Study plan

Name of study plan: KOMBI studium od 12-13 (obor MED)

Faculty/Institute/Others:

Department: Department D in

Branch of study guaranteed by the department: Management and Economics of Transportation and

Telecommunications

Garantor of the study branch: prof. Ing. Tomáš Zelinka, CSc.

Program of study: Technology in Transportation and Telecommunications

Type of study: Bachelor combined

Required credits: 180 Elective courses credits: 0 Sum of credits in the plan: 180

Note on the plan:

Name of the block: Compulsory courses Minimal number of credits of the block: 156

The role of the block: Z

Code of the group: 1S KOMBI 12-13 P

Name of the group: 1. sem. KOMBI 12-13 povinné p edm ty (jen pro MED) Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete 11 courses

Credits in the group: 30 Note on the group:

Tioto on the grou	·					
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
613E	Economics	Z,ZK	3	2+1	Z	Z
611GIE	Geometry Vít Malinovský	KZ	3	2P+2C+12B	Z	Z
614KSP	Constructing with Computer Aid Libor Žídek	KZ	2	0P+2C+8B	Z	Z
611LA	Linear Algebra Romana Zibnerová	Z,ZK	3	2P+1C+10B	Z	Z
611MTA	Mathematical Analysis	Z,ZK	4	2+2	Z	Z
618MRI1	Materials 1	Z,ZK	3	2+1	Z	Z
618TTED	Creation of Technical Documentation	KZ	2	2+1	Z	Z
622UN	Traffic Accidents Introduction	Z	2	2+0	Z	Z
612ZADI	Introduction to Transportation Engineering	Z,ZK	3	2+1	Z	Z
614ZINF	Fundamentals of Informatics	KZ	2	0+2	Z	Z
621ZLDK	Introduction to Air Transport	KZ	3	8	Z	Z

Characteristics of the courses of this group of Study Plan: Code=1S KOMBI 12-13 P Name=1. sem. KOMBI 12-13 povinné p edm ty (jen pro MED)

613E	Economics	Z,ZK	3						
611GIE	Geometry	KZ	3						
Orthographic and obliqu	Orthographic and oblique projections, linear perspective. Topographic surfaces and their orthogonal projection. Differential geometry of curves - parameterization, arc of the curve,								
torsion and curvature, F	Frenet's trihedron. Kinematics - a curve as a trajectory of the motion, the velocity and acceleration of a particle moving on a c	curved path.							
614KSP	614KSP Constructing with Computer Aid KZ 2								
"CAD systems" term de	termination. CAD role in projecting system model. Existing CAD systems on Czech market. Project creation, basic common	work rules in grap	hic applications						
and CA systems. Co-or	dinated systems, CAD environment skill (basics of constructing, dimensioning, modifications, user interfaces, projecting poss	sibilites, AutoCAD	environment						
profiles, drawings with r	aster foundaments).								
611LA	Linear Algebra	Z,ZK	3						
Vector spaces (linear co	ector spaces (linear combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and their solvability. Determinants and								
their applications. Scala	r product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classification.								

611MTA	Mathematical Analysis	Z,ZK	4
Sequences and series	of real numbers and its convergence. Basic properties of functions. Differential and integral calculus of the real function of one	real variable. Powe	r series, Fourier
series and foundations	of Fourier transform.		
618MRI1	Materials 1	Z,ZK	3
Crystal structure. Basic	s of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid s	olutions. Heating p	rocessing of
steel and cast irons. Pl	sysical features. Mechanical features. Dephectostopic testing. Corosion.		
618TTED	Creation of Technical Documentation	KZ	2
Technical standards, in	ernational standardization, types of technical drawings, representation of technical objects, technical diagrams and charts, dim	ensional and geom	etrical accuracy,
arrangement of drawin	g sheets, types of schemes and their creation.		
622UN	Traffic Accidents Introduction	Z	2
612ZADI	Introduction to Transportation Engineering	Z,ZK	3
Traffic survey. Terrestria	al roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic pro	gnosis. Traffic safe	ty. Air transport.
Traffic and environmen	t.		
614ZINF	Fundamentals of Informatics	KZ	2
Introduction to faculty r	letwork, MS-Word and Open Office, use of styles and advanced features, computer functions and information transmission. I	Number systems in	cl. arithmetic
calculations. Algorithm	s and their proprieties. Flow charts for algorithms drawing. Mathematic and logic ordering algorithms incl. functions and proced	dures. Work with MS	S-Excel - tables,
graphs, calculations, fu	nctions.		
621ZLDK	Introduction to Air Transport	KZ	3
Air transport as a com	onent of complex transport system. International status of civil aviation. International organizations in Europe and worldwide	Characteristics of	air transport.
Commercial air transpo	ort. Technical operations of aeroplanes.		

Code of the group: 2S KOMBI 12-13 P

Name of the group: 2. sem. KOMBI 12-13 povinné p edm ty (jen pro MED)

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete 11 courses

Credits in the group: 30 Note on the group:

design by the means of web sites.

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
613EDOT	Economy, Transport, Telecommunications	KZ	2		L	Z
611FY1	Physics 1	Z,ZK	4	2+2	L	Z
611MVP	Mathematical Analysis of Function of More Variables	Z,ZK	3	2+2	L	Z
618MRI2	Materials 2	KZ	2	2+0	L	Z
611PT	Probability	Z	2	1+1	L	Z
612PKD	Rail Transport Designing	Z,ZK	3	2+2	L	Z
614SIAP	Networks and Protocols	KZ	2	1+1	L	Z
618ST	Statics	Z,ZK	3	2+1	L	Z
617TDLK	Transport Technology and Logistics	Z,ZK	4	12	L	Z
620UIS	Introduction to ITS	Z,ZK	3	2+1	L	Z
614UPRO	Introduction to Programming	KZ	2	0+2	L	Z

Characteristics of the courses of this group of Study Plan: Code=2S KOMBI 12-13 P Name=2. sem. KOMBI 12-13 povinné p edm ty (jen pro MED)

(Jen pro web)			
613EDOT	Economy, Transport, Telecommunications	KZ	2
611FY1	Physics 1	Z,ZK	4
Kinematics, particle of	ynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermodynamics, electric field, directed electric	current.	·
611MVP	Mathematical Analysis of Function of More Variables	Z,ZK	3
Metric spaces, seque	nces in metric spaces, limit of sequence in metric space. Differential calculus of functions of several variables, differential of fun	ction, partial deriv	vations, implicitly
defined functions, ext	remes of functions of several variables. Integral calculus of functions of several variables, Riemann integral, integral over curve	s and surfaces in	R3, application
of integral calculus in	physics.		
618MRI2	Materials 2	KZ	2
Fundamental concep	s, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the com-	posite materials.	·
611PT	Probability	Z	2
Descriptive statistics.	Basic probability concepts: elementary events and events, definitions and interpretation of probability. Random variable, probal	oility distribution,	probability mass
and density, moment	s, some discrete and continuous distributions. Random vectors: joint and marginal distributions, mean vector, covariance matrix	Mixed distribution	ns, mixture of
distributions. Law of I	arge numbers, central limit theorem.		
612PKD	Rail Transport Designing	Z,ZK	3
Railway lines network	. Vehicle and track relation. Traction. Track geometrical parameters. Clearance profile. Railway lines routing. Superstructure and	I substructure of t	he railway lines.
Switches. Railway sta	tions. City rail transport.		
614SIAP	Networks and Protocols	KZ	2
Basic communication	model, history and development of the Internet, principle of data transfer through computer networks (TCP/IP), performance of	f basic network p	rotocols (ARP.

RARP, TCP, UDP, Telnet, FTP, DNS, DHCP POP3, IMAP), data acquirement from the Internet sources, communicating ability via the Internet and fundamentals of own web presentation

General system of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate beam and simple framework.

Principle of virtual works. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction, method of joints and method of sections. Geometry of cross sections. Plane fiber polygons and catenary cables.

Transport Technology and Logistics

Basic terms in transport technology and logistics. Particular steps of transport planning. Quantification of carriage relations. Line planning. Timetabling. Planning in pasanger and freight transport. Organisation of traffic in each transport means. Technological factors from the point of view of operator and client. Organisation of public city transport. Logistic technologies and their application using various transport means.

Introduction to ITS

620UIS

Intelligent Transport Systems (ITS), their objectives and vision. ITS in the world, in Europe and in the Czech Republic. Architecture of ITS and the role of standardization. Information and navigation systems. ITS in road, rail and combine transport. Design of ITS, organization, preparation and implementation of the project. Current projects in the Czech Republic.

614UPRO Introduction to Programming

Algorithm development, methods of structured programming, high-level programming languages, basics of C programming languages (types, variables, conditions, cycles, arrays, functions), programming techniques, complexity.

Code of the group: 3S KOMBI 13-14 P

Name of the group: 3. sem. KOMBI 13-14 povinné p edm ty (obor MED) Requirement credits in the group: In this group you have to gain 27 credits

Requirement courses in the group: In this group you have to complete 10 courses

Credits in the group: 27 Note on the group.

Note on the C	<u> </u>	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
611DAD	Differential and Difference Equations	Z,ZK	3	2+1	Z	Z
611FY2	Physics 2	Z,ZK	4	2+2	Z	Z
612MDE	Transport Models and Transport Excesses Josef Kocourek, Tomáš Pad lek	Z,ZK	3	2P+1C+8B	Z	Z
612PPOK	Designing Roads, Highways and Motorways Tomáš Pad lek, Jií arský, Petr Kumpošt	KZ	3	1P+2C+10B	Z	Z
618PZP	Elasticity and Strength Tomáš Doktor, Jan Šleichrt	Z,ZK	3	2P+1C+10B	Z	Z
611SIS	Statistics	Z,ZK	2	1+1	Z	Z
620SSA	Systems Analysis	Z,ZK	3	2+1	Z	Z
614UATT	Introduction to Automatization and Telecommunication Systems	KZ	2	3+0	Z	Z
616UDDM	Introduction to Transportation and Manipulation Technics	ZK	2	2+0	Z	Z
614ZAET	Fundamentals of Electrotechnics	KZ	2	2+1	Z	Z

Characteristics of the courses of this group of Study Plan: Code=3S KOMBI 13-14 P Name=3. sem. KOMBI 13-14 povinné p edm ty (obor MED) 611DAD Differential and Difference Equations

Concept of a differential equation of the first order and some methods of its solution. Differential equations of the n-th order, linear differential equations. Initial and boundary conditions								
for ordinary linear differential equation of the second order. Systems of linear differential equations. Difference equations, linear difference equations and their systems.								
611FY2	Physics 2	Z,ZK	4					
Magnetic field, electron	agnetic field. Optics, quantum character of electromagnetic radiation. Introduction into quantization, hydrogen atom. Multi-ele	ctron atoms, the	nuclei. Basics of					
solid body physics.								
612MDE	Transport Models and Transport Excesses	Z,ZK	3					
Parameters of the traffic	flow and methods for their measurement. Models of the traffic flow, communications load, line and urban systems. Theory of	queues, shock w	vaves. Quality of					
transport and its assessment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the consequences. Improving of transport								
safety and fluency.								

612PPOK Designing Roads, Highways and Motorways

Definition, types, ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard speed. Route in rural areas. Range of vision for stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety device. Crossings, junctions, intersections

618PZP Elasticity and Strength Z,ZK

Z,ZK

Tension and compression. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted and welded joint of structure Analysis of deflection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic foundation. Strength analysis

611SIS Point estimation, properties of point estimators, methods of point estimation. Testing statistical hypothesis. Fit test, independence test. Regression and correlation, linear regression,

correlation coefficient, coefficient of determination, general linear model, statistical inference in linear regression, analysis of variance, multiple regression, use of matrices in regression 620SSA Systems Analysis

Systems identification. Typical tasks of systems analysis: on the interface, routes in system, decomposition and integration, on systems feedback. Capacity tasks, process analysis. Task about behaviour, aim behaviour, the genetic code, architecture and identity of systems. Fundamentals of technical cybernetics, stability and reliability of systems.

614UATT Introduction to Automatization and Telecommunication Systems

Basic axioms of technical cybernetics, automatization in transportation, human as the weakest element, signalling in transportation, modelling and projecting of transport systems, integrated technological and infromation system in post, principle of telecommunication signal transmission, solving of telecommunication networks, modulating methods, multimedial networks and services, NGN networks

616UDDM Introduction to Transportation and Manipulation Technics Means of transportation and transportation systems. Principles, functions and arrangement of means of transportation. Motors and their characteristics. Water transportation. Manipulating technics. Principles of lifting machines and conveyors. Legislature. 6147AFT Fundamentals of Electrotechnics ΚZ 2 Basic electrotechnic terms, circuit quantities. Periodic courses characteristics. Electric circuits elements and basic circuit members. Assignating of bipoles and basic circuit elements. Solution to direct current circuits with a help of circuit analysis elementar methods: method of consecutive reduction, unloaded voltage divider, current divider. Transfiguration star-triplangel and principle of superposition in direct current circuits. Code of the group: 4S KOMBI 13-14 P Name of the group: 4. sem. KOMBI 13-14 povinné p edm ty (obor MED) Requirement credits in the group: In this group you have to gain 21 credits Requirement courses in the group: In this group you have to complete 9 courses Credits in the group: 21 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 Tutors, authors and guarantors (gar.) 617EM ΚZ 2 2+0 L Z **Management Science Economy and Management of Transport and** 617EDTP Z,ZK 3 L 2+1Z Telecommunication Processes Geography of Transport Systems **617GEDS** ΚZ 2 2P+0C+8B L Z 617HG Ζ 2 L 2+0 Z **Economic Geography** 618KIAD Z.ZK 2 2+1 L 7 **Kinematics and Dynamics** 617MVD Z,ZK 2 L 2+1**Marketing in Transportation** Z **Methods of Economics Analysis** 2 Ζ 617MEKA 2P+0C+8B ΚZ Ζ Otto Pastor Modeling of Systems and Processes 611MSP Z,ZK 4 2P+2C+12B L Ζ 617RIP K7 2 L 2+0 7 **Project Management** Characteristics of the courses of this group of Study Plan: Code=4S KOMBI 13-14 P Name=4. sem. KOMBI 13-14 povinné p edm ty (obor MED) 617EM Management Science K7 2 Linear Programming, graphical interpretation and solution of LP problem. Types of distribution problems, transportation problem. Models of network analysis. Models of queuing theory Models of inventory management. Simulation models. 617EDTP Economy and Management of Transport and Telecommunication Processes Z,ZK 3 Transport and telecommunication system, financing of transport infrastructure, transport policy, transport service, energy sources, public goods, externalities in transport and their treatment, assessment of public projects, CBA method, transport company, costing in transportation, transport quality. KZ 2 617GFDS Geography of Transport Systems Regional differentiation of the transport system. Sociogeographic regionalization and its relation to transport. Transport and local and regional development. Spatial interaction theoretical and methodological framework. Mobility research - travel behavior, mode choice and the influence onto "modal-split." Modal competition. Practical use of transport-geographical analysis in transportation planning. Economic Geography 617HG 7 2 Introduction of the issues, definitions and introductory concepts. World geography and its research subject. Economic geography - Europe, Asia, Africa, Australia, America, the Czech Republic. Transport geography and its research subject. Characteristics of transportation as one of the branches of the global economy. Transport systems and their location in the world. Particular transport modes as part of the economy and the world transport system.

618KIAD Kinematics and Dynamics Z.ZK 2

Motion along a line, motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass dynamics and system of point masses, equation of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact theory. Introduction to the solution of vibration with multiple degrees of freedom.

617MVD Marketing in Transportation Z,ZK

General principles of the marketing applied in transportation. Marketing, marketing research, macroworld, microworld, markets, market positioning, products, brands, package, service, pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action plan

2 ΚZ 617MEKA Methods of Economics Analysis The techniques of economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsion of statistical values using differencies and indices

611MSP Modeling of Systems and Processes

Mathematical methods and algorithms as a basis for system analysis. Methods for modelling and evaluating the systems in continuous and discrete time domain. Laplace transform, z-transform, and the recursive algorithms in solution of differential and difference equations, as an instrument for system description. Practical use of technical computing environment (MATLAB)

617RIP Project Management

Project, influences, pressures and influences. Entrepreneurial plan and capital decision making. Marketing, break-even point assessment. Project management and his characters. Organizational structures in project management. Feasibility study. Capital and operational costs assessment. Process of choosing optimal variant. Cost Benefit Analysis. Models of project financing. Life cycle of project. Financial anal. of capital projects. Project risks.

Code of the group: 4S KOMBI 13-14 PV

Name of the group: 4. sem. KOMBI 13-14 povinné p edm ty-výb r (obor MED)

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

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

Credits in the group: 2

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
614EAT	Economic Analyses in Spreadsheets Programs Environment	KZ	2	0+2	L	Z
614WS1	Webdesign With Web Standards 1	KZ	2	0+2	L	Z

Characteristics of the courses of this group of Study Plan: Code=4S KOMBI 13-14 PV Name=4. sem. KOMBI 13-14 povinné p edm ty-výb r (obor MED)

614EAT	Economic Analyses in Spreadsheets Programs Environment	KZ	2			
Work with spreadsheet programs with the respect to economic problems, use of nested functions and conditional formatting, statistic and mathematic functions. Creation of graphs an						
other graphic outputs. Data analysis, lists and contingent tables.						
614WS1	Webdesign With Web Standards 1	KZ	2			
	Webdesign With Web Standards 1 guages HTML and XHTML, anchors, tables, images, lists, forms, features of CSS, rules of accessible web pages, usability of	KZ of web pages, prob	2 blems of different			

Code of the group: 5S KOMBI 14-15 PV

Name of the group: 5. sem. KOMBI 14-15 povinné p edm ty - výb r (obor MED)

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

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

Credits in the group: 2 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role	
614TEU	Creation of Scripts and Macros for Economic Tasks	KZ	2	0+2	Z	Z	
614WS2	Webdesign With Web Standards 2	KZ	2	0+2	Z	Z	

Characteristics of the courses of this group of Study Plan: Code=5S KOMBI 14-15 PV Name=5. sem. KOMBI 14-15 povinné p edm ty - výb r (obor MED)

614TEU	Creation of Scripts and Macros for Economic Tasks	KZ	2					
Fundamentals of VBA, functions and procedures, examples of their use. Forms and offers for user oriented applications, cooperation with other applications, solution to compatibility								
problems among differe	problems among different spreadsheet programs versions. Everything with the respect to economic tasks.							
614WS2	Webdesign With Web Standards 2	KZ	2					
Advanced CSS techniq	Advanced CSS techniques. Multi-level menu. SEO - Search Engine Optimization. Web technologies: JavaScript, Flash, PHP, AJAX. AccessKey, Favicon, rollovers, lightboxes. Using							
API for maps or searchi	PI for maps or searching. Audit and page statistics. Use of useful scripts. Systems for content management.							

Code of the group: 5S KOMBI 14-15 P

Name of the group: 5. sem. KOMBI 14-15 povinné p edm ty (obor MED)

Requirement credits in the group: In this group you have to gain 21 credits

Requirement courses in the group: In this group you have to complete 9 courses

Credits in the group: 21 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
614DB	Database Systems	KZ	2	0+2	Z	Z
617DNV	Transportation of Dangerous Goods	KZ	2	2+0	Z	Z
617FIF	Finances and Financing	KZ	2	2+0	Z	Z
623KM	Crisis Management	KZ	2	2+0	Z	Z
617LOS	Logistic Systems	Z,ZK	3	2+1	Z	Z
617MSTP	Small and Medium Enterprise	KZ	2	2+0	Z	Z
617PDO	Designing of Public Transport Services	KZ	3	2+1	Z	Z
617TCHR	Tourist Trade Techniques	Z	1	2+0	Z	Z

17TGA	Graph Theory and its Applications in Transport Josef Volek	Z,ZK	4	2P+2C+12B	Z	Z
haracteristics of tl	the courses of this group of Study Plan: Code=5S KOMBI 14-1	5 P Name=5. se	em. KON	IBI 14-15 po	ovinné p	edm ty
14DB [Database Systems			K	(Z	2
emote data access. Basic	entals of relational and object database systems, database structure, relations model ic statement of SQL language. Expert systems and knowledge based applications, kr ystems design, certainty and uncertainty in knowledge systems.			•		
17DNV T	Transportation of Dangerous Goods			k	(Z	2
egal measures. Kinds of dvisors. System of intern	f hazards. Classification. Carriage by road, railways, inland waterways, air and maritir national obligatory conditions. Enumerated list of dangerous goods. Packing and mar t, approval, marking, operation and construction of road vehicles.			•		
17FIF F	Finances and Financing			k	(Z	2
	3					
	ue flow. Financial system functions. Financial assets. Types of financing. Company cash		•	•		ng instrument
	ue flow. Financial system functions. Financial assets. Types of financing. Company casl ents. Banking financial instruments. Financial risk allocation instruments. Payment an		•	•		ng instrument
ading financial instrume 23KM Carraordinary events in tra	, , , , , , , , , , , , , , , , , , , ,	d hedging instrument gency planning. Preca	s. Loan capautions of e	oital. Risk capita	al. KZ lization of th	2 he state. Use
ading financial instrumer 23KM Contract Contrac	ents. Banking financial instruments. Financial risk allocation instruments. Payment an Crisis Management ansport. Crisis states. Authorities of crisis management of the state. Crisis and emerg	d hedging instrument gency planning. Preca	s. Loan capautions of e	oital. Risk capital keconomic mobiles. Protection an	al. KZ lization of th	2 he state. Use
ading financial instrumer 23KM Control 23KM Control 23KM Control 23KM Control 24Km Control 25Km Control 25K	ents. Banking financial instruments. Financial risk allocation instruments. Payment an Crisis Management ansport. Crisis states. Authorities of crisis management of the state. Crisis and emerges. Organization conditions for crisis states treatment. Technical means for elimination operation. Information systems of crisis management.	d hedging instrument gency planning. Preca of results of extraordi	s. Loan cal autions of e nary event	bital. Risk capital keconomic mobil s. Protection an Z, pals and strateg	al. KZ lization of the distribution of the d	2 he state. Use of transport 3 spany logistic
rading financial instrument 23KM CAMPAGE CONTROL CONTR	ents. Banking financial instruments. Financial risk allocation instruments. Payment and Crisis Management anasport. Crisis states. Authorities of crisis management of the state. Crisis and emerges. Organization conditions for crisis states treatment. Technical means for elimination operation. Information systems of crisis management. Logistic Systems velopment and science basics of logistics. Basic elements of logistic system, logistic critic system. Logistic technologies in air, rail and water transport. Information systems in the critical system of the critical system of the critical system.	d hedging instrument gency planning. Preca of results of extraordi	s. Loan cal autions of e nary event	bital. Risk capital Reconomic mobil s. Protection an Z, pals and strategort. Storage an	al. KZ lization of the distribution of the d	2 he state. Use of transport 3 apany logistic
ading financial instruments 23KM Catraordinary events in transtructure, ensuring of a 17LOS Latron of logistics, deverties the control of logistics in the 17MSTP SME, design, plan, markets	ents. Banking financial instruments. Financial risk allocation instruments. Payment and Crisis Management ansport. Crisis states. Authorities of crisis management of the state. Crisis and emerges. Organization conditions for crisis states treatment. Technical means for elimination operation. Information systems of crisis management. Logistic Systems relopment and science basics of logistics. Basic elements of logistic system, logistic stict system. Logistic technologies in air, rail and water transport. Information systems is Czech Republic and Europe. Small and Medium Enterprise et, analysis, finance, management, decision making, survival, growth.	d hedging instrument gency planning. Preca of results of extraordi	s. Loan cal autions of e nary event	bital. Risk capital Risk capita	al. ZZ ization of the direnewal of th	2 he state. Use of transport 3 pany logistic ion in logistic:
ading financial instruments adding financial instruments and the straordinary events in traction and the straordinary events in traction and the straordinary events in traction and the straordinary events in traction and the straordinary events in traction and the straordinary events in the straordinary events and the straordinary events are straordinary events and the straordina	ents. Banking financial instruments. Financial risk allocation instruments. Payment and Crisis Management ansport. Crisis states. Authorities of crisis management of the state. Crisis and emerges. Organization conditions for crisis states treatment. Technical means for elimination operation. Information systems of crisis management. Logistic Systems relopment and science basics of logistics. Basic elements of logistic system, logistic system. Logistic technologies in air, rail and water transport. Information systems is a Czech Republic and Europe. Small and Medium Enterprise	d hedging instrument gency planning. Preca of results of extraordi chain. Technology in land logistics and passe	s. Loan cal autions of e nary event ogistics. Go nger trans	bital. Risk capital keconomic mobil s. Protection and Z, pals and strategort. Storage and keconomic mobil keconomic mobil s. Protection and L. Storage and L	al. KZ ization of the distribution of the d	2 he state. Use of transport 3 heavy logistic ion in logistic 2 3 le. Planning
ading financial instruments 23KM Catraordinary events in transtructure, ensuring of orms. The state material reserves. If astucture, ensuring of orms. The state material reserves. If astucture, ensuring of orms. The state material reserves. It is a state material	ents. Banking financial instruments. Financial risk allocation instruments. Payment and Crisis Management ansport. Crisis states. Authorities of crisis management of the state. Crisis and emerges. Organization conditions for crisis states treatment. Technical means for elimination operation. Information systems of crisis management. Logistic Systems relopment and science basics of logistics. Basic elements of logistic system, logistic sitic system. Logistic technologies in air, rail and water transport. Information systems is except Republic and Europe. Small and Medium Enterprise et, analysis, finance, management, decision making, survival, growth. Designing of Public Transport Services and elasticity. Strategy and hierarchical planning of public transport system. Line network and regional transport. Optimised number of rolling-stock, circulation plan of rolling-sig-term plans. Controlled competition. Case studies.	d hedging instrument gency planning. Preca of results of extraordi chain. Technology in land logistics and passe	s. Loan cal autions of e nary event ogistics. Go nger trans	bital. Risk capital Risk capita	al. KZ ization of the distribution of the d	2 he state. Use of transport 3 heavy logistic ion in logistic 2 3 le. Planning
ading financial instruments adding financial instruments attaced and a state material reserves. If a state material reserves. It a state material reserves a state material reserves. It a state material reserves a state	ents. Banking financial instruments. Financial risk allocation instruments. Payment and Crisis Management ansport. Crisis states. Authorities of crisis management of the state. Crisis and emerges. Organization conditions for crisis states treatment. Technical means for elimination operation. Information systems of crisis management. Logistic Systems relopment and science basics of logistics. Basic elements of logistic system, logistic sitic system. Logistic technologies in air, rail and water transport. Information systems is Czech Republic and Europe. Small and Medium Enterprise et, analysis, finance, management, decision making, survival, growth. Designing of Public Transport Services and elasticity. Strategy and hierarchical planning of public transport system. Line netwand regional transport. Optimised number of rolling-stock, circulation plan of rolling-stock, circulation plan of rolling-stock.	d hedging instrument gency planning. Preca of results of extraordi chain. Technology in la in logistics and passe ork planning, concep- tock, rolling-stock stra	s. Loan cal autions of e nary event ogistics. Go nger trans	bital. Risk capital Risk capita	al. ZZ ization of the drenewal of the drene	2 he state. Use of transport 3 pany logistic ion in logistic 2 3 le. Planning us segments.
ading financial instruments adding financial instruments and tracerdinary events in tracerdinary events financial in and road) transport.	ents. Banking financial instruments. Financial risk allocation instruments. Payment and Crisis Management ansport. Crisis states. Authorities of crisis management of the state. Crisis and emerges. Organization conditions for crisis states treatment. Technical means for elimination operation. Information systems of crisis management. Logistic Systems velopment and science basics of logistics. Basic elements of logistic system, logistic system. Logistic technologies in air, rail and water transport. Information systems is except Republic and Europe. Small and Medium Enterprise et, analysis, finance, management, decision making, survival, growth. Designing of Public Transport Services and elasticity. Strategy and hierarchical planning of public transport system. Line network and regional transport. Optimised number of rolling-stock, circulation plan of rolling-sing-term plans. Controlled competition. Case studies. Tourist Trade Techniques	d hedging instrument gency planning. Preca of results of extraordi chain. Technology in la in logistics and passe ork planning, concep- tock, rolling-stock stra	s. Loan cal autions of e nary event ogistics. Go nger trans	bital. Risk capital Risk capita	al. ZZ ization of the drenewal of the drene	2 he state. Use of transport 3 spany logistic ion in logistic 2 3 le. Planning us segments

Name of the group: 6. sem. KOMBI 13-14 povinné p edm ty (obor MED)

Requirement credits in the group: In this group you have to gain 23 credits

Requirement courses in the group: In this group you have to complete 10 courses

Credits in the group: 23 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
617DAS	Transportation and Communication Law	Z	1	2+0	L	Z
617DU	Public Transport Service in a Territory	KZ	2	2+0	L	Z
617ERP	Company Economy and Management	Z,ZK	3	2+1	L	Z
614ISYS	Information Systems	KZ	2	2+0	L	Z
617KS	Quality of Transport and Telecommunication Systems	KZ	2	2+0	L	Z
617MPD	Management of Techonology Systems of Land Transport	Z,ZK	3	2+1	L	Z
617MR	Managerial Decision Making	KZ	3	2+1	L	Z
617ODS	Optimization on Transportation Networks	Z,ZK	3	2+1	L	Z
617PZL	Carriage and Forwarding	Z,ZK	3	2+1	L	Z
617TAC	Tariffs and Prices in Transport	Z	1	2+0	L	Z

Characteristics of the courses of this group of Study Plan: Code=6S KOMBI 14-15 P Name=6. sem. KOMBI 13-14 povinné p edm ty (obor MED)

(0.00)			
617DAS	Transportation and Communication Law	Z	1
Transportation and com	munication law - railway, road transport, ropeway, water road, air transport, telecommunication, post, patent.		
617DU	Public Transport Service in a Territory	KZ	2
Transport policy. Impac	of European integration.Configuration and links. Contract ensuring. Funding. Tariff and ticketing system. Legal conditions. Su	rvey and quantific	ation of carriage
demand. Transport scho	eduling, Quality criteria and standards, IT. Publicity, Promotion, Marketing, Case study on an Integrated Public Transport Syst	em.	

617ERP	Company Economy and Management	Z,ZK	3
Company and its n	eighbourhood, structure of assets and liabilities, depreciation, costs, revenues and profit, break-even point, costing, inventory, fi	inancial managemer	ıt, investment
appraisal, basics o	f management, organizational structures, human resources management, marketing, company strategy, business plan.		
614ISYS	Information Systems	KZ	2
State-of-the-art too	ols of objects control (control and planning) including problems related to these toole use, theory of information and knowledge,	knowledge and expe	ert systems, IS
planning methodol	ogies, transaction systems, theory of computer networks, semantic webs and sensitivity analysis.		
617KS	Quality of Transport and Telecommunication Systems	KZ	2
Quality, systems, o	ompany, customer, norms, assessment, methods, indicators, satisfaction, loyalty.	,	
617MPD	Management of Techonology Systems of Land Transport	Z,ZK	3
Structure of vehicle	e systems, rational assessment, decision making in the managing activity, operation-technical and economic properties, technol	logical subsystems i	n the field of the
road and rail transp	port.		
617MR	Managerial Decision Making	KZ	3
Decision making, r	ationality, process, state of the world, CPM, PERT, trees, group, certainty, risk, uncertainty, preference.	,	
617ODS	Optimization on Transportation Networks	Z,ZK	3
Introduction to opti	mization and heuristic methods, metaheristic methods, the history of optimization. Lagrangean approach, assignment problem - Hu	ungarian method, mir	nimum weighted
matching, Little's a	lgorithm, vehicle routing problem - an extension of TSP, heuristic solution approaches to vehicle routing problem, local search t	echniques, Tabu Sea	arch, location
problems - heuristi	c algorithms, genetic algorithms and extensions of genetic algorithms.		
617PZL	Carriage and Forwarding	Z,ZK	3
carriage, forwardin	g, global economy, transport modes, law conditions, storage, dangerous goods, logistics, IT systems, insurance, distribution, cu	istoms	
617TAC	Tariffs and Prices in Transport	Z	1
Transport and divis	ion of labour. Costs in transport. External costs. Financing of traffic in transport. Prices and tariffs. Tariffs of railway transport. Ta	riffs of road transpor	t. Tariffs of air
and water contract	Transport market. Service arrangement in public interest. Pricing policy history. Pricing in the EU.		

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 12

The role of the block: PV

Code of the group: PVP KOMBI 13-14

Name of the group: PVP pro KOMBI (MED) od 13-14 (ZS+LS)

Requirement credits in the group: In this group you have to gain 12 credits

Requirement courses in the group: In this group you have to complete 3 courses

Credits in the group: 12 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
617W1AF	Alternative Forms of Transportation Project Financing	KZ	4	8	Z	PV
615W1BO	Work Safety and Health Protection in Transportation Petr Musil	KZ	4	8B	L	PV
615W1DZ	History of Railway	KZ	4	8	L	PV
617W1DZ	Transported Commodities Cognization	KZ	4	8	L	PV
617W1EV	Public Sector Economy	KZ	4	8B	Z	PV
615W1HE	Work Hygiene and Ergonomics in Traffic Petr Musil	KZ	4	8B	Z	PV
617W1OF	Personal Finance Alexandra Dvo á ková	KZ	4	8B	Z	PV
617W1PM	Personnel Management Stanislava Holíková	KZ	4	8B	L	PV
617W1ST	Titan Simulation Alexandra Dvo á ková	KZ	4	8B	L	PV
612W1VC	Waterways and Shipping	KZ	4	8	Z	PV
616W1ZL	Vehicle Testing, Legislation and Construction	KZ	4	8	Z	PV

Characteristics of the courses of this group of Study Plan: Code=PVP KOMBI 13-14 Name=PVP pro KOMBI (MED) od 13-14 (ZS+LS)

Characteristics of	the courses of this group of Study Plan: Code=PVP KOMBI 13-14 Name=PVP pro KOMBI ((MED) og 13-	14 (ZS+LS)		
617W1AF	Alternative Forms of Transportation Project Financing	KZ	4		
There will be specifed s	uch forms of financing in transportation, where the public sector body perform the final debtor, i. e. debtor payments come fro	om its budget, but	the final debtor		
is not a direct participant of the transaction and it is not the counterparty of the financial institute which provides the funding. Issue of securities as an alternative source of transportation					
project.					
615W1BO	Work Safety and Health Protection in Transportation	KZ	4		
Fundamental legislative	, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation	. Health protection	n programmes,		
health insurance of hom	ne and foreign business trips, statistics, working practice.				
615W1DZ	History of Railway	KZ	4		
Horse-drawn railways, s	Horse-drawn railways, steam railways, railway network development in the 2nd half of 19th century, regional railways epoch, railways of the "First Republic", electric traction, World				
War II railways, railway	development in the 2nd half of 20th century, high-speed railway origins, railway lines closing, development of long-distance tr	rain connections,	railway lines		
construction, railway ac	cidents, railway junctions. Study trips and projections.				

617W1DZ **Transported Commodities Cognization** Useful features. Quality. Testing. Standardization. Features relevant for the transport. Packing. Stress. Protection of goods and damage prevention during the carriage. Optimization of the choice and effective transport means utility. 617W1EV Public Sector Economy K7 Economic and financial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assessment of public projects (CBA, MCA, CEA), tax system of the CR, state budget, management of public projects a their economic efficiency assessment, way of elaboration of PPP projects, funding from EU funds, program HDM-4. Work Hygiene and Ergonomics in Traffic Basic knowledge of occupational hygiene and ergonomics, and their application in transport. Working environment factors, and the influence of these factors on health of workers. Creation and protection of working conditions that do not damage public health. Mutual links man-machine-environment. Adaptation of technology to possibilities and skills of man. Practical examples from the field of transportation; relevant legislative. 617W1OF Personal Finance Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financing of housing (rent, mortgage, savings, consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, suitability and adequacy), securing the future (retirement savings and insurance). 617W1PM Personnel Management Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, intercultural communication 617W1ST Titan Simulation ΚZ 4 Titan is a management game simulating the business decisions. Lets 2-8 student groups to produce and compete in the market with the same product. Students set a price and determine the quantity and capacity of production, plan budgets for marketing, research and development. They become familiar with the consequences of their decisions by the form of financial corporate reports and they use this information for other business decisions. 612W1VC Waterways and Shipping K7 4 European waterway net, waterways parameters, ports and transshipment points, advantages and disadvantages of water transport, regulations of ship operation and waterways,

shipping net in the Czech Republic and European countries, waterways authorities, investment in water infrastructure.

Vehicle Testing, Legislation and Construction

Z,ZK

Vehicle costruction, aggregate computing, driving resistance, building and parameters of traction, constructional arrangement of personal cars, trucks, buses, motorbikes, legislation in the EU and in the world, creation of technical legislation, testing methods, vehicle tests, accelerated tests, mathematical modelling in testing.

Name of the block: Jazyky

Minimal number of credits of the block: 12

The role of the block: J

Code of the group: JAZ 1 K (3.-4.SEM)

Name of the group: Jazyky KOMBI pro 3. a 4. sem. (1.cizí jazyk)

Requirement credits in the group: In this group you have to gain 6 credits

Requirement courses in the group: In this group you have to complete 2 courses

Credits in the group: 6 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
615JZ1A	Foreign Language - English 1 V ra Pastorková	Z	3	0P+4C+10B	Z	J
615JZ2A	Foreign Language - English 2 V ra Pastorková	Z,ZK	3	0P+4C+10B	L	J
615JZ1N	Foreign Language - German 1	Z	3	0+4	Z	J
615JZ2N	Foreign Language - German 2	Z,ZK	3	0+4	L	J
615JZ1R	Foreign Language - Russian 1	Z	3	10	Z	J
615JZ2R	Foreign Language - Russian 2	Z,ZK	3	0+4	L	J

Characteristics of the courses of this group of Study Plan: Code=JAZ 1 K (3.-4.SEM) Name=Jazyky KOMBI pro 3. a 4. sem. (1.cizí jazyk)

615JZ1A Foreign Language - English 1 Ζ Grammatical structures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and communicative skills. Elementary stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.

615JZ2A Foreign Language - English 2

Grammatical structures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and communicative skills. Elementary stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric.

615JZ1N Foreign Language - German 1

Grammar structure and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's fields of study. Focus on improvement in perceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral and written forms. Technical texts and their features; practice of oral and written presentation.

615JZ2N Foreign Language - German 2 Z.ZK

Grammar structure and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's fields of study. Focus on improvement in perceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral and written forms. Technical texts and their features; practice of oral and written presentation.

615JZ1R Foreign Language - Russian 1

Grammar structure and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's fields of study. Focus on improvement in perceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral and written forms. Technical texts and their features; practice of oral and written presentation.

Foreign Language - Russian 2

Grammar structure and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's fields of study. Focus on improvement in perceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral and written forms. Technical texts and their features; practice of oral and written presentation.

Code of the group: JAZ 2 K (5.-6.SEM)

Name of the group: Jazyky KOMBI pro 5. a 6. sem. (2.cizí jazyk)

Requirement credits in the group: In this group you have to gain 6 credits

Requirement courses in the group: In this group you have to complete 2 courses

Credits in the group: 6 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
615JZ3A	Foreign Language - English 3	Z	3	0P+4C	Z	J
615JZ4A	Foreign Language - English 4	Z,ZK	3	0+4	L	J
615JZ3N	Foreign Language - German 3 René Skalický	Z	3	0P+4C+10B	Z	J
615JZ4N	Foreign Language - German 4 René Skalický	Z,ZK	3	0P+4C+10B	L	J
615JZ3R	Foreign Language - Russian 3 Vilma Gottwaldová	Z	3	0P+4C+10B	Z	J
615JZ4R	Foreign Language - Russian 4 Vilma Gottwaldová	Z,ZK	3	0P+4C+10B	L	J

Characteristics of the courses of this group of Study Plan: Code=JAZ 2 K (5.-6.SEM) Name=Jazyky KOMBI pro 5. a 6. sem. (2.cizí jazyk)

615JZ3A Foreign Language - English 3

Grammar structure and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's fields of study. Focus on improvement in perceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral and written forms. Technical texts and their features; practice of oral and written presentation.

615JZ4A Foreign Language - English 4 Z.ZK

Grammar structure and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's fields of study. Focus on improvement in perceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral and written forms. Technical texts and their features; practice of oral and written presentation.

615JZ3N Foreign Language - German 3 Ζ

3

Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation.

615JZ4N Foreign Language - German 4 Z,ZK

Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation.

615JZ3R Foreign Language - Russian 3

Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation.

615JZ4R Foreign Language - Russian 4 Z,ZK

Grammar and stylistics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of language structure knowledge and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work with (professional) text and its features. Practice of oral and written presentation.

List of courses of this pass:

Code	Name of the course	Completion	Credits
611DAD	Differential and Difference Equations	Z,ZK	3
Concept of a different	ntial equation of the first order and some methods of its solution. Differential equations of the n-th order, linear diferential equations.	nitial and boundar	y conditions
for ordinary	linear differential equation of the second order. Systems of linear differential equations. Difference equations, linear difference equations	ons and their syste	ems.
611FY1	Physics 1	Z,ZK	4
Kinem	natics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermodynamics, electric field, directed	d electric current.	

Physics 2	Z,ZK	4
tromagnetic field. Optics, quantum character of electromagnetic radiation. Introduction into quantization, hydrogen atom. Multi-electro solid body physics.	n atoms, the nuc	lei. Basics of
Geometry	KZ	3
Linear Algebra	Z,ZK	3
ar combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and their	-	minants and
Modeling of Systems and Processes	Z,ZK	4
nods and algorithms as a basis for system analysis. Methods for modelling and evaluating the systems in continuous and discrete time e recursive algorithms in solution of differential and difference equations, as an instrument for system description. Practical use of tech	•	
ies of real numbers and its convergence. Basic properties of functions. Differential and integral calculus of the real function of one real v	•	4 eries, Fourier
	7 7K	3
uences in metric spaces, limit of sequence in metric space. Differential calculus of functions of several variables, differential of function	n, partial derivatio	ons, implicitly
Probability	Z	2
	· •	•
Statistics	Z,ZK	2
		•
· · · · · · · · · · · · · · · · · · ·		3
ssessment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the conseque		•
	Z,ZK	3
	•	railway lines.
Designing Roads, Highways and Motorways	KZ	3
stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety	-	
	1/7	1 4
		4
shipping net in the Czech Republic and European countries, waterways authorities, investment in water infrastructure.	operation and v	valei ways,
Introduction to Transportation Engineering	7 7K	3
Introduction to Transportation Engineering strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognos Traffic and environment.	Z,ZK sis. Traffic safety.	3 Air transport.
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognos	is. Traffic safety.	I
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognos Traffic and environment. Economics	is. Traffic safety.	Air transport.
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognos Traffic and environment. Economics Economy, Transport, Telecommunications	is. Traffic safety. Z,ZK KZ	Air transport.
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognost Traffic and environment. Economics Economy, Transport, Telecommunications Database Systems Indamentals of relational and object database systems, database structure, relations modelling, relation algebra, dbf. tools, database d ss. Basic statement of SQL language. Expert systems and knowledge based applications, knowledge representation, methods of der	Z,ZK KZ KZ esign process, u	Air transport. 3 2 2 ser interface,
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognost Traffic and environment. Economics Economy, Transport, Telecommunications Database Systems Indamentals of relational and object database systems, database structure, relations modelling, relation algebra, dbf. tools, database dss. Basic statement of SQL language. Expert systems and knowledge based applications, knowledge representation, methods of der interface for knowledge systems design, certainty and uncertainty in knowledge systems.	Z,ZK KZ KZ esign process, uivating and imple	Air transport. 3 2 2 ser interface,
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognost Traffic and environment. Economics Economy, Transport, Telecommunications Database Systems Indamentals of relational and object database systems, database structure, relations modelling, relation algebra, dbf. tools, database dss. Basic statement of SQL language. Expert systems and knowledge based applications, knowledge representation, methods of der interface for knowledge systems design, certainty and uncertainty in knowledge systems. Economic Analyses in Spreadsheets Programs Environment	Z,ZK KZ KZ esign process, usivating and implestications.	3 2 2 ser interface, mentating,
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognost Traffic and environment. Economics Economy, Transport, Telecommunications	Z,ZK KZ KZ esign process, u ivating and imple KZ ctions. Creation of	3 2 2 ser interface, mentating, 2 graphs and
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognost Traffic and environment. Economics	Z,ZK KZ KZ esign process, usivating and imple KZ ctions. Creation of	3 2 2 ser interface, mentating, 2 graphs and
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognost Traffic and environment. Economics	Z,ZK KZ KZ esign process, usivating and imple KZ ctions. Creation of	Air transport. 3 2 2 ser interface, mentating, 2 f graphs and 2 systems, IS
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognost Traffic and environment. Economics	Z,ZK KZ KZ esign process, usivating and imple KZ ctions. Creation of KZ edge and expert	Air transport. 3 2 2 ser interface, mentating, 2 of graphs and 2 systems, IS
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognost Traffic and environment. Economics	Z,ZK KZ KZ esign process, usivating and imple KZ ctions. Creation of KZ edge and expert KZ rules in graphic	Air transport. 3 2 2 ser interface, mentating, 2 of graphs and 2 systems, IS 2 applications
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognost Traffic and environment. Economics	Z,ZK KZ KZ esign process, usivating and imple KZ ctions. Creation of KZ edge and expert KZ rules in graphic lites, AutoCAD e	Air transport. 3 2 2 ser interface, mentating, 2 of graphs and 2 systems, IS 2 applications nvironment
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognoss Traffic and environment. Economics Economy, Transport, Telecommunications Database Systems Indamentals of relational and object database systems, database structure, relations modelling, relation algebra, dbf. tools, database dss. Basic statement of SQL language. Expert systems and knowledge based applications, knowledge representation, methods of der interface for knowledge systems design, certainty and uncertainty in knowledge systems. Economic Analyses in Spreadsheets Programs Environment Interpretation Systems Sites of objects control (control and planning) including problems related to these toole use, theory of information and knowledge, knowledge planning methodologies, transaction systems, theory of computer networks, semantic webs and sensitivity analysis. Constructing with Computer Aid Indetermination. CAD role in projecting system model. Existing CAD systems on Czech market. Project creation, basic common work Co-ordinated systems, CAD environment skill (basics of constructing, dimensioning, modifications, user interfaces, projecting possibility profiles, drawings with raster foundaments). Networks and Protocols Liton model, history and development of the Internet, principle of data transfer through computer networks (TCP/IP), performance of beinet, FTP, DNS, DHCP POP3, IMAP), data acquirement from the Internet sources, communicating ability via the Internet and fundamental profiles.	Z,ZK KZ KZ esign process, usivating and imple KZ ctions. Creation of KZ edge and expert KZ rules in graphic lites, AutoCAD e KZ asic network prot	Air transport. 3 2 2 ser interface, mentating, 2 of graphs and 2 systems, IS 2 applications nvironment 2 ocols (ARP,
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognoss Traffic and environment. Economics Economy, Transport, Telecommunications Database Systems Indamentals of relational and object database systems, database structure, relations modelling, relation algebra, dbf. tools, database dss. Basic statement of SQL language. Expert systems and knowledge based applications, knowledge representation, methods of der interface for knowledge systems design, certainty and uncertainty in knowledge systems. Economic Analyses in Spreadsheets Programs Environment Interpretation Systems Information Systems Sols of objects control (control and planning) including problems related to these toole use, theory of information and knowledge, knowledge planning methodologies, transaction systems, theory of computer networks, semantic webs and sensitivity analysis. Constructing with Computer Aid Intermitation. CAD role in projecting system model. Existing CAD systems on Czech market. Project creation, basic common work. Co-ordinated systems, CAD environment skill (basics of constructing, dimensioning, modifications, user interfaces, projecting possibility profiles, drawings with raster foundaments). Networks and Protocols Intermet Sources, communicating ability via the Internet and fundament design by the means of web sites.	Z,ZK KZ KZ esign process, usivating and imple KZ etions. Creation of KZ edge and expert KZ a rules in graphic lites, AutoCAD e KZ asic network proteintals of own web	Air transport. 3 2 2 ser interface, ementating, 2 of graphs and 2 systems, IS 2 applications nvironment 2 ocols (ARP, presentation
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognoss Traffic and environment. Economics Economy, Transport, Telecommunications Database Systems Indamentals of relational and object database systems database structure, relations modelling, relation algebra, dbf. tools, database d ss. Basic statement of SQL language. Expert systems and knowledge based applications, knowledge representation, methods of der interface for knowledge systems design, certainty and uncertainty in knowledge systems. Economic Analyses in Spreadsheets Programs Environment Interpretation of the respect to economic problems, use of nested functions and conditional formatting, statistic and mathematic functions of the respect to economic problems, use of nested functions and conditional formatting, statistic and mathematic functions of the respect to economic problems, use of nested functions and conditional formatting, statistic and mathematic functions of the systems of the section of systems. Information Systems Informa	Z,ZK KZ KZ esign process, usivating and imple KZ etions. Creation of KZ edge and expert KZ a rules in graphic lites, AutoCAD e KZ asic network protentals of own web	Air transport. 3 2 2 ser interface, mentating, 2 of graphs and 2 systems, IS 2 applications nvironment 2 ocols (ARP, presentation
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognose Traffic and environment. Economics Economy, Transport, Telecommunications Database Systems Indamentals of relational and object database systems, database structure, relations modelling, relation algebra, dbf. tools, database dss. Basic statement of SQL language. Expert systems and knowledge based applications, knowledge representation, methods of der interface for knowledge systems design, certainty and uncertainty in knowledge systems. Economic Analyses in Spreadsheets Programs Environment Destroams with the respect to economic problems, use of nested functions and conditional formatting, statistic and mathematic functions of the graphic outputs. Data analysis, lists and contingent tables. Information Systems Ols of objects control (control and planning) including problems related to these toole use, theory of information and knowledge, knowledge, planning methodologies, transaction systems, theory of computer networks, semantic webs and sensitivity analysis. Constructing with Computer Aid In determination. CAD role in projecting system model. Existing CAD systems on Czech market. Project creation, basic common work Co-ordinated systems, CAD environment skill (basics of constructing, dimensioning, modifications, user interfaces, projecting possibility profiles, drawings with raster foundaments). Networks and Protocols Ition model, history and development of the Internet, principle of data transfer through computer networks (TCP/IP), performance of be alient, FTP, DNS, DHCP POP3, IMAP), data acquirement from the Internet sources, communicating ability via the Internet and fundamendesing by the means of web sites. Creation of Scripts and Macros for Economic Tasks (PAA, functions and procedures, examples of their use. Forms and offers for user oriented applications, cooperation with other application problems among different spreadsheet programs versions. Every	Z,ZK KZ KZ esign process, usivating and imple KZ etions. Creation of KZ edge and expert KZ a rules in graphic lites, AutoCAD e KZ asic network protentals of own web KZ tons, solution to one	Air transport. 3 2 2 ser interface, mentating, 2 of graphs and 2 systems, IS 2 applications nvironment 2 cocols (ARP, presentation 2 compatibility
strial roads. Residential zone. Land - use planning. Railway transport. Public mass transport. Integrated traffic systems. Traffic prognoss Traffic and environment. Economics Economy, Transport, Telecommunications Database Systems Indamentals of relational and object database systems database structure, relations modelling, relation algebra, dbf. tools, database d ss. Basic statement of SQL language. Expert systems and knowledge based applications, knowledge representation, methods of der interface for knowledge systems design, certainty and uncertainty in knowledge systems. Economic Analyses in Spreadsheets Programs Environment Interpretation of the respect to economic problems, use of nested functions and conditional formatting, statistic and mathematic functions of the respect to economic problems, use of nested functions and conditional formatting, statistic and mathematic functions of the respect to economic problems, use of nested functions and conditional formatting, statistic and mathematic functions of the systems of the section of systems. Information Systems Informa	Z,ZK KZ KZ esign process, usivating and imple KZ etions. Creation of KZ edge and expert KZ a rules in graphic lites, AutoCAD e KZ asic network protentals of own web KZ	Air transport. 3 2 2 ser interface, ementating, 2 of graphs and 2 systems, IS 2 applications nvironment 2 ocols (ARP, presentation 2 compatibility 2
	comagnetic field. Optics, quantum character of electromagnetic radiation. Introduction into quantization, hydrogen atom. Multi-electrosolid body physics. Geormetry oblique projections, linear perspective. Topographic surfaces and their orthogonal projection. Differential geometry of curves - parama and curvature, Frenet's trihedron. Kinematics - a curve as a trajectory of the motion, the velocity and acceleration of a particle moving Linear Algebra ar combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and their their applications. Scalar product. Similarly of matrices (eigenvalues and eigenvectors). Quadratic forms and their classification. Modeling of Systems and Processes mods and algorithms as a basis for system analysis. Methods for modelling and evaluating the systems in continuous and discrete time erecursive algorithms in solution of differential and difference equations, as an instrument for system description. Practical use of tech (MATLAB). Mathematical Analysis lies of real numbers and its convergence. Basic properties of functions. Differential and integral calculus of the real function of one real vaseries and foundations of Fourier transform. Mathematical Analysis of Function of More Variables uences in metric spaces, limit of sequence in metric space. Differential calculus of functions of several variables, differential of functions of several variables. Integral calculus of functions of several variables, Riemann integral, integral over curves and integral calculus of physics. Probability s. Basic probability concepts: elementary events and events, definitions and interpretation of probability. Random variable, probability ents, some discrete and continuous distributions. Random vectors: joint and marginal distributions, mean vector, covariance matrix. M distributions. Law of large numbers, central limit theorem. Statistics roperties of point estimators, methods of point estimation. Testing statistical hypothesis.	tromagnetic field. Optics, quantum character of electromagnetic radiation. Introduction into quantization, hydrogen atom. Multi-electron atoms, the nuc solid body physics. Geometry Geometry Geometry Az Oblique projections, linear perspective. Topographic surfaces and their orthogonal projection. Differential geometry of curves - parameterization, arc o and curvature, Frenet's trihedron. Kinematics - a curve as a trajectory of the motion, the velocity and acceleration of a particle moving on a curved patt Linear Algebra ar combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and their solvability. Deter their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classification. Modeling of Systems and Processes Az K Modeling of Systems and Processes Az ZK Modes and algorithms as a basis for system analysis. Methods for modelling and evaluating the systems in continuous and discrete time domain. Laplace recursive algorithms in solution of differential and difference equations, as an instrument for system description. Practical use of technical computing (MATLAB). Mathematical Analysis Az ZK Mathematical Analysis Algebra Mathematical Analysis of Function of More Variables Mathematical Analysis of Function of More Variables Agriculture of functions of several variables, Integral calculus of functions of several variables, probability concepts: elementary events and events, definitions and interpretation of probability. Random variable, probability distributions, Bandom vectors; joint and marginal distributions, mean vector, covariance matrix. Mixed distributions distributions. Law of large numbers, central limit theorem. Statistics Probability Statistics Transport Models and Transport Excesses Transport Models of the traffic flow, communications load, line and urban systems. Theory of queues, shock was sessment. Statistical characteristics of transport. Transport Design

614UPRO	Introduction to Programming	KZ	2
Algorithm develop	ment, methods of structured programming, high-level programming languages, basics of C programming languages (types, variables		_
	functions), programming techniques, complexity.		
614WS1	Webdesign With Web Standards 1 languages HTML and XHTML, anchors, tables, images, lists, forms, features of CSS, rules of accessible web pages, usability of wel	KZ	2 s of differe
TTF, OKL, Markup	browsers, one, two and three column pages, page validation, conditional comments, CSS hacks.	b pages, problems	s or uniere
614WS2	Webdesign With Web Standards 2	KZ	2
Advanced CSS tec	hniques. Multi-level menu. SEO - Search Engine Optimization. Web technologies: JavaScript, Flash, PHP, AJAX. AccessKey, Favicon	n, rollovers, lightbo	xes. Usin
614ZAET	API for maps or searching. Audit and page statistics. Use of useful scripts. Systems for content management. Fundamentals of Electrotechnics	KZ	2
- 1	t undamentals of Electrotechnics terms, circuit quantities. Periodic courses characteristics. Electric circuits elements and basic circuit members. Assignating of bipole		_
olution to direct curr	rent circuits with a help of circuit analysis elementar methods: method of consecutive reduction, unloaded voltage divider, current divider and principle of superposition in direct current circuits.	. Transfiguration st	ar-triplanç
614ZINF	Fundamentals of Informatics	KZ	2
	ulty network, MS-Word and Open Office, use of styles and advanced features, computer functions and information transmission. Num ams and their proprieties. Flow charts for algorithms drawing. Mathematic and logic ordering algorithms incl. functions and procedures graphs, calculations, functions.		
615JZ1A	Foreign Language - English 1	Z	3
	res and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and constylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles or		Elementa
615JZ1N	Foreign Language - German 1	Z	3
	re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty exceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral attention texts and their features; practice of oral and written presentation.	-	
615JZ1R	Foreign Language - Russian 1	Z	3
	re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty	-	
· · · · · · · · · · · · · · · · · · ·	erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral attests and their features; practice of oral and written presentation.		ı
615JZ2A	Foreign Language - English 2 res and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and con	Z,ZK	S Element
	stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles o		Element
615JZ2N	Foreign Language - German 2	Z,ZK	3
	re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty		Focus on
	erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral attexts and their features; practice of oral and written presentation.		1
615JZ2R	Foreign Language - Russian 2	Z,ZK	3
	re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty exceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral attention texts and their features; practice of oral and written presentation.	-	
615JZ3A	Foreign Language - English 3	Z	3
	re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral a	's fields of study	Focus on
improvement in pe			
	texts and their features; practice of oral and written presentation.	and written forms.	Technica
615JZ3N	texts and their features; practice of oral and written presentation. Foreign Language - German 3	and written forms.	Technica
615JZ3N Grammar and stylis	texts and their features; practice of oral and written presentation.	and written forms. Z Inguage structure	Technica 3 knowledg
615JZ3N Grammar and stylis and perceptive and 615JZ3R	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w features. Practice of oral and written presentation. Foreign Language - Russian 3	Z anguage structure (professional)	3 knowledgetext and
615JZ3N Grammar and stylis and perceptive and 615JZ3R Grammar and stylis	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w features. Practice of oral and written presentation.	Z Inguage structure //ith (professional) Z Inguage structure	3 knowledgetext and sknowledgetext and knowledgetext and knowledgetext and sknowledgetext
615JZ3N Grammar and stylis and perceptive and 615JZ3R Grammar and stylis and perceptive and	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w features. Practice of oral and written presentation. Foreign Language - Russian 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w features. Practice of oral and written presentation.	Z Inguage structure //ith (professional) Z Inguage structure //ith (professional)	3 knowledgetext and sknowledgetext and knowledgetext and knowledgetext and sknowledgetext
615JZ3N Grammar and stylis and perceptive and 615JZ3R Grammar and stylis and perceptive and 615JZ4A Grammar structure	texts and their features; practice of oral and written presentation. Foreign Language - German 3 Itics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 3 Itics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - English 4 re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty exceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral as	Z Inguage structure vith (professional) Z Inguage structure vith (professional) Z,ZK ´s fields of study.	3 knowled text and 3 knowled text and 5 knowled text and 5 Focus on
615JZ3N Grammar and stylis nd perceptive and 615JZ3R Grammar and stylis nd perceptive and 615JZ4A Grammar structur improvement in perceptive and	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - English 4 re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral at texts and their features; practice of oral and written presentation.	Z Inguage structure vith (professional) Z Inguage structure vith (professional) Z,ZK ´s fields of study. and written forms.	3 knowledgetext and 3 knowledgetext and 3 Focus on Technica
615JZ3N Grammar and stylis and perceptive and 615JZ3R Grammar and stylis and perceptive and 615JZ4A Grammar structur improvement in perceptive and 615JZ4N	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - English 4 re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral at texts and their features; practice of oral and written presentation. Foreign Language - German 4	Z Inguage structure vith (professional) Z Inguage structure vith (professional) Z,ZK ´s fields of study. and written forms. Z,ZK	3 knowledgetext and 3 knowledgetext and 3 Focus on Technica
615JZ3N Grammar and stylis nd perceptive and 615JZ3R Grammar and stylis nd perceptive and 615JZ4A Grammar structur improvement in perceptive and 615JZ4N Grammar and stylis	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - English 4 re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral at texts and their features; practice of oral and written presentation.	Z Inguage structure vith (professional) Z Inguage structure vith (professional) Z,ZK 's fields of study. and written forms. Z,ZK Inguage structure	3 knowledgetext and 3 knowledgetext and 3 Focus on Technica knowledgetext and 3 knowle
615JZ3N Grammar and stylis and perceptive and 615JZ3R Grammar and stylis and perceptive and 615JZ4A Grammar structur improvement in perceptive and 615JZ4N Grammar and stylis and perceptive and 615JZ4R	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w features. Practice of oral and written presentation. Foreign Language - Russian 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w features. Practice of oral and written presentation. Foreign Language - English 4 re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral at texts and their features; practice of oral and written presentation. Foreign Language - German 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w features. Practice of oral and written presentation. Foreign Language - Russian 4	and written forms. Z Inguage structure vith (professional) Z Inguage structure vith (professional) Z,ZK 's fields of study. and written forms. Z,ZK Inguage structure vith (professional) Z,ZK Inguage structure vith (professional)	3 knowledg text and 3 knowledg text and 5 Focus on Technica 8 knowledg text and 5 know
615JZ3N Grammar and stylis and perceptive and 615JZ3R Grammar and stylis and perceptive and 615JZ4A Grammar structur improvement in perceptive and 615JZ4N Grammar and stylis and perceptive and 615JZ4R Grammar and stylis	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - English 4 The end stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty preceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral at texts and their features; practice of oral and written presentation. Foreign Language - German 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we were standard to the features of own knowledge in oral and written form. Work we were standard to the features of own knowledge	and written forms. Z Inguage structure vith (professional) Z Inguage structure vith (professional) Z,ZK Inguage structure vith (professional)	3 knowledge text and 3 knowledge
615JZ3N Grammar and stylis and perceptive and 615JZ3R Grammar and stylis and perceptive and 615JZ4A Grammar structur improvement in perceptive and 615JZ4N Grammar and stylis and perceptive and 615JZ4R Grammar and stylis and perceptive and 615JZ4R Grammar and stylis and perceptive and	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - English 4 The and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral at texts and their features; practice of oral and written presentation. Foreign Language - German 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation.	and written forms. Z Inguage structure vith (professional) Z Inguage structure vith (professional) Z,ZK Inguage structure vith (professional) Z,ZK Inguage structure vith (professional) Z,ZK Inguage structure vith (professional)	3 knowledgetext and 3 showledgetext and 3 knowledgetext and 3 showledgetext and 3 knowledgetext and 3 showledgetext and
615JZ3N Grammar and stylis and perceptive and 615JZ3R Grammar and stylis and perceptive and 615JZ4A Grammar structur improvement in perceptive and 615JZ4N Grammar and stylis and perceptive and 615JZ4R Grammar and stylis and perceptive and 615JZ4R Grammar and stylis and perceptive and 615JZ4R Grammar and stylis and perceptive and 615W1BO	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - English 4 The end stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty preceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral at texts and their features; practice of oral and written presentation. Foreign Language - German 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we were standard to the features of own knowledge in oral and written form. Work we were standard to the features of own knowledge	and written forms. Z Inguage structure vith (professional) Z Inguage structure vith (professional) Z,ZK Inguage structure vith (professional) Z,ZK Inguage structure vith (professional) Z,ZK Inguage structure vith (professional) XZK Inguage structure vith (professional) KZ	3 knowledge text and 4 4
615JZ3N Grammar and stylis and perceptive and 615JZ3R Grammar and stylis and perceptive and 615JZ4A Grammar structur improvement in perceptive and perceptive and stylis and perceptive and 615JZ4R Grammar and stylis and perceptive and 615JZ4R Grammar and stylis and perceptive and	texts and their features; practice of oral and written presentation. Foreign Language - German 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w features. Practice of oral and written presentation. Foreign Language - Russian 3 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work w features. Practice of oral and written presentation. Foreign Language - English 4 re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral at texts and their features; practice of oral and written presentation. Foreign Language - German 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Foreign Language - Russian 4 tics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work we features. Practice of oral and written presentation. Work Safety and Health Protection in Transportation attice, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation.	and written forms. Z Inguage structure vith (professional) Z Inguage structure vith (professional) Z,ZK Inguage structure vith (professional) Z,ZK Inguage structure vith (professional) Z,ZK Inguage structure vith (professional) XZK Inguage structure vith (professional) KZ	3 knowledgetext and 3 showledgetext and 3 knowledgetext and 3 showledgetext and 3 showledgetext and 4

615W1HE	Work Hygiene and Ergonomics in Traffic	KZ	4
	occupational hygiene and ergonomics, and their application in transport. Working environment factors, and the influence of these		f workers.
	tion of working conditions that do not damage public health. Mutual links man-machine-environment. Adaptation of technology to p		
	Practical examples from the field of transportation; relevant legislative.		
616UDDM	Introduction to Transportation and Manipulation Technics	ZK	2
leans of transportation	on and transportation systems. Principles, functions and arrangement of means of transportation. Motors and their characteristics. Wat	ter transportation. N	Nanipulatir
	technics. Principles of lifting machines and conveyors. Legislature.		.
616W1ZL	Vehicle Testing, Legislation and Construction	KZ	4
	aggregate computing, driving resistance, building and parameters of traction, constructional arrangement of personal cars, trucks, l		, legislatio
	the EU and in the world, creation of technical legislation, testing methods, vehicle tests, accelerated tests, mathematical modelling		
617DAS	Transportation and Communication Law	Z	1
221.07	Transportation and communication law - railway, road transport, ropeway, water road, air transport, telecommunication, post, pa		_
617DNV	Transportation of Dangerous Goods	KZ	2
-	ds of hazards. Classification. Carriage by road, railways, inland waterways, air and maritime transport. Obligations of consignors, ca	=	
auvisors. System of	international obligatory conditions. Enumerated list of dangerous goods. Packing and marking of packages. Transport documentati quantity. Crew, equipment, approval, marking, operation and construction of road vehicles.	ion. Exempled and	uniimilec
617DU	Public Transport Service in a Territory	KZ	2
	rublic Transport Service in a Territory act of European integration.Configuration and links. Contract ensuring. Funding. Tariff and ticketing system. Legal conditions. Survey		
	nd. Transport scheduling. Quality criteria and standards. IT, Publicity, Promotion, Marketing. Case study on an Integrated Public Trai	•	Toroarra
617EDTP	Economy and Management of Transport and Telecommunication Processes	Z,ZK	3
	ommunication system, financing of transport infrastructure, transport policy, transport service, energy sources, public goods, extern	l '	
	treatment, assessment of public projects, CBA method, transport company, costing in transportation, transport quality.		
617EM	Management Science	KZ	2
	graphical interpretation and solution of LP problem. Types of distribution problems, transportation problem. Models of network analy		l
. 59,	Models of inventory management. Simulation models.		5
617ERP	Company Economy and Management	Z,ZK	3
	ighbourhood, structure of assets and liabilities, depreciation, costs, revenues and profit, break-even point, costing, inventory, finance	. ' .	_
	appraisal, basics of management, organizational structures, human resources management, marketing, company strategy, busine	-	
617FIF	Finances and Financing	KZ	2
ash flow, cost and re	venue flow. Financial system functions. Financial assets. Types of financing. Company cash flow. Short-term financing instruments. Lo	ng-term financing i	nstrumen
Trading fir	nancial instruments. Banking financial instruments. Financial risk allocation instruments. Payment and hedging instruments. Loan ca	apital. Risk capital.	
617GEDS	Geography of Transport Systems	KZ	2
Regional differenti	ation of the transport system. Sociogeographic regionalization and its relation to transport. Transport and local and regional develo	pment. Spatial inte	raction -
neoretical and metho	dological framework. Mobility research - travel behavior, mode choice and the influence onto "modal-split." Modal competition. Practica	al use of transport-g	geographic
	analysis in transportation planning.		
617HG	Economic Geography	Z	2
	sues, definitions and introductory concepts. World geography and its research subject. Economic geography - Europe, Asia, Africa,		
Republic. Transport	geography and its research subject. Characteristics of transportation as one of the branches of the global economy. Transport syst	ems and their loca	ition in the
21-112	world. Particular transport modes as part of the economy and the world transport system.	.,_	_
617KS	Quality of Transport and Telecommunication Systems	KZ	2
21-122	Quality, systems, company, customer, norms, assessment, methods, indicators, satisfaction, loyalty.		_
617LOS	Logistic Systems	Z,ZK	3
•	s, development and science basics of logistics. Basic elements of logistic system, logistic chain. Technology in logistics. Goals and s	• .	, ,
ystem. Iransport in i	ogistic system. Logistic technologies in air, rail and water transport. Information systems in logistics and passenger transport. Stora	ge and distribution	in logistic
CAZNACIA	Position of logistics in the Czech Republic and Europe.	1/7	
617MEKA	Methods of Economics Analysis onomical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsion of statistical	KZ	2
ne techniques of eco	onomical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsion of statistical indices.	i values using unle	itericies ai
617MPD		Z,ZK	3
	Management of Techonology Systems of Land Transport ystems, rational assessment, decision making in the managing activity, operation-technical and economic properties, technological		_
didolare of verticle 3	road and rail transport.	i subsystems in the	e ileia oi ti
617MR	Managerial Decision Making	KZ	3
OT/WIX	Decision making, rationality, process, state of the world, CPM, PERT, trees, group, certainty, risk, uncertainty, preference.	1\2	, ,
617MSTP	Small and Medium Enterprise	KZ	2
OTTIVIOTT	SME, design, plan, market, analysis, finance, management, decision making, survival, growth.	1\2	_
	Marketing in Transportation	Z,ZK	2
617M\/D	ivial keling in mansportation		
617MVD	the marketing applied in transportation. Marketing, marketing research, macroworld, microworld, markets, market positioning, produced		.go, ooi vil
,	the marketing applied in transportation. Marketing, marketing research, macroworld, microworld, markets, market positioning, produ	· · · · · · · · · · · · · · · · · · ·	
eneral principles of	pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action processes and processes are action processes.	olan.	વ
eneral principles of 617ODS	pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action properties of the pricing distribution on Transportation Networks	olan.	3 um weight
eneral principles of 6170DS troduction to optimiz	pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action properties of the pricing distribution on Transportation Networks action and heuristic methods, metaheristic methods, the history of optimization. Lagrangean approach, assignment problem - Hungarian and heuristic methods, metaheristic methods, the history of optimization. Lagrangean approach, assignment problem - Hungarian and heuristic methods are considered by the control of the pricing of the control of the co	olan. Z,ZK an method, minimu	ım weight
6170DS troduction to optimiz	pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action properties of the pricing distribution on Transportation Networks	olan. Z,ZK an method, minimu	ım weight
617ODS troduction to optimiz matching, Little's ale	pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action property of the pricing distribution on Transportation Networks cation and heuristic methods, metaheristic methods, the history of optimization. Lagrangean approach, assignment problem - Hungarisgorithm, vehicle routing problem - an extension of TSP, heuristic solution approaches to vehicle routing problem, local search technology of the problems - heuristic algorithms, genetic algorithms and extensions of genetic algorithms.	olan. Z,ZK an method, minimuniques, Tabu Searc	ım weighte
617ODS htroduction to optimiz matching, Little's als	pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action properties of the pricing distribution on Transportation Networks retain and heuristic methods, metaheristic methods, the history of optimization. Lagrangean approach, assignment problem - Hungaristic or vehicle routing problem - an extension of TSP, heuristic solution approaches to vehicle routing problem, local search technique.	olan. Z,ZK an method, minimuliques, Tabu Searc	um weighte
617ODS htroduction to optimiz matching, Little's ale	pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action properties on Transportation Networks ration and heuristic methods, metaheristic methods, the history of optimization. Lagrangean approach, assignment problem - Hungarisgorithm, vehicle routing problem - an extension of TSP, heuristic solution approaches to vehicle routing problem, local search techn problems - heuristic algorithms, genetic algorithms and extensions of genetic algorithms. Designing of Public Transport Services	Dan. Z,ZK an method, minimuniques, Tabu Search KZ d periodic timetable	m weighten h, location 3 e. Planning
617ODS htroduction to optimiz matching, Little's ale	pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action problems on Transportation Networks retation and heuristic methods, metaheristic methods, the history of optimization. Lagrangean approach, assignment problem - Hungariagorithm, vehicle routing problem - an extension of TSP, heuristic solution approaches to vehicle routing problem, local search techn problems - heuristic algorithms, genetic algorithms and extensions of genetic algorithms. Designing of Public Transport Services demand elasticity. Strategy and hierarchical planning of public transport system. Line network planning, concept of offer. Integrated	Dan. Z,ZK an method, minimuniques, Tabu Search KZ d periodic timetable	h, location 3 e. Planning
6170DS htroduction to optimiz matching, Little's ale	pricing, distribution channels, physical distribution, retail, wholesale, promotion, advertising, segmentation, placement, action popularities on Transportation Networks retation and heuristic methods, metaheristic methods, the history of optimization. Lagrangean approach, assignment problem - Hungarities or the problem - an extension of TSP, heuristic solution approaches to vehicle routing problem, local search technical problems - heuristic algorithms, genetic algorithms and extensions of genetic algorithms. Designing of Public Transport Services demand elasticity. Strategy and hierarchical planning of public transport system. Line network planning, concept of offer. Integrated ince and regional transport. Optimised number of rolling-stock, circulation plan of rolling-stock, rolling-stock strategy. Public service	Dan. Z,ZK an method, minimuniques, Tabu Search KZ d periodic timetable	m weighten h, location 3 e. Planning

617RIP	Project Management	KZ	2
• •	s, pressures and influences. Entrepreneurial plan and capital decision making. Marketing, break-even point assessment. Project management assessment project management project management project management project management.	· ·	
Organizational sti	uctures in project management. Feasibility study. Capital and operational costs assessment. Process of choosing optimal variant. Cos project financing. Life cycle of project. Financial anal. of capital projects. Project risks.	a beneni Analysis.	ivioueis oi
617TAC	Tariffs and Prices in Transport	Z	1
	sion of labour. Costs in transport. External costs. Financing of traffic in transport. Prices and tariffs. Tariffs of railway transport. Tariffs of	of road transport. To	ariffs of air
	and water contract. Transport market. Service arrangement in public interest. Pricing policy history. Pricing in the EU.		
617TCHR	Tourist Trade Techniques	Z	1
Development and i	mportance of the tourist trade, summary of tourist trade services with more detailed analysis of transport services and means of trans (rail and road) transport.	sport in the air, wat	er and land
617TDLK	Transport Technology and Logistics	Z,ZK	4
	pransport recrinology and Logistics. Particular steps of transport planning. Quantification of carriage relations. Line planning. Timetabling. Pla	'	
	ation of traffic in each transport means. Technological factors from the point of view of operator and client. Organisation of public city transport.		
	and their application using various transport means.		
617TGA	Graph Theory and its Applications in Transport	Z,ZK	4
	f graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in o		
617W1AF	Alternative Forms of Transportation Project Financing	KZ	4
	ifed such forms of financing in transportation, where the public sector body perform the final debtor, i. e. debtor payments come from i cipant of the transaction and it is not the counterparty of the financial institute which provides the funding. Issue of securities as an alterr		
io not a anost partic	project.	idiivo oodiioo oi iid	noportation
617W1DZ	Transported Commodities Cognization	KZ	4
Useful features. C	Quality. Testing. Standardization. Features relevant for the transport. Packing. Stress. Protection of goods and damage prevention during	ng the carriage. Op	timization
	of the choice and effective transport means utility.		
617W1EV	Public Sector Economy	KZ	4
	ncial theory of public sector, public choice theory, externalites, decisions about public finance allocation, economic assesment of publi R, state budget, management of public projects a their economic efficiency assessment, way of elaboration of PPP projects, funding fro		
617W1OF	Personal Finance	KZ	4
	Tersorial Finance budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financing of hous	ı	
	financing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, suitability and a		- 1
	(retirement savings and insurance).		
617W1PM	Personnel Management	KZ	4
	ces, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, interc		
617W1ST	Titan Simulation	KZ	4
	gement game simulating the business decisions. Lets 2-8 student groups to produce and compete in the market with the same produc ntity and capacity of production, plan budgets for marketing, research and development. They become familiar with the consequences	-	
7	of financial corporate reports and they use this information for other business decisions.		.,
618KIAD	Kinematics and Dynamics		
	i militario and Dynamico	Z,ZK	2
•	, motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass	dynamics and syst	em of point
•	, motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass no fmotion. Method of Newton. Princle of D´Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impac	dynamics and syst	em of point
masses, equatio	, motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D´Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom.	dynamics and syst	em of point on to the
masses, equatio	, motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1	dynamics and system of theory. Introduction	tem of point on to the
masses, equatio	, motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D´Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom.	dynamics and system of theory. Introduction	tem of point on to the
masses, equatio	, motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solu	dynamics and system of theory. Introduction	tem of point on to the
masses, equation 618MRI1 Crystal structure.	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impacts solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solu steel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion.	dynamics and system theory. Introduction Z,ZK tions. Heating proc	eem of point on to the 3 cessing of 2
618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impacts solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solu steel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Ital concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength	dynamics and system theory. Introduction in the system of the control of the cont	tem of point on to the 3 cessing of 2 als.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compr	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impacts solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solusteel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Intal concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength Ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted	dynamics and system theory. Introductions. Heating processing the composite material and welded joint of	tem of point on to the 3 cessing of 2 als. 3 of structure.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and comproper Analysis of deflets	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impacts of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impacts of motion. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solusteel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Ital concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted ection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic fou	dynamics and system theory. Introductions. Heating processite material Z,ZK and welded joint of ndation. Strength and system in the composite material distributions and strength and strength and system in the composite material in the composite materia	em of point on to the 3 cessing of 2 als. 3 of structure. analysis.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and comproper Analysis of defletations.	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impacts solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solusteel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Intal concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted ection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic fou Statics	dynamics and system theory. Introductions. Heating processite material Z,ZK and welded joint on dation. Strength a Z,ZK	tem of point on to the 3 cessing of 2 cals. 3 of structure. analysis. 3
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and comproper Analysis of deflet 618ST General system	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impacts solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solusteel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Ital concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted action curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic fou Statics of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate be	dynamics and system theory. Introductions. Heating processite material Z,ZK and welded joint on dation. Strength a Z,ZK eam and simple fra	sem of point on to the 3 sessing of 2 sals. 3 of structure. analysis. 3 mework.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and comproper Analysis of deflet 618ST General system	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impacts solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solusteel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Intal concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted ection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic fou Statics	dynamics and system theory. Introductions. Heating processite material Z,ZK and welded joint on dation. Strength a Z,ZK eam and simple fra	sem of point on to the 3 sessing of 2 sals. 3 of structure. analysis. 3 mework.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and comproper Analysis of deflet 618ST General system	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impacts solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solusteel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Intal concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted extraction curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic fou Statics of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate beworks. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction	dynamics and system theory. Introductions. Heating processite material Z,ZK and welded joint on dation. Strength a Z,ZK eam and simple fra	sem of point on to the 3 sessing of 2 sals. 3 of structure. analysis. 3 mework.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and comport Analysis of deflet 618ST General system Principle of virtual	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solu steel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Intal concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength Ression. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted action curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic four Statics of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate beworks. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction of sections. Geometry of cross sections. Plane fiber polygons and catenary cables. Creation of Technical Documentation s, international standardization, types of technical drawings, representation of technical objects, technical diagrams and charts, dimensions.	dynamics and system theory. Introductions. Heating processite material Z,ZK and welded joint on a diamon. Strength a Z,ZK arm and simple france, method of joints and KZ	tem of point on to the 3 cessing of 2 cals. 3 of structure. analysis. 3 chework. and method
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compre Analysis of deflet 618ST General system Principle of virtual virtua	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1	dynamics and system theory. Introductions. Heating process and system of the composite material and welded joint on a diamon. Strength a Z,ZK arm and simple frame, method of joints and simple frame, method of joints and geometric.	tem of point on to the 3 cessing of 2 cals. 3 of structure. analysis. 3 mework. and method 2 cal accuracy,
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet 618ST General system Principle of virtual virtua	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D´Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solusteel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Ital concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength ression. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted ection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic four Statics of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate beworks. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction of sections. Geometry of cross sections. Plane fiber polygons and catenary cables. Creation of Technical Documentation s, international standardization, types of technical drawings, representation of technical objects, technical diagrams and charts, dimensical arrangement of drawing sheets, types of schemes and their creation. Systems Analysis	dynamics and system theory. Introductions. Heating processite material Z,ZK and and welded joint on a dation. Strength a Z,ZK arm and simple framen, method of joints are mad and geometric.	tem of point on to the 3 cessing of 2 cals. 3 of structure. analysis. 3 mework. and method 2 cal accuracy, 3
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet 618ST General system Principle of virtual virtua	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solu steel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Ital concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bottee oction curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic four Statics of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate be works. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction of sections. Geometry of cross sections. Plane fiber polygons and catenary cables. Creation of Technical Documentation s, international standardization, types of technical drawings, representation of technical objects, technical diagrams and charts, dimensic arrangement of drawing sheets, types of schemes and their creation. Systems Analysis attorn. Typical tasks of systems analysis: on the interface, routes in system, decomposition and integration, on systems feedback. Capa	dynamics and system theory. Introductions are theory. Introductions. Heating productions. Heating productions. Heating productions are the theory. A composite material and welded joint of an and simple from the theory. A composite material and simple from the theory of the theory of the theory. The theory is a composite material and simple from the theory of the theory. The theory is a composite material and simple from the theory of the theory. The theory is a composite material and simple from the theory of the theory. The theory is a composite material and simple from the theory of the theory. The theory is a composite material and the theory of the theory of the theory. The theory is a composite material and the theory of the theo	tem of point on to the 3 cessing of 2 cals. 3 of structure. analysis. 3 mework. and method 2 cal accuracy, 3 s analysis.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet 618ST General system Principle of virtual virtua	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1	dynamics and system theory. Introductions theory. Introductions. Heating productions. Heating productions. Heating productions and welded joint of andation. Strength a Z,ZK cam and simple frame, method of joints and geometric. KZ	tem of point on to the 3 cessing of 2 cals. 3 of structure. analysis. 3 mework. and method 2 cal accuracy, 3 s analysis.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet 618ST General system Principle of virtual virtual virtual virtual standards 620SSA Systems identification Task about 620UIS	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solu steel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Ital concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bottee oction curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic four Statics of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate be works. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction of sections. Geometry of cross sections. Plane fiber polygons and catenary cables. Creation of Technical Documentation s, international standardization, types of technical drawings, representation of technical objects, technical diagrams and charts, dimensic arrangement of drawing sheets, types of schemes and their creation. Systems Analysis attorn. Typical tasks of systems analysis: on the interface, routes in system, decomposition and integration, on systems feedback. Capa	dynamics and system theory. Introductions theory. Introductions. Heating productions. Heating productions. Heating productions and welded joint of andation. Strength a Z,ZK arm and simple frame, method of joints are met	tem of point on to the 3 cessing of 2 cals. 3 of structure. analysis. 3 check and method 2 cal accuracy, 3 can analysis. ms. 3
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet 618ST General system Principle of virtual virtual virtual standard: 620SSA Systems identification Task about 620UIS Intelligent Transpo	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solu steel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Ital concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolteception curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic four Statics of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate beworks. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction of sections. Geometry of cross sections. Plane fiber polygons and catenary cables. Creation of Technical Documentation s, international standardization, types of technical drawings, representation of technical objects, technical diagrams and charts, dimension arrangement of drawing sheets, types of schemes and their creation. Systems Analysis ation. Typical tasks of systems analysis: on the interface, routes in system, decomposition and integration, on systems feedback. Capa behaviour, aim behaviour, the genetic code, architecture and identity of systems. Fundamentals of technical cybernetics, stability and Introduction to ITS	dynamics and system theory. Introductions theory. Introductions. Heating productions. Heating productions. Heating productions and welded joint of an and simple frame, method of joints and and geometric. Z,ZK and and geometric.	tem of point on to the 3 tessing of 2 tessing of 3 of structure. analysis. 3 mework. and method 2 tessing of 3 mesory. 3 analysis. ms. 3 mformation
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet 618ST General system Principle of virtual virtual virtual standard: 620SSA Systems identification Task about 620UIS Intelligent Transposion and navigation systems 621ZLDK	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solu steel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Ital concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength Ession. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, boltecation curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic fou Statics of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate beworks. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction of sections. Geometry of cross sections. Plane fiber polygons and catenary cables. Creation of Technical Documentation s, international standardization, types of technical drawings, representation of technical objects, technical diagrams and charts, dimensic arrangement of drawings sheets, types of schemes and their creation. Systems Analysis ation. Typical tasks of systems analysis: on the interface, routes in system, decomposition and integration, on systems feedback. Capa behaviour, aim behaviour, the genetic code, architecture and insystem, decomposition and integration, on systems feedback. Capa behaviour, aim behaviour, the genetic code, architecture and insystem, decomposition and implementation of the project. Current professess. ITS i	dynamics and system theory. Introductions are theory. Introductions. Heating productions. Heating productions. Heating productions are the desired and welded joint of the desired and simple from the desired are the desired	tem of point on to the 3 tessing of 2 tessing of 2 tessing of 3 tructure. analysis. 3 the second method 2 tessing of 3 tructure. analysis. 3 the second method 2 the second method and method a
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet 618ST General system Principle of virtual virtual virtual standard: 620SSA Systems identification Task about 620UIS Intelligent Transposion and navigation systems 621ZLDK	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass in of motion. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1 Basics of thermodynamics of metals and their alloys. Balanced binary diagrams. Alloys of iron with carbon. Deterioration of solid solu steel and cast irons. Physical features. Mechanical features. Dephectostopic testing. Corosion. Materials 2 Ital concepts, notions. The main materials groups. Semiconductors. Polymers. Special types of steel. Properties and application of the Elasticity and Strength Elasticity and Strength Elasticity and Strength Elasticity and strength Elasticity of compressed bar and buckling. Beam on elastic fou Statics of forces. Calculation of reactions of mass objects and compound systems. Assessment of internal forces on statically determinate beworks. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss construction of sections. Geometry of cross sections. Plane fiber polygons and catenary cables. Creation of Technical Documentation s, international standardization, types of technical drawings, representation of technical objects, technical diagrams and charts, dimensic arrangement of drawing sheets, types of schemes and their creation. Systems Analysis ation. Typical tasks of systems analysis: on the interface, routes in system, decomposition and integration, on systems feedback. Capa behaviour, aim behaviour, the genetic code, architecture and identity of systems. Fundamentals of technical cybernetics, stability and Introduction to ITS rt Systems (ITS), their objectives and vision. ITS in the world, in Europe and in the Czech Republic. Architecture of ITS and the role of stems. ITS in road, rail and combine transport. Design of ITS, organization, preparation and implementation o	dynamics and system theory. Introductions are theory. Introductions. Heating productions. Heating productions. Heating productions are the desired and welded joint of the desired and simple from the desired are the desired	tem of point on to the 3 tessing of 2 tessing of 2 tessing of 3 tructure. analysis. 3 the second method 2 tessing of 3 tructure. analysis. 3 the second method 2 the second method and method a
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet of the compression of the compressio	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass no formation. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1	dynamics and system theory. Introductions theory. Introductions. Heating productions. Heating productions. Heating productions. Heating productions and welded joint of andation. Strength at Z,ZK are and simple from the company of t	tem of point on to the 3 cessing of 2 als. 3 of structure. analysis. 3 mework. and method 2 al accuracy, 3 s analysis. ms. 3 nformation Republic. 3 transport.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet 618ST General system Principle of virtual virtua	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass no formation. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1	dynamics and system theory. Introductions theory. Introductions. Heating productions. Heating productions. Heating productions. Heating productions and simple from the search and geometrical states and simple from the search and simple f	tem of point on to the 3 cessing of 2 als. 3 of structure. analysis. 3 mework. and method 2 al accuracy, 3 s analysis. ms. 3 nformation Republic. 3 transport.
masses, equation 618MRI1 Crystal structure. 618MRI2 Fundamen 618PZP Tension and compres Analysis of deflet 618ST General system Principle of virtual virtua	motion along a curve. Kinematics of rigid plane, kinematics of rigid body. Point mass kinematics, system of point masses. Point mass no formation. Method of Newton. Princle of D'Alembert. Free and forced vibration with one degree of freedom. Viscous damping. Impact solution of vibration with multiple degrees of freedom. Materials 1	dynamics and system theory. Introductions theory. Introductions. Heating productions. Heating productions. Heating productions. Heating productions. The desired production of	tem of point on to the 3 cessing of 2 als. 3 of structure. analysis. 3 mework. and method 2 al accuracy, 3 analysis. ms. 3 nformation Republic. 3 transport.

For updated information see http://bilakniha.cvut.cz/en/FF.html

infrastucture, ensuring of operation. Information systems of crisis management.

Generated: day 09. 03. 2021, time 09:06.