon codes. Transmission channels, open probability of undetected error. Design and assessment of detection codes; requirements of the European standard EN 50		ssion errors
11Y1PV	Parametrical and Multicriterial Programming	KZ	2
	blem of linear programming with a parameter in objective function, on right sides and in the matrix of coeficients of linear constraints. C		
11Y1SI Basic concepts of	Transportation Software Engineering software engineering, ranging from domain analysis, requirement analysis and software architectures to analyses, design and implement and practical usuage.	KZ entation using forma	2 I technique
11Y1TG	Graph Theory	KZ	2
Basic concepts a	nd terminology of graph theory, graph representation. Problems of graph theory, problem instance. Graph search algorithms, trees, merian path, bipartite graph matching, flow networks, circulations, critical path method, traveling salesman problem. Problem of existence for their solving. Computational complexity, dealing with NP-complete problems, heuristic approach.	inimum spanning tr	ee, shortes
11Y1ZM	Foundation of MATLAB Programming	KZ	2
	nciple of algorithmization, flow charts, description of MATLAB environment and its settings, MATLAB help, mathematical operators, mathematical operato		
	Transport Models and Transport Excesses traffic flow and methods for their measurement. Models of the traffic flow, communications load, line and urban systems. Theory of communications load, line and urban systems.	•	=
	assessment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the conseq safety and fluency.		
12PPOK	Designing Roads, Highways and Motorways	KZ	3
= =	, ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standar or stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safe intersections.	-	
10V01C		7	
12X31S	Project 1 ITS	Z	2

107000	Dissipat 0 ITC	7	
12X32S 12X33S	Project 2 ITS Project 3 ITS	Z	2
12X33S 12Y1AE	·	KZ	2
	Applied Ecology ecological concepts and principles, ecosystem, ecological factors, energy flow through the ecosystem. Application of knowledge with	1	_
	cape ecology - origin and historical development. Landscape definition and classification. Success. Traffic constructions in the country protection. Applied ecology.		-
12Y1C1	Designing Roads in Civil 3D I	KZ	2
The course is de	voted to the traffic buildings design field, specifically the design of roads as such, by the means of a 3D software. Students go through	h the complete de	sign of this
particular linear b	ouilding, from the initial situation, over the longitudinal section, to the model and work sections and the cubic capacity calculation. The explanation of the traffic building design in the real-life profession.	e course also inclu	des a basio
12Y1C2	Designing Roads in Civil 3D II	KZ	2
	woted to the traffic buildings design field, specifically the design of roads as such, by the means of a 3D software. Students go through building, from the initial situation, over the longitudinal section, to the model and work sections and the cubic capacity calculation. The improved and developed. Students learn to design intersections.	•	-
12Y1DS	Project Documentation in Practice	KZ	2
	tation creating. Project documentation types. Support materials for project documentation creating. Building permit obtaining process creation of some project documentation parts.	1	1
12Y1HD	Traffic Noise	KZ	2
Acoustic introducti	ion, basic terms, quantities. Basics of physiological acoustic, noise impacts on human body. Acoustic legislation, standarts, regulation	ns. Creation acous	tic climate
area, principles	s of urban acoustic, noise transmission, soundproofing. Types of noise sources in area. Determination of acoustic situation in the area computing and measurement of transport noise. Acoustic studies, measuring protocol.	of interest. Metho	dology of
12Y1KN	Combined Transportation	KZ	2
	port strategy and legislation. Load units. Means of transport in combined transport. Combined transport systems. Transshipping areas		
12Y1KP	Communication and Promotion of Transport Projects	KZ	2
	Public Relations and the power of public opinion. Work and tasks of PR department and press spokesperson. Communication with transfer of public opinion. Work and tasks of PR department and press spokesperson. Communication with transfer of public opinion. Work and tasks of PR department and press spokesperson. Communication with transfer of public opinion.	•	
networks and bey	yond. Communication strategy of transport projects. Systematic goodwill building. Crisis situations in communication and preparation influence of political marketing and political PR on transport projects. Lobbing.	for crisis commun	ication. The
12Y1PC	Pedestrian and Cycling Transport	KZ	2
_	ians. Pedestrian crossings. Modifications for blind, dim-sighted and disabled people. Design of cycle routes network. Ways of cycle rout	1	n paramete
for cyclists. Sepa	ration of cyclists from other transport modes. Cycle tracks and its design - one way streets, reserved traffic lanes, bus stops, crossing	s with other transp	oort modes
	crossroads. Traffic signs and road marking for cyclists.		
12Y1PU	Organization Disposition of Railway Stations	KZ	2
_	on. Passenger transport equipment. Freight transport equipment. Branch lines and railway traffic inside industrial company areas. Zo		ition yards.
	rve stations. Technology of work in railway station with regard to its disposition. Railway station documentations in the Czech Republi		
12Y1RU	Railway Lines Reconstruction	KZ	2
keeping railway i	ine operational, maintaining lines and stations, geometrical alignment of railway line, vehicles for railway superstructure and substruc and organising possesions, preparation of railway lines reconstruction and maintenance, process of ralway line reconstruct		scneauling
12Y1SU	Road Management and Maintenance	KZ	2
	with ownership of roads in the Czech Republic and the administration of the road at the state and county level. It is presented develop	1	_
nedium and long-t	term strategy of the Ministry of Transport. Maintenance of roads winter and summer, its requirements, specifics, possibilities and repa	ir methods are disc	cussed in t
	classroom as well as investment activity in highway engineering.		
12Y1VR	Public Transport in Cities and Regions	KZ	2
	d political pillars of public transport. Accessibility of public transport. Transport demand management and directional coordination of linear parameters and transport an	=	_
Basic operating p	parameters and transport variations. Types of lines according to their routing and basic operating parameters. Time coordination of lin Organization of tram operation in Prague. Tram safety.	es. Operational tra	tific control
12Y1ZU	Principles of Urbanism	KZ	2
	y of city and settlement building. Functional components and their mutual relations (working, living, recreation, transportation). Spacia Types of towns or cities with a certain prevailing function, forms of their development. Brief overview of land-use planning	l arrangement of s	1
12ZADY	Introduction to Transportation Engineering	Z,ZK	4
12ZTS	Railway Lines and Stations	Z,ZK	4
	ailway track geometry parameters. Route layout of railway lines. Railway line construction - railway substructure and superstructure.		ilway lines.
	Railway control systems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail	transport.	
14AM	Automation and Measurement	Z,ZK	6
	erms agent, rational agent, their unification to elements of transportation systems, analogies in nature, regulation in openen loop and		-
systems, control t	using finite state machines. Dynamic system identification. Measurement of basic electric and other physical quantities, principles of and AC measurement, actuators, measurement automation, measurement laboratories.	neasurement instr	uments, D
14ASD	Algorithm and Data Structures	KZ	3
	ze problems, design a theoretical solution to a given problem and write the resulting algorithm using flowcharts, practice reading algorithm using flowcharts.	1	1
nd use basic Boo	plean algebra to construct constraints in algorithms. Students will be introduced to the basics of the Python programming language - will learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programming learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programming learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programming learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programming learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programming learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programming learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programming learn to work with variables of basic data types (integer, floating point and string) and the list data structure in the list data structure in the list data types (integer, floating point and string) and the list data structure in the list data types (integer, floating point and string).		g, loops, the
14DATS	Database Systems	KZ	2
Basic concepts	of database systems, conceptual model, relational data model, the principles of normal forms, relational database design, security an queries, relational algebra, SQL language, client / server, multilayer architectures, distributed database systems. Access to data via		, database
14DPK	Digital Support for Designing of Roads and Highways	Z	0
	Seminars possibilities of technical processing problems focused on designing of roads and highways.	_	
14DZT	Digital Support for Railway Lines Seminars possibilities of technical processing problems solved in the field of railway lines.	Z	0
14ISYD	Information Systems in Transportation	Z,ZK	7
	cloud services concept, eGovernment-structure. Electronic communication and signature. IS life cycle and IT projects. Types of infor	-	-
implementation	n in transport. Roles, processes, management, optimization in IS. Oracle data types. SQL Developer, SQL queries. Comprehensive ex	kample and web a	pplication
	programming.		

14PRG	Programming	KZ	2
The Course Prog	ramming builds on and fully extends the course 14ASD (Algorithmization and Data Structures). The knowledge of the Python program	nming language is	expanded
here so that the pa	rticipant gains skills and can apply them to solve various follow-up tasks. Main topics: lists, multidimensional arrays, sorting and search	hing, tuples, sets,	dictionaries,
	working with date and time, regular expressions, functions and procedures, working with files (CSV, JSON, XML).		
14X31S	Project 1 ITS	Z	2
14X32S	Project 2 ITS	Z	2
14X33S	Project 3 ITS	Z	2
14Y1AV	Animation and Visualization	KZ	2
	tions and modeling of NURBS, Patch objects, selection of objects (according to filter and properties). 3D Studio MAX systems and Spa		
	ls, rendering filters, Motion blur, advanced animations, Motion panel. Modeling for morphing and animation, bone formation, animation	using Inverse Kir	nematics.
14Y1BE	Barrierless Transport	KZ	2
	rless accessible public transportation in terms of architectural barriers and also for transportation-technological point of view. Students v	•	•
of barrierless enviro	onment roads, railway stations, public transport stops, terminal buildings, vehicles, public transport, information and orientation systems	and transportation	n technology.
447/4 DM	Theoretical knowledge will be supplemented by practical examples.	1/7	
14Y1BM	Biometric Methods	KZ	2
	erms, authentication methods, principles and performance measurement of biometric systems, overview of biometric technologies, hat method, 2D and 3D face recognition, vein patterns on the wrist, ear biometrics, fingerprint recognition, skin spectroscopy, behavioral n		-
retina recognition i	in transport applications, safety and risks of biometric technologies.	netrious, the use t	or piorrieures
14Y1HW	Computer Hardware	KZ	2
	ecture, basics of logical circuits design and their realization using FPGA. In detail, description of computer architecture and separate p		
oopator aronne	arithmetic and logical units, I/O subsystem.	anto accigiming	,
14Y1MP	Modeling Complex Assemblies and Models in Parametric Modeller	KZ	2
	gramming - tools and methodology of working subassemblies and assemblies, sheet metal parts modelling, welded assemblies, pipel		
	Photorealistic output rendering - physical and material properties, lighting sources. MKP - visual example.		
14Y1OJ	Object - oriented programming in JAVA	KZ	2
Objective thinking.	Encapsulation. Classes. Attributes. Access modifiers. Methods and overloading. Special methods (constructors, getters / setters). Ba	sic object method:	s. Reference
data types. Inherita	ance. Polymorphism. Statics, constants, interfaces, abstract classes, enum, packages, exceptions, collections, generics, lambda expre	ssions, anonymou	us functions.
14Y10P	Operating System	KZ	2
Distributions. Ins	stallation GNU/Linux OS. X-window system. Rights management - users and groups, ACL rights. Filesystems and attributes. Programs	s and processess.	OS boot,
runlevels. Basic o	console programs / commands. Config files. SW management, package systems. Programs in graphic shell - text, spreadsheet, graph	ic editors, sound,	video and
	communication. Services management. Safe and secure configuration of OS. Remote administration.		_
14Y1P2	Computer Aid of Transportation Projecting 2	KZ	2
	pplication for transportation projecting aid. AutoCAD environment possibilities of basic tasks automatizing (programming, scripting, data		
modification (attribu	utes, relation to databases). Work in projecting group, external references. Basic tasks for cummunication projecting (clotoidic transitior	i curve, cross-and	iongitudinai
	costion) Posice of 2D modelling		
141/104	section). Basics of 3D modelling.	V7	
14Y1PA	3D Modeling in AutoCAD	KZ	2
	3D Modeling in AutoCAD arametric modeller (AutoCAD) environment, scenes rendering, creation of planar and volumetric objects, user setup creation, object of the control of planar and volumetric objects.		
Work in 3D non-p	3D Modeling in AutoCAD arametric modeller (AutoCAD) environment, scenes rendering, creation of planar and volumetric objects, user setup creation, object connected with external database. Basic definition of work with lights, materials and reflexes. Models presentation.	data creation, wor	k with data
Work in 3D non-p	3D Modeling in AutoCAD arametric modeller (AutoCAD) environment, scenes rendering, creation of planar and volumetric objects, user setup creation, object of the control of planar and volumetric objects.	data creation, wor	k with data
Work in 3D non-p	3D Modeling in AutoCAD Parametric modeller (AutoCAD) environment, scenes rendering, creation of planar and volumetric objects, user setup creation, object of connected with external database. Basic definition of work with lights, materials and reflexes. Models presentation. Computer Graphics	data creation, wor KZ ng programs (with	k with data
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Work in 3D non-p 14Y1PG Basic formats of g 14Y1PI Data-information (personalistic, production of personalistic, production of personalistic of personalistic, production of personalistic of personalisti	arametric modeller (AutoCAD) environment, scenes rendering, creation of planar and volumetric objects, user setup creation, object of connected with external database. Basic definition of work with lights, materials and reflexes. Models presentation. Computer Graphics graphic and possibilities of their editing and mutual conversion. Use of individual types according to character of work. Work with editing level scope) using layers, DPI, colors. Basics of digital photography, scanning and computer technology like monitors and graphics. Corporate Information System On-knowledge, components of information system, syntatic and semantic sense of data, structure of corporate information system, particularly and semantic sense of data, structure of corporate information system, particularly, so the components of information system, information system security, data protection, safety politics. C Programming Language Greprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory allocation, strin Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise op Advanced Data Processing in Spreadsheets familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of formu etection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional formatting, so data analysis. Examples and questions from various companies and training. Creating Interactive Internet Applications ping language PHP. Overview of PHP language syntax, and functions. Analysis of finished scripts and demonstration of solutions. Your in PHP language. Editing of Theses in MS Word introduced to the principles of creating and editing large documents and basic typographic rules. They will properly apply styles, creat phs, etc. Footnotes, captions, index. They practice corrections of finished documents. The goal is to	KZ ng programs (with s cards. KZ rticular informatior information system of the content of the cards. KZ ng, files, structures prevators. KZ las and functions, colution finding, solution finding, solution finding it in the card of the content of the card	k with data 2 in the user 2 n system m operation, 2 and unions. 2 including ver, macros, 2 orogrammed 2 ats, lists of and theses, 2 ds, menu, 2 S properties mples.
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Work in 3D non-p 14Y1PG Basic formats of g 14Y1PI Data-informatio (personalistic, prod 14Y1PJ C programming lan 14Y1PZ Students will be addressing, error d 14Y1TI Possibilities of scrip 14Y1UP Students will be figures, tables, gral 14Y1VM Object oriented g 14Y1W1 Students will learn and selectors 14Y1W2	arametric modeller (AutoCAD) environment, scenes rendering, creation of planar and volumetric objects, user setup creation, object of connected with external database. Basic definition of work with lights, materials and reflexes. Models presentation. Computer Graphics graphic and possibilities of their editing and mutual conversion. Use of individual types according to character of work. Work with editing level scope) using layers, DPI, colors. Basics of digital photography, scanning and computer technology like monitors and graphics. Corporate Information System on-knowledge, components of information system, syntatic and semantic sense of data, structure of corporate information system, partuction, storage, etc.), corporate information politic and information control, risks of information system operation, legal environment of state information system, information system security, data protection, safety politics. C Programming Language guage. Preprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory allocation, strin Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise op Advanced Data Processing in Spreadsheets familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of formu etection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional formatting, so data analysis. Examples and questions from various companies and training. Creating Interactive Internet Applications pring language PHP. Overview of PHP language syntax, and functions. Analysis of finished scripts and demonstration of solutions. Your in PHP language. Editing of Theses in MS Word introduced to the principles of creating and editing large documents and basic typographic rules. They will properly apply styles, creat phs, etc. Footnotes, captions, index. They practice corrections of fi	KZ ng programs (with s cards. KZ rticular informatior information system of the company of the cards. KZ ng, files, structures prevators. KZ las and functions, colution finding, solution finding, solution finding it in the card of	k with data 2 in the user 2 n system m operation, 2 and unions. 2 including ver, macros, 2 orogrammed 2 ats, lists of and theses, 2 ds, menu, 2 S properties mples. 2
Work in 3D non-p 14Y1PG Basic formats of g 14Y1PI Data-informatio (personalistic, prod 14Y1PJ C programming lan 14Y1PZ Students will be addressing, error d 14Y1TI Possibilities of scrip 14Y1UP Students will be figures, tables, grap 14Y1VM Object oriented g 14Y1W1 Students will learn and selectors 14Y1W2 Students will learn selectors 14Y1W2 Students will learn	anametric modeller (AutoCAD) environment, scenes rendering, creation of planar and volumetric objects, user setup creation, object connected with external database. Basic definition of work with lights, materials and reflexes. Models presentation. Computer Graphics graphic and possibilities of their editing and mutual conversion. Use of individual types according to character of work. Work with editing level scope) using layers, DPI, colors. Basics of digital photography, scanning and computer technology like monitors and graphics. Corporate Information System on-knowledge, components of information system, syntatic and semantic sense of data, structure of corporate information system, partuction, storage, etc.), corporate information politic and information control, risks of information system operation, legal environment of state information system, information system, security, data protection, safety politics. C Programming Language grage. Preprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory allocation, strin Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise op Advanced Data Processing in Spreadsheets familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of formule etection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional formatting, searching in the processing of the principles of creating and editing large documents from various companies and training. Creating Interactive Internet Applications piting language PHP. Overview of PHP language syntax, and functions. Analysis of finished scripts and demonstration of solutions. Your in PHP language. Editing of Theses in MS Word introduced to the principles of creating and editing large documents and basic typographic rules. They will properly apply styles, creat phs, etc. Footnotes, ca	KZ ng programs (with s cards. KZ rticular information information system of the content of the cards. KZ ng, files, structures or the cards. KZ las and functions, colution finding, solution	k with data 2 in the user 2 n system m operation, 2 including ver, macros, 2 orogrammed 2 ots, lists of and theses, 2 ds, menu, 2 S properties mples. 2 configuration
Work in 3D non-p 14Y1PG Basic formats of g 14Y1PI Data-informatio (personalistic, prod 14Y1PJ C programming lan 14Y1PZ Students will be addressing, error d 14Y1TI Possibilities of scrip 14Y1UP Students will be figures, tables, gral 14Y1VM Object oriented g 14Y1W1 Students will learn and selectors 14Y1W2 Students will learn 14Y1W2 Students will learn 14Y1WG	arametric modeller (AutoCAD) environment, scenes rendering, creation of planar and volumetric objects, user setup creation, object of connected with external database. Basic definition of work with lights, materials and reflexes. Models presentation. Computer Graphics graphic and possibilities of their editing and mutual conversion. Use of individual types according to character of work. Work with editing level scope) using layers, DPI, colors. Basics of digital photography, scanning and computer technology like monitors and graphics. Corporate Information System on-knowledge, components of information system, syntatic and semantic sense of data, structure of corporate information system, partuction, storage, etc.), corporate information politic and information control, risks of information system operation, legal environment of state information system, information system security, data protection, safety politics. C Programming Language guage. Preprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory allocation, strin Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise op Advanced Data Processing in Spreadsheets familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insertion of formu etection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional formatting, so data analysis. Examples and questions from various companies and training. Creating Interactive Internet Applications pring language PHP. Overview of PHP language syntax, and functions. Analysis of finished scripts and demonstration of solutions. Your in PHP language. Editing of Theses in MS Word introduced to the principles of creating and editing large documents and basic typographic rules. They will properly apply styles, creat phs, etc. Footnotes, captions, index. They practice corrections of fi	KZ ng programs (with s cards. KZ rticular informatior information system of the cards. KZ ng, files, structures in the cards. KZ ng, files, structures in the cards of the cards. KZ las and functions, colution finding, solution finding, soluti	k with data 2 in the user 2 n system m operation, 2 including ver, macros, 2 orogrammed 2 ots, lists of and theses, 2 ds, menu, 2 S properties mples. 2 configuration 2

14Y1ZJ	Fundamentals of programming in JAVA	KZ	2
_	Java SE Platform. IDE Installation and First Project. Comments. Variables and Type System. Operators. User Input and Parsing. Chai		
	ematical Methods. Terms. Relational Operators and Switches. Cycles for, while, foreach. Field - declaration, initialization, methods for		
Oriain and Maine	parameters, return value, recursion. Program creation.	icia work. 7.00ii. i	dilotions,
14Y1ZM	· · · · · · · · · · · · · · · · · · ·	KZ	2
	Fundamentals of parametric and adaptive modeling		
basics of work at p	roducts and parts creation. Sketch drawing by help of geometric relations, parametric dimensions, creation of adaptive models from 2 from and to another systems. Fundamentals of assemblies creation.	D sketches. Import	and export
15JZ1A	Foreign Language - English 1	Z	3
	ures and Style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and co	_	_
Grammatical Struct	stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of		Liementary
15JZ2A		Z,ZK	3
	Foreign Language - English 2	1 ' 1	_
Grammatical Struct	ures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and cou stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of		Elementary
45 1705			
15JZ3F	Foreign Language - French 3	Z	3
	stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la		_
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	with (professional)	text and its
	features. Practice of oral and written presentation.		
15JZ3I	Foreign Language - Italian 3	Z	3
-	stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language level and study focus at the Faculty.		_
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w	with (professional)	text and its
	features. Practice of oral and written presentation.		
15JZ3N	Foreign Language - German 3	Z	3
Grammar and styli	stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	anguage structure	knowledge
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	with (professional)	text and its
	features. Practice of oral and written presentation.		
15JZ3R	Foreign Language - Russian 3	Z	3
Grammar and styli	stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la	anguage structure	knowledge
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	with (professional)	text and its
	features. Practice of oral and written presentation.		
15JZ3S	Foreign Language - Spanish 3	Z	3
	stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of k	_	_
	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v		_
	features. Practice of oral and written presentation.	()	
15JZ4F	Foreign Language - French 4	Z.ZK	3
	istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of k	l ' l	_
-	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v		_
and porcoparo an	features. Practice of oral and written presentation.	viii (protocoloriai)	toxt and ito
15JZ4I	Foreign Language - Italian 4	Z,ZK	3
	stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of k	, ,	_
			_
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	vitri (professioriai)	text and its
45 1741	features. Practice of oral and written presentation.	7.71/	
15JZ4N	Foreign Language - German 4	Z,ZK	. 3
	stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language level and study focus at the Faculty.		
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v	with (professional)	text and its
	features. Practice of oral and written presentation.		
15JZ4R	Foreign Language - Russian 4	Z,ZK	3
Grammar and styli	istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of k	anguage structure	knowledge
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w	with (professional)	text and its
	features. Practice of oral and written presentation.		
15JZ4S	Foreign Language - Spanish 4	Z,ZK	3
Grammar and styli	istics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of k	anguage structure	knowledge
and perceptive and	d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w	with (professional)	text and its
	features. Practice of oral and written presentation.		
15X31S	Project 1 ITS	Z	2
15X32S	Project 2 ITS	Z	2
15X33S	Project 3 ITS	Z	2
15Y1BO	•	KZ	2
	Work Safety and Health Protection in Transportation		
rundamentai iegis	lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H	ealth protection pro	ogrammes,
457457	health insurance of home and foreign business trips, statistics, working practice.		
15Y1DZ	History of Railway	KZ	2
	vays, steam railways, railway network development in the 2nd half of 19th century, regional railways epoch, railways of the "First Repu		
vvar II railways, railv	way development in the 2nd half of 20th century, high-speed railway origins, railway lines closing, important long-distance train connecti	ons, railway lines c	onstruction,
	railway accidents, railway junctions. Excursions and projections.		
15Y1EH	European Integration within Historical Context	KZ	2
	formation of new states. Europe and the powers, League of Nations. European policy in the 1920s. Fascism, nacism, communism. Li		-
goals. Europe after	er Hitler's getting to power, system of bilateral agreements. Decline of the LN. Rearrangement of powers during WWII. Cold war and it	s consequences for	or Europe.
	New quality of French-German relationship - a driving power of starting European integration.		
15Y1FD	French Area Studies and Transportation	KZ	2
	by and regions, transport infrastructure. Paris and its sights, city public transport. Road traffic, motorways, railway traffic, TGV, air trail	•	minology.
Frei	nch society and culture. Current political system. System of education, studying in France. Selected authors of French literature. French	ch gastronomy.	
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	History of City Mass Transport	KZ	2
	s transport in the world, development of tram, bus and trolley-bus systems. History of transport networks in the world, current trends	•	of tariff and
cleara	nce systems. History of city transport in Prague and Brno. History of tram, bus and trolley-bus operation systems in the Czech Repul	blic and Slovakia.	
15Y1HE	Work Hygiene and Ergonomics in Traffic	KZ	2
	$of\ occupational\ hygiene\ and\ ergonomics,\ and\ their\ application\ in\ transport.\ Working\ environment\ factors,\ and\ the\ influence\ of\ these$		
Creation and prote	ction of working conditions that do not damage public health. Mutual links: man-machine-environment. Adaptation of technology to po	ossibilities and skill	s of a man.
	Practical examples from the field of transportation; relevant legislature.		
15Y1HL	History of Civil Aviation	KZ	2
	g, development of aircrafts lighter than air. Beginnings of aircrafts heavier than air. Czechoslovak aviation pioneers. Development of a		
World airports. Fa	amous aviators. Helicopters. CSA airplanes. Development of aircrafts in Czechoslovakia between the years 1945-1989. Classic era o	f aviation. Golden e	era of civil
	aviation. Modern era of civil aviation. Airline companies. Supersonic flying.		
15Y1MK	Modern History in Context: Every Day Life and Transport	KZ	2
	Historical overview of modern history of every day life, science, technology and transport in a wider context.		
15Y1NE	German in the Economy and Society	KZ	2
Recent economic	and social issues of German speaking countries and of the EU. Reading and listening of texts. Lexical, grammatical and semantic ar	alysis of texts. Dis	cussion on
	selected topics.		
15Y1ZV	East-West dichotomy: Prelude to the Cold War	KZ	2
	evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continu		
in the end of 19th	century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the	e causes and cons	equences.
	Economic and financial history. Social changes. Discussions on texts, sources.		
16DOTE	Transport Technology	Z,ZK	6
Types of vehicles,	main features and principles. Construction and design elements, important legislation, testing. Drives and transmission, energy accu	imulation and char	iges. Road
vehicle dynamics (I	ateral, transversal, vertical, driveability, suspension, wheel-road contact), mathematic solution of dynamic systems. Design features of	passive, active an	d integrated
	safety.		
16SVIR	Vehicle Systems and Interaction with Driver	Z,ZK	7
16UDOP	Introduction into Vehicles	Z	2
Vehicles and trans	portation systems. Functionality and setup. Movement and drive principles. Engines and their characteristics. Rail, road, air and wate	r transport. Alterna	tive means
	of transport. Lifting equipment and conveyors. Legislation.		
16X31S	Project 1 ITS	Z	2
16X32S	Project 2 ITS	Z	2
16X33S	Project 3 ITS	Z	2
	·		
16Y1EN	Energy Requirements of Vehicles	KZ	2
Dynamics and the	driving inertial of the vehicles. Types of energy - kinetic, static, heat, chemical and others. Ways of energy change into kinetic energy	_	ne, electric
10)(110	drive, steam engine, air engine. Energy accumulation means, accumulator, flywheel, fuel cell. Energy recuperation. WTW anal		
16Y1IS	Interactive simulators and simulations	KZ	2
	ry and application of computing equipment. Creating computing models. Mechanical and dynamic systems and their mathematical models.		nethods.
	lation of vehicle dynamics, on-land carriage in particular. Virtual reality systems. Practical exercise with simulation software and intera	active similiators	I
	O PL LD P LPD CALL		
16Y1KS	Quality and Reliability of Vehicles	KZ	2
Quality and reliab	ility theory in design, development, production and operation of vehicles. Definition and possible approach to quality and reliability. K	KZ ey legislation. FME	A (Failure
Quality and reliab	ility theory in design, development, production and operation of vehicles. Definition and possible approach to quality and reliability. K Analysis), QFD (Quality Function Deployment), DFx (Design for Assamly, Manufacturying, Quality, Services) and other methods u	KZ ey legislation. FME	A (Failure
Quality and reliab Mode and Effects	ility theory in design, development, production and operation of vehicles. Definition and possible approach to quality and reliability. K Analysis), QFD (Quality Function Deployment), DFx (Design for Assamly, Manufacturying, Quality, Services) and other methods u Knowledge-based systems of quality and reliability, data collection.	KZ ey legislation. FME sed in industrial ap	A (Failure pplications.
Quality and reliab Mode and Effects	ility theory in design, development, production and operation of vehicles. Definition and possible approach to quality and reliability. K. Analysis), QFD (Quality Function Deployment), DFx (Design for Assamly, Manufacturying, Quality, Services) and other methods u Knowledge-based systems of quality and reliability, data collection. Operation, Construction and Maintenance of Vehicles	KZ ey legislation. FME sed in industrial ap KZ	A (Failure oplications.
Quality and reliab Mode and Effects	ility theory in design, development, production and operation of vehicles. Definition and possible approach to quality and reliability. K. Analysis), QFD (Quality Function Deployment), DFx (Design for Assamly, Manufacturying, Quality, Services) and other methods u Knowledge-based systems of quality and reliability, data collection. Operation, Construction and Maintenance of Vehicles production. Vehicle maintenance. Vehicle diagnostics. Maintenence and repair plans. Engine maintenance and emission measurements.	KZ ey legislation. FME sed in industrial ap KZ	A (Failure oplications.
Quality and reliable Mode and Effects 16Y1PV Methods of vehicle	ility theory in design, development, production and operation of vehicles. Definition and possible approach to quality and reliability. K. Analysis), QFD (Quality Function Deployment), DFx (Design for Assamly, Manufacturying, Quality, Services) and other methods u Knowledge-based systems of quality and reliability, data collection. Operation, Construction and Maintenance of Vehicles production. Vehicle maintenance. Vehicle diagnostics. Maintenence and repair plans. Engine maintenance and emission measurement General principles of engine diagnostics.	KZ ey legislation. FME ised in industrial ap KZ ent. Transmission n	A (Failure pplications. 2 nechanism.
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171/11			
17Y1LL	Logistics of Passenger and Freight Air Transport	KZ	2
Logistics airline pas	ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial trans	sport process pass	sengers and
	air cargo. Information systems in air transport. Global distribution systems.		
17Y1MD	Marketing in Transportation	KZ	2
General principles	of marketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transport a	nd the resulting dif	fferences in
	the application of marketing.		
17Y10F	Personal Finance	KZ	2
	budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financing of hous	sing (rent, mortgag	e, savings,
consumer loans, re	financing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, suitability and a	adequacy), securir	ng the future
	(retirement savings and insurance).		
17Y1PM	Personnel Management	KZ	2
	ces, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, inter	cultural communic	
17Y1SK	Urban and Regional Rail Transport Systems	KZ	2
-	transport demand, modal-split, distribution of passenger flows on public regional transport lines. Optimization of line management, lin		I
_	e timetable. Vehicle circulation creation. Optimizing driver shifts and arranging them in turnus. Effects of barrier-free and public transport	-	-
	marketing.		
17Y1SL	Sociology of Human Resources	KZ	2
	and their importance, work group as a special kind of social group, communication, personal management, modern management, hum		I.
Tidina Tiooodiooo c	of the organization.	arroccarocc plani	illig, outuro
17Y1ST	Titan Simulation	KZ	2
	ן היים וויים מ Gement game simulating the business decisions. Lets 2-8 student groups to produce and compete in the market with the same product.		ı
_	ntity and capacity of production, plan budgets for marketing, research and development. They become familiar with the consequences		
determine the quar	of financial corporate reports and they use this information for other business decisions.	or their decisions	by the lottin
18MTY		Z,ZK	3
	Materials Science and Engineering terials science and engineering explains mechanical properties of structural materials based on their bonding forces and microstructu		_
	s the most important engineering explains mechanical properties of structural materials based on their bording forces and microstructures the most important engineering materials, also other major classes of materials are presented, namely ceramics, polymers and com-		
is paid to metals as	to degradation processes in materials, to defectoscopy and to main mechanical tests.	iposites. Attention	is also paid
18PZP		7 71/	3
-	Elasticity and Strength	Z,ZK	_
rension and compr	ression. Bending of beam. Shear stress in bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted a Analysis of deflection curve of beams. Torsion of circular cross sections. Combined loading. Stability.	ina weidea joints o	i structures.
400AT		7.71/	4
18SAT	Structural Analysis	Z,ZK	4
•	of forces in plane and space. Calculation of reactions of bodies and structures. Assessment of internal forces on statically determinate	•	•
Principle of virtual w	vork. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss constructions. of planar shapes. Fiber polygons and chains.	Cross-sectional ch	aracteristics
400DD		7	
18SPP	Seminary from Elasticity and Strength	Z	0
Excersise for pract	tice. Tension and compression. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam	n. Analysis of defle	ection curve
1000	of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling.	7	
18SS	Seminary from Structural Analysis	Z	0
Examples for practi	Seminary from Structural Analysis ise. General system of forces. Reactions of mass objects and compound systems. Internal forces on statically determinate beam and	simple framework.	. Application
Examples for practi	Seminary from Structural Analysis ise. General system of forces. Reactions of mass objects and compound systems. Internal forces on statically determinate beam and all works for calculation of reactions of staticaly determinate systems. Determination of axial forces in truss construction - method of j	simple framework.	. Application
Examples for practi of principle of virtu	Seminary from Structural Analysis ise. General system of forces. Reactions of mass objects and compound systems. Internal forces on statically determinate beam and it works for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction - method of judgments of construction of the construction	simple framework.	. Application of sections.
Examples for practi of principle of virtu 18STD	Seminary from Structural Analysis ise. General system of forces. Reactions of mass objects and compound systems. Internal forces on statically determinate beam and it works for calculation of reactions of staticaly determinate systems. Determination of axial forces in truss construction - method of junction of construction of construction of construction. Seminary from Technical Documentation	simple framework. oints and method o	Application of sections.
Examples for practi of principle of virtu 18STD	Seminary from Structural Analysis ise. General system of forces. Reactions of mass objects and compound systems. Internal forces on statically determinate beam and lal works for calculation of reactions of staticaly determinate systems. Determination of axial forces in truss construction - method of judgementry of cross sections. Plane fiber polygons. Seminary from Technical Documentation Index, international standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimensional	simple framework. oints and method o	Application of sections.
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Examples for praction of principle of virtue 18STD Technical standa 18TKK 18X31S 18X32S 18X33S 18Y1AM Survey of tissues. A	Seminary from Structural Analysis ise. General system of forces. Reactions of mass objects and compound systems. Internal forces on statically determinate beam and all works for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction - method of j Geometry of cross sections. Plane fiber polygons. Seminary from Technical Documentation Index, international standardization, technical drawings, representation of technical objects, technical diagrams and charts, dimensional arrangement of drawing sheets. Technical Drawing and Designing Project 1 ITS Project 2 ITS Project 3 ITS Anatomy, Mobility and Safety of Man	simple framework. oints and method of the control o	Application of sections. 0 accuracy, 4 2 2 2 2 2 2 2 2 m. Structure
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security. Air crew. Airlines and economics. Space technologies.	performance. Flig		ınagement, ground	handling,
		security. Air crew. Airlines and economics. Space technologies.		

21X31S	Project 1 ITS	Z	2
21X32S	Project 2 ITS	Z	2
21X33S	Project 3 ITS	Z	2
21Y1AM	Aeronautical Information Management (AIM)	KZ	2
Definition and basi	c overview of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronautical Ini	. Publication). VF	R Manual of
the Czech Rep. A	IRAC System. NOTAM messages.PIB (Pre-flight Informtion Bulletin). AIC (Aeoronautical Inf. Circulars). Aeronautical Charts. EAD (European Charts).	opena AIS Datal	base). QMS
	(Quality Mng. System). ADQ (Aeronautical Data Quality). AIXM (Aeronautical Inf. Exchnage Format).		
21Y1BS	Unmanned aircraft systems 1	KZ	2
Unmanned Aviatio	n Development. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division. Ope procedures. Practical flights.	rational risks and	d operational
21Y1LJ	Aeronautical Radio and Flight Instruments	KZ	2
Basic definitions, h	story of aircraft instrumentation, aerometric instrumentation, Earth magnetism, aircraft electric equipment, gyroscopic instrumentation	airframe instrum	entation and
other aircra	oft equipment, engine instrumentation, warning and recording systems, instrumentation operational requirements, radiocommunication	n and radionaviga	ation.
21Y1LS	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 control. H	istory of ATS
	at USA and Czechoslovakia. ATS - Model of financing. Training System of Air Traffic Controllers. Future development of ATS		
21Y1MP	Matlab for project-oriented study	KZ	2
	bus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercises		•
particular examp	les, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improvement	nt of students' Ma	atlab skills.
21Y1OH	Airline Business and Operations	KZ	2
The course provide	s a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses on the organization	ational structure o	of companies
various aspects of	heir strategy, economic and operational indicators. It introduces students in detail to operational processes and the essentials of transp	ortation processe	es. It provides
	a basic view of the economic aspects of air transport.		
21Y1PC	ATC Procedures and Activities	KZ	2
	procedures, basics of communication and phraseology, aircraft identification, spacing and traffic coordination. In addition, the course of		
	ts and low visibility operational procedures. Students will during the course learn basic safety management applications applied acros		
21Y1RZ	Human Resources Management	KZ	2
•	numan resources in the organization and related disciplines file. Substance, importance and challenges of human resources manager		
environment of hun	nan resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation and rem	uneration of staff	r. Positioning
04)/4.01	dismissal and redundancies of employees. Education of employees. Planning career management.	1/7	
21Y1SI	ATC Simulator	KZ	2
	with the simulation environment, acquiring basic habits, aircraft identification procedures, vectoring, level changes, ATC clearance, use		
3	ng on basic vectoring, early application of vertical separation, EST and REV message passing. Practical exercises in the APPROACH		
	departure management procedures, conflict resolution.	area, practicing	arrival and
21Y1UL	departure management procedures, conflict resolution. Aircraft Maintenance	area, practicing	arrival and
21Y1UL Aircraft operations	departure management procedures, conflict resolution. Aircraft Maintenance and technical operations. Maintenance and work processes. Defects search methods, status check diagnostic tools. Selection and qual	KZ ification of aviation	arrival and 2 on personnel
21Y1UL Aircraft operations	departure management procedures, conflict resolution. Aircraft Maintenance and technical operations. Maintenance and work processes. Defects search methods, status check diagnostic tools. Selection and qual ion for maintenance. Optimization of time maintenance intervals. Regulation no. 1321/2014 Part 145. Human factors of aircraft maintenance.	KZ ification of aviation	arrival and 2 on personnel
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