

Study plan

Name of study plan: 2.bl.bak.komb.ME 09/10začátek

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

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: 120

Elective courses credits: 0

Sum of credits in the plan: 120

Note on the plan:

Name of the block: Compulsory courses

Minimal number of credits of the block: 88

The role of the block: Z

Code of the group: 5.S.BK 05/06

Name of the group: 5.sem.bak.komb.od 05/06

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

Requirement courses in the group: In this group you have to complete at least 8 courses

Credits in the group: 24

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) <i>Tutors, authors and guarantors (gar.)</i>	Completion	Credits	Scope	Semester	Role
17EMM	Economic-mathematical Models	ZK	3	2+0		Z
11MST	Mathematical Statistics	Z,ZK	2	1+1		Z
13PE	Operational Economy	Z,ZK	3	2+1		Z
17RP	Project Management	ZK	2	2+0		Z
14SSS	Networks and Network Operating Systems	KZ	2	1+1		Z
20SANL	Systems Analysis	Z,ZK	4	2+1		Z
14TLK	Telecommunications	Z,ZK	4	2+1		Z
17ZTD	Introduction to Theory of Transport	Z,ZK	4	2+1		Z

Characteristics of the courses of this group of Study Plan: Code=5.S.BK 05/06 Name=5.sem.bak.komb.od 05/06

17EMM	Economic-mathematical Models	ZK	3
11MST	Mathematical Statistics	Z,ZK	2
Point estimation, properties of point estimators (consistency, unbiasedness, efficiency), methods of point estimation (method of moments, maximum likelihood method). Bayes estimators. Testing of statistical hypothesis, critical values, choice of hypothesis and level of significance, observed level of significance (P-value). Goodness of fit test, independence test. Regression and correlation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear regression, analysis of variance, multiple regression, the use of matrices in regression.			
13PE	Operational Economy	Z,ZK	3
17RP	Project Management	ZK	2
The course makes students acquainted first with project, its participants and their target behaviour, then with the project cycle and the principles of project management. Basic methods of project assessment, principles of optimal scenario choice, risks and uncertainties of choice. The possibilities of project funding, the methodology of World Bank and the management of supranational projects.			
14SSS	Networks and Network Operating Systems	KZ	2
Acquaintance with operating and possibilities of computer networks and their services utilize is the subject target. Network topology, IP addressing, WAN networks, connection information (ping, trace route). Detailed familiarity with selected WIN NT, Novell, and Unix network environment in the second semester part. Introduction to server and workstations installation, users and groups creation, folder structure creation, disc mapping, users protection, folders security, network printing, network security.			
20SANL	Systems Analysis	Z,ZK	4
Models and analyses of systemic features, means of detection of systemic characteristics, ways, decomposition, boundary and structure of systems, system behavior, decision-making processes, diagram characteristics, fuzzy sets/equations, formulation of states underindistinctly defined conditions, stability of systems.			

14TLK	Telecommunications	Z,ZK	4
Telecommunication bases as cross-section branch create the subject's contents. During introduction, basic legislative conditions forming telecommunication market consistent with the EU rules (selected parts of legislative and sub legislative standards, regulation and regulation frame) and existing and perspective telecommunication services characteristics are lectured. In the second part, transmission and connecting system and terminal devices basic principles (analogue and digital systems, used modulations in view of PCM modulation and modulation predicated methods) and solution of modern connecting systems are explained. In the third part, network management principles from view of operational organization are briefly described.			
17ZTD	Introduction to Theory of Transport	Z,ZK	4

Code of the group: 6.S.BK 05/06

Name of the group: 6.sem.bak.komb.od05/06

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

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

Credits in the group: 24

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
14DAPS	Database and Presentation Systems	KZ	2	1+1		Z
13EFI	Enterprise Economics	Z,ZK	3	2+1		Z
13EDT	Transportation and Telecommunication Economics	Z,ZK	4	2+2		Z
14IFS	Information Systems	ZK	4	2+0		Z
17MEAN	Methods of Economic Analyses	Z,ZK	4	2+1		Z
11MSAP	Modeling of Systems and Processes	Z,ZK	4	2+1		Z
13PAZ	Transportation and Forwarding Business	Z,ZK	3	2+1		Z

Characteristics of the courses of this group of Study Plan: Code=6.S.BK 05/06 Name=6.sem.bak.komb.od05/06

14DAPS	Database and Presentation Systems	KZ	2
Database systems. E-R data model, relational data model, relational databases. Creation of a simple database application in the MS ACCESS environment. Creation of presentations by help of the PowerPoint environment - static snaps, simple animations, linking with other applications.			
13EFI	Enterprise Economics	Z,ZK	3
13EDT	Transportation and Telecommunication Economics	Z,ZK	4
The subject is dedicated to analytical and synthetically views of economic activities, both the production and services business systems. The main interest is focused on the parts which will be provided in decision-making processes by future engineers, technologists and managers. The property and financial structures create the basic issues for business activities. Furthermore, the attention is concentrated on time life cycle of product and service, quantification economic time life, depreciation and methods of its calculation. The problem of inventories as a key question of business activities is provided and basic mathematical inventory models are given. The core of entrepreneurial process - cost analysis, cost estimating, revenue, profit and benefit are put to the main interest of engineer and manager together with structure of business plan, entrepreneurial projects and their analysis and evaluation. Finally, the characteristics of time life business cycle from the start of activities to the end these ones are discussed.			
14IFS	Information Systems	ZK	4
The subject is specialized in theoretic and practical design resources and principles and information systems (IS) creation and realization. Students get knowledge of various information systems terminology, classification and characterization (process, transaction, knowledge, metainformation, etc.), IS projecting procedures, data/information computer proceeding technology by help of data structures, database systems and models. They obtain view of IS and information technologies technical infrastructure trends, understand IS architecture principles and purposes, human role in IS and possibilities of IS evaluation. In brief, they acquaint themselves with creation principles, architecture and standards of the state information system.			
17MEAN	Methods of Economic Analyses	Z,ZK	4
The course comprehends the problems of numerical representation of economical phenomena by systems of indicators and their analysis and interpretation. The analysis of dependence, time series and indices is emphasised.			
11MSAP	Modeling of Systems and Processes	Z,ZK	4
The course introduces mathematical methods and algorithms providing an essential tool for system analysis. Methods and algorithms represent context in which the systems are modelled and evaluated in continuous and discrete time domain. The Laplace transform, z-transform, and the recursive algorithms are introduced in order to understand solution of differential and difference equations, which are developed for system description. The course focuses on practical use of technical computing environment MATLAB.			
13PAZ	Transportation and Forwarding Business	Z,ZK	3
The aim of the subject is to make the students acquainted with the basis of transportation processes technology, with the conditions for particular kinds of transport and with engagement relationships on transport (inland and international) and on forwarding business.			

Code of the group: 7S.BK-ME06/07

Name of the group: 7.s.bak.komb.ME-od06/07

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

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

Credits in the group: 18

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
17DOU	Public Transport Service	Z,ZK	4	2+1		Z
17FF	Finances and Funds	Z,ZK	4	2+1		Z
14IP1	Tutorial in Informatics 1	Z	2	0+2		Z
13MDT	Marketing in Transport and Telecommunications	Z,ZK	4	2+1		Z
17TEC	Technology of Transport	Z,ZK	4	2+1		Z

Characteristics of the courses of this group of Study Plan: Code=7S.BK-ME06/07 Name=7.s.bak.komb.ME-od06/07

17DOU	Public Transport Service			Z,ZK	4
17FF	Finances and Funds			Z,ZK	4
The course is oriented to the problems of finance, financial markets and institutions. It analyses the credit and the saving financial policy as well as various types of loans and their influence on lenders and borrowers. Direct and portfolio investment, their strong and weak points and risks. Business companies from the view of financial flows and financing. Financial aspects of joint stock companies, the position of shareholders, various types of shares, dividends. Financial plans, the use of financial instrument combinations as long and short term loans, bond emissions and capital raise. The problems of bills of exchange, bankruptcy and composition and of international investment.					
14IP1	Tutorial in Informatics 1			Z	2
The course involves introductory theoretical part (basic terminology from information technologies, information theory, computer terminology, data damage protection, theft and destruction, protection of computer network, security and legal problems relevant to information technologies, copyright and data protection law, computer criminality) and practical part according to the specialization.					
13MDT	Marketing in Transport and Telecommunications			Z,ZK	4
Analysing the marketing process. The core concepts of marketing. Understanding the role of marketing in organisations. Marketing management. Marketing of information systems and marketing research. Analysing the marketing environment (macro and microenvironment). Analysing consumer markets and buyer behaviour. Analysing business markets and business buying behaviour. Identifying market segments and selecting target markets. Differentiating and positioning the market offer marketing mix. Developing, testing and launching new products. Product life cycles and strategies. Product lines, brands and packaging. Designing pricing strategies and programs. Selecting marketing channels. Physical distributions systems. Promotion and communication mix strategies. Sales promotion, advertising, public relations, programs, personal sale. Corporate business strategic planning. Market oriented strategic planning. Marketing in services and non-profit organisations.					
17TEC	Technology of Transport			Z,ZK	4
Course deals with foundations of technology and management of transportation processes. It is concerning mainly in way and organization transfer of persons and goods on the defined transport network by moving of transport means through the transport ways. It connects on knowledges of transport and handling tools from the first period of study. Study is concerning on these questions from technology of single sorts of transportation: most important terms of transfer process, particularities, and using indicators, making and using of basing technologic plans and tools, combination and integration of sorts of transportation into transport systems, using knowledges of system analyses and cybernetics in management of transportation process 					

Code of the group: 7BK-SEMI.06/07

Name of the group: 7s.bak.kom.semi.od06/07

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 at least 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
11X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
12X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
13X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
17X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
18X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
22X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
21X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
15X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
16X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
14X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z
20X17K	Seminar for Bachelor Thesis 1	Z	2	8		Z

Characteristics of the courses of this group of Study Plan: Code=7BK-SEMI.06/07 Name=7s.bak.kom.semi.od06/07

11X17K	Seminar for Bachelor Thesis 1			Z	2
12X17K	Seminar for Bachelor Thesis 1			Z	2
13X17K	Seminar for Bachelor Thesis 1			Z	2
17X17K	Seminar for Bachelor Thesis 1			Z	2
18X17K	Seminar for Bachelor Thesis 1			Z	2
22X17K	Seminar for Bachelor Thesis 1			Z	2

21X17K	Seminar for Bachelor Thesis 1	Z	2
15X17K	Seminar for Bachelor Thesis 1	Z	2
16X17K	Seminar for Bachelor Thesis 1	Z	2
14X17K	Seminar for Bachelor Thesis 1	Z	2
20X17K	Seminar for Bachelor Thesis 1	Z	2

Code of the group: 8S.BK-ME06/07

Name of the group: 8.s.bak.komb.ME od06/07

Requirement credits in the group: In this group you have to gain 14 credits

Requirement courses in the group: In this group you have to complete at least 4 courses

Credits in the group: 14

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
14IP2	Tutorial in Informatics 2	KZ	2	0+2		z
17LGS	Logistics	Z,ZK	4	2+1		z
13MSPK	Small and Medium-sized Enterprise	ZK	4	2+0		z
13U	Accounting	Z,ZK	4	2+1		z

Characteristics of the courses of this group of Study Plan: Code=8S.BK-ME06/07 Name=8.s.bak.komb.ME od06/07

14IP2	Tutorial in Informatics 2	KZ	2			
Knowledge systems. Expert systems and programmes based on knowledge, their architecture, knowledge representation, basic derivation and implementation methods. Interface for knowledge systems creation and their design principles. Certainty and uncertainty in knowledge systems and different approaches to them. Common model of balances combination, fuzzy logics. Knowledge base design methods. Database and knowledge systems and their rules.						
17LGS	Logistics	Z,ZK	4			
As an integrated managerial system of circular and transfer flows, logistics form new ways of partnership between production and business organization on one hand, and material and information carriers on the other hand. This subject is focused on: • Concept of logistics, its development and principles • Logistics systems units, logistics chain • Logistics coupling, logistics methods and technologies, decision making in the logistics managerial systems • Marketing as a basic tool in the logistics managerial systems, marketing survey, marketing offer, marketing evaluation techniques and completion marketing planning • Status of transportation in the logistics system • Information flows in the logistics chain • /ul>						
13MSPK	Small and Medium-sized Enterprise	ZK	4			
The aim of this course is to point out the small business as an important element of global economy. Through this subject the entrepreneurship and dynamic entrepreneurship in the world and in the Czech Republic under technology and economic conditions is discussed. The role of venture capital for development of small enterprises using the material of EVCA, European Union organisation is shown. Finally, analysis and synthesis of steps needed for successfully goals of entrepreneurship taking a business plan as a productive method are described.						
13U	Accounting	Z,ZK	4			
The objective of the subject is to master the basics of accounting in the individual accounting domains on a basis of knowledge of the accounting rules, methods, tools (including technical procedures) and accounting procedures. Furthermore, students will become familiar with importance to accounting in practice, of the accounting units, with administration of the accounting books and with accounting systems including organisation of the accounting and administration and processing of accounting on computer. The subject will also include the basic bindings to tax and managerial accounting (in-house).						

Code of the group: 8BK-SEM.06/07

Name of the group: 8s.bak.kom.semi.od06/07

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 at least 1 course

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
17X18K	Seminar for Bachelor Thesis 2	Z	6	12		z
13X18K	Seminar for Bachelor Thesis 2	Z	6	12		z
16X18K	Seminar for Bachelor Thesis 2	Z	6	12		z
20X18K	Seminar for Bachelor Thesis 2	Z	6	12		z
21X18K	Seminar for Bachelor Thesis 2	Z	6	12		z
14X18K	Seminar for Bachelor Thesis 2	Z	6	12		z
15X18K	Seminar for Bachelor Thesis 2	Z	6	12		z
12X18K	Seminar for Bachelor Thesis 2	Z	6	12		z
11X18K	Seminar for Bachelor Thesis 2	Z	6	12		z

18X18K	Seminar for Bachelor Thesis 2	Z	6	12		Z
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Characteristics of the courses of this group of Study Plan: Code=8BK-SEM.06/07 Name=8s.bak.kom.semi.od06/07

17X18K	Seminar for Bachelor Thesis 2	Z	6
13X18K	Seminar for Bachelor Thesis 2	Z	6
16X18K	Seminar for Bachelor Thesis 2	Z	6
20X18K	Seminar for Bachelor Thesis 2	Z	6
21X18K	Seminar for Bachelor Thesis 2	Z	6
14X18K	Seminar for Bachelor Thesis 2	Z	6
15X18K	Seminar for Bachelor Thesis 2	Z	6
12X18K	Seminar for Bachelor Thesis 2	Z	6
11X18K	Seminar for Bachelor Thesis 2	Z	6
18X18K	Seminar for Bachelor Thesis 2	Z	6

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 24

The role of the block: S

Code of the group: VP-B-KOMB.OD 05/06

Name of the group: VP-bak.komb.ME od 05/06

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

Requirement courses in the group: In this group you have to complete at least 6 courses

Credits in the group: 24

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) <i>Tutors, authors and guarantors (gar.)</i>	Completion	Credits	Scope	Semester	Role
11YAS		Z,ZK	3	2+1		S
17W1AF	Alternative Forms of Transportation Project Financing	KZ	4	8	Z	S
17W1BB	Banks and Banking	KZ	4	8	Z	S
15W1BO	Work Safety and Health Protection	KZ	4	8	L	S
15W1DU	Art History and Society	KZ	4	8	Z	S
15W1DZ	History of Railway	KZ	4	8	L	S
17W1DN	Carriage of Dangerous Goods	KZ	4	8		S
17W1DG	Transport Geography	KZ	4	8		S
17W1DP	Transportation Politics and Strategy	KZ	4	8		S
17W1DZ	Transported Commodities Cognization	KZ	4	8	L	S
13W1EA	Economic - Energetic Analysis of Land Transport	KZ	4	8	Z	S
13W1EP	Technology, Economics and Management of Postal Services	KZ	4	8		S
15W1EH	European Integration within Historical Context	KZ	4	8	Z	S
15W1FD	French Area Studies and Transportation	KZ	4	8		S
17W1HO	Heuristic Methods in Optimization Problems	KZ	4	8		S
15W1HL	History of Civil Aviation	KZ	4	8		S
15W1HD	History of City Public Transport	KZ	4	8	Z	S
13W1HG	Economic Geography	KZ	4	8		S
15W1HE	Work Hygiene and Ergonomics in Traffic	KZ	4	8	Z	S
16WKV	Car Bodies of Motor Vehicles	KZ	4	6		S
13W1KM	Crisis Management in Transportation	KZ	4	8		S
15W1LU	Logic of Engineer Judgement	KZ	4	8		S
17W1LL	Logistics of Passenger and Freight Air Transport	KZ	4	8	L	S
13W1MR	Managerial Decision-making	KZ	4	8		S
11W1MM	Mathematical Models in Economy	KZ	4	8	Z	S
17W1ND	Maritime Transportation	KZ	4	8	Z	S
15W1OC	Crucial Moments of Czechs	KZ	4	8		S
13W1PM	Personal Management	KZ	4	8	L	S

12W1PC	Pedestrian and Cycling Transport	KZ	4	8		S
13W1PD	The Participation of Transport in Tourist Trade Management	KZ	4	8	L	S
16W1PV	Operation, Construction and Maintenance of Vehicles	KZ	4	8	L	S
13W1SM	MESE Simulation	KZ	4	8	Z	S
13W1TC	Techniques of Travel Services	KZ	4	8		S
16W1TJ	Technological Quality Aspects	KZ	4	8	Z	S
16W1TR	Theory of Railroad Vehicle Driving	KZ	4	8	Z	S
16W1TZ	Transporting Devices	KZ	4	8	L	S
12W1VC	Waterways and shipping	KZ	4	8	Z	S
12W1VD	Water Transport and Transportation	KZ	4	8	L	S
17W1ZC	Tourist Business Transportation	KZ	4	8		S
16W1ZL	Vehicle Testing, Legislation and Construction	KZ	4	8	Z	S

Characteristics of the courses of this group of Study Plan: Code=VP-B-KOMB.OD 05/06 Name=VP-bak.komb.ME od 05/06

11YAS				Z,ZK		3
17W1AF	Alternative Forms of Transportation Project Financing			KZ		4
It will be specified such forms of financing in transportation, where the public sector body perform the final debtor, i. e. debtor payments come from 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 financing.						
17W1BB	Banks and Banking			KZ		4
Banks and banking system. Balance sheet, income statement, bank's capital and its functions. Banking risks. Banking products. Interest types, pay-off and loan securing, financial loan products. Banking deposit products. Banking payment-clearing products. Financial intermediation, open-end and closed-end funds, collective investment schemes. Central bank and its role. Bank regulation and supervision. International banking.						
15W1BO	Work Safety and Health Protection			KZ		4
Fundamental legislature, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. Health protection programmes, health insurance of home and foreign business trips, statistics, working practice.						
15W1DU	Art History and Society			KZ		4
Aesthetics and its basic concepts. Art history: definitions, terminology, division into periods. Architecture, fine arts, design in Europe and America in the course of centuries. Situation in Central Europe, Czechoslovakia, the Czech Republic. Art Nouveau, Cubism, Postmodernism in industrial buildings and transportation facilities. Stations, bridges, embankments, sluices etc. Aesthetics and construction work today. Design of transport vehicles.						
15W1DZ	History of Railway			KZ		4
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 train connections, railway lines construction, railway accidents, railway junctions. Study trips and projections.						
17W1DN	Carriage of Dangerous Goods			KZ		4
17W1DG	Transport Geography			KZ		4
Facultative course Transport geography briefly describes transport system and reciprocal relations between economic development and transport system. The result of its long-term relations is specific configuration of transport infrastructure and also perspective of its future development. Course is oriented step by step on railway, road, water, air, combine and pipeline transport. There are lectures there about: transport ways, transport junctions and terminals, important international crossings, most important connections, offered services and international cooperation in this areas						
17W1DP	Transportation Politics and Strategy			KZ		4
This subject focuses on a practical implementation of transportation theory into the transportation systems for the sake of state interest, and its macroeconomics development. Concurrently, it harmonizes EU and Czech directives. Closely this subject focuses on: Czech Transportation policy development; Status of transportation in the macroeconomics system; Creation and regulation of transportation market by direct and indirect instruments in favor of the society/public interest; Comparison and harmonization of Czech and EU directives on the transportation market; Defining of constant tenable mobility according to the international agreements, directives, approaches; National transportation system planning according to the constant tenable mobility, and with respect to the international systems and obligations, the comparison of Czech and EU strategies; Legislative harmonization (Czech, EU) on the transportation field, progress in the time; Terms for Czech Republic's entrance on EU integrated transportation market						
17W1DZ	Transported Commodities Cognization			KZ		4
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.						
13W1EA	Economic - Energetic Analysis of Land Transport			KZ		4
Vehicle traction systems, traction-energetic properties, laws of vehicle motion, assessment of energy demands, traction-energetic conceptions, technical, economical and social aspects.						
13W1EP	Technology, Economics and Management of Postal Services			KZ		4
The contents of the subject is to introduce state policy to listeners in the area of the postal and delivery services. The position of post in the frame of infrastructure and the socio-economical system of the state, with the harmonisation process and problems with the regulation, in the relation to the market liberalisation, competition of post services with the electronic and information technologies, reserved and universal services.						
15W1EH	European Integration within Historical Context			KZ		4
Versailles system, formation of new states. Europe and the powers, League of Nations. European policy in the 1920s. Fascism, nacism, communism. Little Entente, its principles and goals. Europe after Hitler's getting to power, system of bilateral agreements. Decline of the LN. Rearrangement of powers during WWII. Cold war and its consequences for Europe. New quality of French-German relationship - a driving power of starting European integration.						
15W1FD	French Area Studies and Transportation			KZ		4
French geography and its transportation network. Paris and its historical and technical sights, traffic organisation. Road transport, motorways, rail transport and TGV, air traffic. Political system, current French society and culture. Current social issues. Educational system, studies in France. Great figures of French history. French gastronomy. The aim is to broaden general knowledge of France. Special focus is on the field of transportation in the international context.						

17W1HO	Heuristic Methods in Optimization Problems	KZ	4
Introduction and overview of heuristic methods, exact approaches for solving the Traveling Salesman Problem (TSP), Lagrangean approach, assignment problem, algorithm of Little, vehicle routing problem (VRP) - derivation from the TSP, classical heuristics solving the VRP, local search methods, Tabu Search method, genetic algorithms in location problems and its enhancements.			
15W1HL	History of Civil Aviation	KZ	4
Historical overview of civil aviation as a part of transportation system. Developmental trends in plane construction, technical safety and control systems in civil and sports aviation. Chronological development of aviation from planes lighter than air to current planes heavier than air in the context of a complex transportation system of passengers, goods, freight and sport activities in Czech, European and global conditions. The lectures are accompanied by various picture documents and maps, videos, museum and specialised workplaces excursions.			
15W1HD	History of City Public Transport	KZ	4
History of city public transport in the world; development of tram, bus and trolley-bus systems. History of transport networks in the world; current trends and development of tariff and clearance systems. History of city transport in Prague and Brno. History of tram, bus and trolley-bus operation systems in the Czech Republic and Slovakia.			
13W1HG	Economic Geography	KZ	4
The basic concepts of economic geography - general approach. Geography of the world economy. Geography of inhabitants - as a factor of dislocation and development. Habitation structure. The world industrial production (energy, machinery, chemical and food industry). Agriculture, plant industry, animal industry, the world fishing and forest economy. Power supply. Transportation - all kinds of transportation, railway, road, naval, marine, tabular, air. Business travel - the main factors of dislocation and development, the most important world famous tourist areas. Transportation infrastructure all over the world (Europe, Asia, Africa, Australia and Oceanic).			
15W1HE	Work Hygiene and Ergonomics in Traffic	KZ	4
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 a man. Practical examples from the field of transportation; relevant legislature.			
16W1KV	Car Bodies of Motor Vehicles	KZ	4
13W1KM	Crisis Management in Transportation	KZ	4
15W1LU	Logic of Engineer Judgement	KZ	4
Components of an engineer judgements: empirical, general and logical ones. Logical structure of the judgement. The intuitive and exact judgement and the natural and exact language. The propositional logic of the judgement, methods of solving of the technical tasks, combinational nets. The predicate logic of the judgement, methods of solving of technical tasks. Design of the sequential nets. Logical base of the mathematical solution of technical tasks, the deductive and inductive aspects of judgement. Many-valued and fuzzy logic.			
17W1LL	Logistics of Passenger and Freight Air Transport	KZ	4
Logistics airline passenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transport process passengers and air cargo. Information systems in air transport. Global distribution systems.			
13W1MR	Managerial Decision-making	KZ	4
The subject provides in a clearly organised form a summary of knowledge and skills for solution of decision-making issues. It explains basic concepts of decision-making, it characterises rational logistics for solution of decision-making issues in organisations, it provides logistics of multi-criteria decision-making and the choice of decision-making methodologies for security, risks and insecurity.			
11W1MM	Mathematical Models in Economy	KZ	4
Linear models subjected to linear constraints leading to linear programming. Models of net analysis, storage models, queue lengths models. Theory of reliability. Dynamical programming, convex optimisation tasks.			
17W1ND	Maritime Transportation	KZ	4
History and importance of the maritime transportation, theoretical discipline in maritime transportation, seafaring vessels, maritime ports and their utilization, inland logistic centre and maritime ports, transport corridors and link by maritime, river and rail transport I and II, global maritime corridors, logistics of maritime transportation, maritime transportation and smart containers, ITS in maritime transport.			
15W1OC	Crucial Moments of Czechs	KZ	4
The contemporary view of crucial moments of the more than a thousand-year long history of western Slavs in Central Europe stressing the relations with bordering nations and with Europe as a whole. Formation and strengthening of the Přemysl state. The lands of the Czech Crown as a part of the Habsburgh monarchy. Political programmes in the 19th century and formation of Czechoslovakia. Disputes over the sense of Czech history. Changes of the power structure of Europe in the 20th century regarding the position of our lands.			
13W1PM	Personal Management	KZ	4
Basic overview of leadership issue from the viewpoint of an employee as well as a manager. The accent at the experience of basic situations through a simulation game. Systemic approach to the personal management, the assessment as a process, SWOT analysis, basic principles of personal management, theory and practice of motivation, managerial leadership styles.			
12W1PC	Pedestrian and Cycling Transport	KZ	4
13W1PD	The Participation of Transport in Tourist Trade Management	KZ	4
Tourist trade, transport, typology, market, marketing mix, transport service providers, contract cooperation, reservation systems, transport valuables, standard air carriers, low cost air carriers, IATA, ICAO, road, water, rail transport.			
16W1PV	Operation, Construction and Maintenance of Vehicles	KZ	4
Methods of vehicle production. Vehicle maintenance. Vehicle diagnostics. Maintenance and repair plans. Engine maintenance and emission measurement. Transmission mechanism. General principles of engine diagnostics.			
13W1SM	MESE Simulation	KZ	4
Management game simulating corporate decision making. Groups of students produce the same product, give the volume of available production capacity, plan budgets for marketing, research and development.			
13W1TC	Techniques of Travel Services	KZ	4
Importance of Tourism for human consumption and for the national economy Services of tourism - basic and others Transportation services, Accommodation services, Food and beverage services, Catering Travel agencies and their activities.			
16W1TJ	Technological Quality Aspects	KZ	4
Certification and accreditation. Quality management. Standards of Quality Management and its application. Quality system creation. Tools and methods of quality improvement. Conformity verification. Environmental certification. Workplace certification. QMS integration. Classification, certification of products and producers.			
16W1TR	Theory of Railroad Vehicle Driving	KZ	4
Legislation in railroad transportation. Technical condition of railroad vehicles and responsibility for their condition. Railroad traffic regulations. Railroad traffic safety. Signal systems. Radiocommunication system. Powering system. Power distribution.			
16W1TZ	Transporting Devices	KZ	4
Flow of masses, material transport technology, loose material transport - conveyors with tractive elements, conveyors without tractive elements, transport of piece material - continual transport devices, cyclic transport devices, crane mechanisms, steel constructions. Vertical transport, transport in mines, long-distance conveyor belt transport.			

12W1VC	Waterways and shipping	KZ	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.			
12W1VD	Water Transport and Transportation	KZ	4
17W1ZC	Tourist Business Transportation	KZ	4
16W1ZL	Vehicle Testing, Legislation and Construction	KZ	4
Vehicle construction, 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: 8

The role of the block: J

Code of the group: J2B-B OD05/06 P+K

Name of the group: Jazyk 2.bl.bak.od 05/06 prez.+kombin.

Requirement credits in the group: In this group you have to gain 8 credits

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

Credits in the group: 8

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) <i>Tutors, authors and guarantors (gar.)</i>	Completion	Credits	Scope	Semester	Role
15JA2B	Foreign Language - English (exam 2)	ZK	0			J
15J1A5	Foreign Language - English 5	Z	2	0+2		J
15J1A6	Foreign Language - English 6	Z	2	0+2		J
15J1A7	Foreign Language - English 7	Z	2	0+2		J
15J1A8	Foreign Language - English 8	Z,ZK	2	0+2		J
15JF2B	Foreign Language - French (exam 2)	ZK	0			J
15J1F5	Foreign Language - French 5	Z	2	0+2		J
15J1F6	Foreign Language - French 6	Z	2	0+2		J
15J1F7	Foreign Language - French 7	Z	2	0+2		J
15J1F8	Foreign Language - French 8	Z,ZK	2	0+2		J
15JN2B	Foreign Language - German (exam 2)	ZK	0			J
15J1N5	Foreign Language - German 5	Z	2	0+2		J
15J1N6	Foreign Language - German 6	Z	2	0+2		J
15J1N7	Foreign Language - German 7	Z	2	0+2		J
15J1N8	Foreign Language - German 8	Z,ZK	2	0+2		J
15JR2B	Foreign Language - Russian (exam 2)	ZK	0			J
15J1R5	Foreign Language - Russian 5	Z	2	0+2		J
15J1R6	Foreign Language - Russian 6	Z	2	0+2		J
15J1R7	Foreign Language - Russian 7	Z	2	0+2		J
15J1R8	Foreign Language - Russian 8	Z,ZK	2	0+2		J
15JS2B	Foreign Language - Spanish (exam 2)	ZK	0			J
15J1S5	Foreign Language - Spanish 5	Z	2	0+2		J
15J1S6	Foreign Language - Spanish 6	Z	2	0+2		J
15J1S7	Foreign Language - Spanish 7	Z	2	0+2		J
15J1S8	Foreign Language - Spanish 8	Z,ZK	2	0+2		J

Characteristics of the courses of this group of Study Plan: Code=J2B-B OD05/06 P+K Name=Jazyk 2.bl.bak.od 05/06 prez.+kombin.

15JA2B	Foreign Language - English (exam 2)	ZK	0
15J1A5	Foreign Language - English 5	Z	2
The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These courses aim at providing sufficient knowledge to communicate about every-day matters but also to read and write and discuss professional and specialised issues.
 Both gradually chosen language courses are ended with an exam (at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th semester; the PP (Professional Pilot) specialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the Air Traffic specializations are recommended to enrol "English language" as their first choice. This is, however, not a guarantee for being excepted in the project study.
 Our department provides courses in English, German, French and Russian at different levels. The courses are also taught in our multimedia laboratory.			

List of courses of this pass:

Code	Name of the course	Completion	Credits
11MSAP	Modeling of Systems and Processes The course introduces mathematical methods and algorithms providing an essential tool for system analysis. Methods and algorithms represent context in which the systems are modelled and evaluated in continuous and discrete time domain. The Laplace transform, z-transform, and the recursive algorithms are introduced in order to understand solution of differential and difference equations, which are developed for system description. The course focuses on practical use of technical computing environment MATLAB.	Z,ZK	4
11MST	Mathematical Statistics Point estimation, properties of point estimators (consistency, unbiasedness, efficiency), methods of point estimation (method of moments, maximum likelihood method). Bayes estimators. Testing of statistical hypothesis, critical values, choice of hypothesis and level of significance, observed level of significance (P-value). Goodness of fit test, independence test. Regression and correlation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear regression, analysis of variance, multiple regression, the use of matrices in regression.	Z,ZK	2
11W1MM	Mathematical Models in Economy Linear models subjected to linear constraints leading to linear programming. Models of net analysis, storage models, queue lengths models. Theory of reliability. Dynamical programming, convex optimisation tasks.	KZ	4
11X17K	Seminar for Bachelor Thesis 1	Z	2
11X18K	Seminar for Bachelor Thesis 2	Z	6
11YAS		Z,ZK	3
12W1PC	Pedestrian and Cycling Transport	KZ	4
12W1VC	Waterways and shipping 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.	KZ	4
12W1VD	Water Transport and Transportation	KZ	4
12X17K	Seminar for Bachelor Thesis 1	Z	2
12X18K	Seminar for Bachelor Thesis 2	Z	6
13EDT	Transportation and Telecommunication Economics The subject is dedicated to analytical and synthetically views of economic activities, both the production and services business systems. The main interest is focused on the parts which will be provided in decision-making processes by future engineers, technologists and managers. The property and financial structures create the basic issues for business activities. Furthermore, the attention is concentrated on time life cycle of product and service, quantification economic time life, depreciation and methods of its calculation. The problem of inventories as a key question of business activities is provided and basic mathematical inventory models are given. The core of entrepreneurial process - cost analysis, cost estimating, revenue, profit and benefit are put to the main interest of engineer and manager together with structure of business plan, entrepreneurial projects and their analysis and evaluation. Finally, the characteristics of time life business cycle from the start of activities to the end these ones are discussed.	Z,ZK	4
13EFI	Enterprise Economics	Z,ZK	3
13MDT	Marketing in Transport and Telecommunications Analysing the marketing process. The core concepts of marketing. Understanding the role of marketing in organisations. Marketing management. Marketing of information systems and marketing research. Analysing the marketing environment (macro and microenvironment). Analysing consumer markets and buyer behaviour. Analysing business markets and business buying behaviour. Identifying market segments and selecting target markets. Differentiating and positioning the market offer marketing mix. Developing, testing and launching new products. Product life cycles and strategies. Product lines, brands and packaging. Designing pricing strategies and programs. Selecting marketing channels. Physical distributions systems. Promotion and communication mix strategies. Sales promotion, advertising, public relations, programs, personal sale. Corporate business strategic planning. Market oriented strategic planning. Marketing in services and non-profit organisations.	Z,ZK	4
13MSPK	Small and Medium-sized Enterprise The aim of this course is to point out the small business as an important element of global economy. Through this subject the entrepreneurship and dynamic entrepreneurship in the world and in the Czech Republic under technology and economic conditions is discussed. The role of venture capital for development of small enterprises using the material of EVCA, European Union organisation is shown. Finally, analysis and synthesis of steps needed for successfully goals of entrepreneurship taking a business plan as a productive method are described.	ZK	4
13PAZ	Transportation and Forwarding Business The aim of the subject is to make the students acquainted with the basis of transportation processes technology, with the conditions for particular kinds of transport and with engagement relationships on transport (inland and international) and on forwarding business.	Z,ZK	3
13PE	Operational Economy	Z,ZK	3
13U	Accounting The objective of the subject is to master the basics of accounting in the individual accounting domains on a basis of knowledge of the accounting rules, methods, tools (including technical procedures) and accounting procedures. Furthermore, students will become familiar with importance to accounting in practice, of the accounting units, with administration of the accounting books and with accounting systems including organisation of the accounting and administration and processing of accounting on computer. The subject will also include the basic bindings to tax and managerial accounting (in-house).	Z,ZK	4
13W1EA	Economic - Energetic Analysis of Land Transport Vehicle traction systems, traction-energetic properties, laws of vehicle motion, assessment of energy demands, traction-energetic conceptions, technical, economical and social aspects.	KZ	4
13W1EP	Technology, Economics and Management of Postal Services The contents of the subject is to introduce state policy to listeners in the area of the postal and delivery services. The position of post in the frame of infrastructure and the socio-economical system of the state, with the harmonisation process and problems with the regulation, in the relation to the market liberalisation, competition of post services with the electronic and information technologies, reserved and universal services.	KZ	4
13W1HG	Economic Geography The basic concepts of economic geography - general approach. Geography of the world economy. Geography of inhabitants - as a factor of dislocation and development. Habitation structure. The world industrial production (energy, machinery, chemical and food industry). Agriculture, plant industry, animal industry, the world fishing and forest economy. Power supply. Transportation - all kinds of transportation, railway, road, naval, marine, tabular, air. Business travel - the main factors of dislocation and development, the most important world famous tourist areas. Transportation infrastructure all over the world (Europe, Asia, Africa, Australia and Oceanic).	KZ	4
13W1KM	Crisis Management in Transportation	KZ	4

13W1MR	Managerial Decision-making	KZ	4
The subject provides in a clearly organised form a summary of knowledge and skills for solution of decision-making issues. It explains basic concepts of decision-making, it characterises rational logistics for solution of decision-making issues in organisations, it provides logistics of multi-criteria decision-making and the choice of decision-making methodologies for security, risks and insecurity.			
13W1PD	The Participation of Transport in Tourist Trade Management	KZ	4
Tourist trade, transport, typology, market, marketing mix, transport service providers, contract cooperation, reservation systems, transport valuables, standard air carriers, low cost air carriers, IATA, ICAO, road, water, rail transport.			
13W1PM	Personal Management	KZ	4
Basic overview of leadership issue from the viewpoint of an employee as well as a manager. The accent at the experience of basic situations through a simulation game. Systemic approach to the personal management, the assessment as a process, SWOT analysis, basic principles of personal management, theory and practice of motivation, managerial leadership styles.			
13W1SM	MESE Simulation	KZ	4
Management game simulating corporate decision making. Groups of students produce the same product, give the volume of available production capacity, plan budgets for marketing, research and development.			
13W1TC	Techniques of Travel Services	KZ	4
Importance of Tourism for human consumption and for the national economy\n\nServices of tourism - basic and others Transportation services,\n\nAccommodation services, Food and beverage services, Catering Travel\n\nagencies and their activities.			
13X17K	Seminar for Bachelor Thesis 1	Z	2
13X18K	Seminar for Bachelor Thesis 2	Z	6
14DAPS	Database and Presentation Systems	KZ	2
Database systems. E-R data model, relational data model, relational databases. Creation of a simple database application in the MS ACCESS environment. Creation of presentations by help of the PowerPoint environment - static snaps, simple animations, linking with other applications.			
14IFS	Information Systems	ZK	4
The subject is specialized in theoretic and practical design resources and principles and information systems (IS) creation and realization. Students get knowledge of various information systems terminology, classification and characterization (process, transaction, knowledge, metainformation, etc.), IS projecting procedures, data/information computer proceeding technology by help of data structures, database systems and models. They obtain view of IS and information technologies technical infrastructure trends, understand IS architecture principles and purposes, human role in IS and possibilities of IS evaluation. In brief, they acquaint themselves with creation principles, architecture and standards of the state information system.			
14IP1	Tutorial in Informatics 1	Z	2
The course involves introductory theoretical part (basic terminology from information technologies, information theory, computer terminology, data damage protection, theft and destruction, protection of computer network, security and legal problems relevant to information technologies, copyright and data protection law, computer criminality) and practical part according to the specialization.			
14IP2	Tutorial in Informatics 2	KZ	2
Knowledge systems. Expert systems and programmes based on knowledge, their architecture, knowledge representation, basic derivation and implementation methods. Interface for knowledge systems creation and their design principles. Certainty and uncertainty in knowledge systems and different approaches to them. Common model of balances combination, fuzzy logics. Knowledge base design methods. Database and knowledge systems and their rules.			
14SSS	Networks and Network Operating Systems	KZ	2
Acquaintance with operating and possibilities of computer networks and their services utilize is the subject target. Network topology, IP addressing, WAN networks, connection information (ping, trace route). Detailed familiarity with selected WIN NT, Novell, and Unix network environment in the second semester part. Introduction to server and workstations installation, users and groups creation, folder structure creation, disc mapping, users protection, folders security, network printing, network security.			
14TLK	Telecommunications	Z,ZK	4
Telecommunication bases as cross-section branch create the subject's contents. During introduction, basic legislative conditions forming telecommunication market consistent with the EU rules (selected parts of legislative and sub legislative standards, regulation and regulation frame) and existing and perspective telecommunication services characteristics are lectured. In the second part, transmission and connecting system and terminal devices basic principles (analogue and digital systems, used modulations in view of PCM modulation and modulation predicative methods) and solution of modern connecting systems are explained. In the third part, network management principles from view of operational organization are briefly described.			
14X17K	Seminar for Bachelor Thesis 1	Z	2
14X18K	Seminar for Bachelor Thesis 2	Z	6
15J1A5	Foreign Language - English 5	Z	2
The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These courses aim at providing sufficient knowledge to communicate about every-day matters but also to read and write and discuss professional and specialised issues.
 Both gradually chosen language courses are ended with an exam (at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th semester; the PP (Professional Pilot) specialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the Air Traffic specializations are recommended to enrol "English language" as their first choice. This is, however, not a guarantee for being excepted in the project study.
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15J1A6	Foreign Language - English 6	Z	2
The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These courses aim at providing sufficient knowledge to communicate about every-day matters but also to read and write and discuss professional and specialised issues.
 Both gradually chosen language courses are ended with an exam (at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th semester; the PP (Professional Pilot) specialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the Air Traffic specializations are recommended to enrol "English language" as their first choice. This is, however, not a guarantee for being excepted in the project study.
 Our department provides courses in English, German, French and Russian at different levels. The courses are also taught in our multimedia laboratory.			
15J1A7	Foreign Language - English 7	Z	2
The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These courses aim at providing sufficient knowledge to communicate about every-day matters but also to read and write and discuss professional and specialised issues.
 Both gradually chosen language courses are ended with an exam (at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th semester; the PP (Professional Pilot) specialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the Air Traffic specializations are recommended to enrol "English language" as their first choice. This is, however, not a guarantee for being excepted in the project study.
 Our department provides courses in English, German, French and Russian at different levels. The courses are also taught in our multimedia laboratory.			
15J1A8	Foreign Language - English 8	Z,ZK	2
The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These courses aim at providing sufficient knowledge to communicate about every-day matters but also to read and write and discuss professional and specialised issues.
 Both gradually chosen language courses			

15W1HD	History of City Public Transport	KZ	4
History of city public transport in the world; development of tram, bus and trolley-bus systems. History of transport networks in the world; current trends and development of tariff and clearance systems. History of city transport in Prague and Brno. History of tram, bus and trolley-bus operation systems in the Czech Republic and Slovakia.			
15W1HE	Work Hygiene and Ergonomics in Traffic	KZ	4
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 a man. Practical examples from the field of transportation; relevant legislature.			
15W1HL	History of Civil Aviation	KZ	4
Historical overview of civil aviation as a part of transportation system. Developmental trends in plane construction, technical safety and control systems in civil and sports aviation. Chronological development of aviation from planes lighter than air to current planes heavier than air in the context of a complex transportation system of passengers, goods, freight and sport activities in Czech, European and global conditions. The lectures are accompanied by various picture documents and maps, videos, museum and specialised workplaces excursions.			
15W1LU	Logic of Engineer Judgement	KZ	4
Components of an ingeneer judgements: empirical, general and logical ones. Logical structure of the judgement. The intuitive and exact judgement and the natural and exact language. The propositional logic of the judgement, methods of solving of the technical tasks, combinational nets. The predicate logic of the judgement, methods of solving of technical tasks. Design of the sequential nets. Logical base of the mathematical solution of technical tasks,the deductive and inductive aspects of judgement. Many-valued and fuzzy logic.			
15W1OC	Crucial Moments of Czechs	KZ	4
The contemporary view of crucial moments of the more than a thousand-year long history of western Slavs in Central Europe stressing the relations with bordering nations and with Europe as a whole. Formation and strengthening of the Přemysl state. The lands of the Czech Crown as a part of the Habsburgh monarchy. Political programmes in the 19th century and formation of Czechoslovakia. Disputes over the sense of Czech history. Changes of the power structure of Europe in the 20th century regarding the position of our lands.			
15X17K	Seminar for Bachelor Thesis 1	Z	2
15X18K	Seminar for Bachelor Thesis 2	Z	6
16W1PV	Operation, Construction and Maintenance of Vehicles	KZ	4
Methods of vehicle production. Vehicle maintenance. Vehicle diagnostics. Maintenance and repair plans. Engine maintenance and emission measurement. Transmission mechanism. General principles of engine diagnostics.			
16W1TJ	Technological Quality Aspects	KZ	4
Certification and accreditation. Quality management. Standards of Quality Management and its application. Quality system creation. Tools and methods of quality improvement. Conformity verification. Environmental certification. Workplace certification. QMS integration. Classification, certification of products and producers.			
16W1TR	Theory of Railroad Vehicle Driving	KZ	4
Legislation in railroad transportation. Technical condition of railroad vehicles and responsibility for their condition. Railroad traffic regulations. Railroad traffic safety. Signal systems. Radiocommunication system. Powering system. Power distribution.			
16W1TZ	Transporting Devices	KZ	4
Flow of masses, material transport technology, loose material transport - conveyors with tractive elements, conveyors without tractive elements, transport of piece material - continual transport devices, cyclic transport devices, crane mechanisms, steel constructions. Vertical transport, transport in mines, long-distance conveyor belt transport.			
16W1ZL	Vehicle Testing, Legislation and Construction	KZ	4
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.			
16WKV	Car Bodies of Motor Vehicles	KZ	4
16X17K	Seminar for Bachelor Thesis 1	Z	2
16X18K	Seminar for Bachelor Thesis 2	Z	6
17DOU	Public Transport Service	Z,ZK	4
17EMM	Economic-mathematical Models	ZK	3
17FF	Finances and Funds	Z,ZK	4
The course is oriented to the problems of finance, financial markets and institutions. It analyses the credit and the saving financial policy as well as various types of loans and their influence on lenders and borrowers. Direct and portfolio investment, their strong and weak points and risks. Business companies from the view of financial flows and financing. Financial aspects of joint stock companies, the position of shareholders, various types of shares, dividends. Financial plans, the use of financial instrument combinations as long and short term loans, bond emissions and capital raise. The problems of bills of exchange, bankruptcy and composition and of international investment.			
17LGS	Logistics	Z,ZK	4
As an integrated managerial system of circular and transfer flows, logistics form new ways of partnership between production and business organization on one hand, and material and information carriers on the other hand. This subject is focused on:
\n\nConcept of logistics, its development and principles\nLogistics systems units, logistics chain\nLogistics coupling, logistics methods and technologies, decision making in the logistics managerial systems\nMarketing as a basic tool in the logistics managerial systems, marketing survey, marketing offer, marketing evaluation techniques and completion marketing planning\nStatus of transportation in the logistics system\nInformation flows in the logistics chain\n			
17MEAN	Methods of Economic Analyses	Z,ZK	4
The course comprehends the problems of numerical representation of economical phenomena by systems of indicators and their analysis and interpretation. The analysis of dependence, time series and indices is emphasised.			
17RP	Project Management	ZK	2
The course makes students acquainted first with project, its participants and their target behaviour, then with the project cycle and the principles of project management. Basic methods of project assessment, principles of optimal scenario choice, risks and uncertainties of choice. The possibilities of project funding, the methodology of World Bank and the management of supranational projects.			
17TEC	Technology of Transport	Z,ZK	4
Course deals with foundations of technology and management of transportation proceses. It is concerning mainly in way and organization transfer of persons and goods on the defined transport network by moving of transport means through the transport ways. It connects on knowledges of transport and handling tools from the first period of study.

\nStudy is concerning on these questions from technology of single sorts of transportation: \nmost important terms of transfer process, particularities,and using indicators,\nmaking and using of basing technologic plans and tools,\ncombination and integration of sorts of transportation into transport systems,\nusing knowledges of system analyses and kybernetics in management of transportation process\n			
17W1AF	Alternative Forms of Transportation Project Financing	KZ	4
It will be specified such forms of financing in trasportation, where the public sector body perform the final debtor, i. e. debtor payments come from 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 financing.			

17W1BB	Banks and Banking	KZ	4
Banks and banking system. Balance sheet, income statement, bank's capital and its functions. Banking risks. Banking products. Interest types, pay-off and loan securing, financial loan products. Banking deposit products. Banking payment-clearing products. Financial intermediation, open-end and closed-end funds, collective investment schemes. Central bank and its role. Bank regulation and supervision. International banking.			
17W1DG	Transport Geography	KZ	4
Facultative course Transport geography briefly describes transport system and reciprocal relations between economic development and transport system. The result of its long-term relations is specific configuration of transport infrastructure and also perspective of its future development. Course is oriented step by step on railway, road, water, air, combine and pipeline transport. There are lectures there about: transport ways, transport junctions and terminals, international crossings, most important connections, offered services and international cooperation in this areas;			
17W1DN	Carriage of Dangerous Goods	KZ	4
17W1DP	Transportation Politics and Strategy	KZ	4
This subject focuses on a practical implementation of transportation theory into the transportation systems for the sake of state interest, and its macroeconomics development. Concurrently, it harmonizes EU and Czech directives. Closely this subject focuses on: Czech Transportation policy development; Status of transportation in the macroeconomics system; Creation and regulation of transportation market by direct and indirect instruments in favor of the society/public interest; Comparison and harmonization of Czech and EU directives on the transportation market; Defining of constant tenable mobility according to the international agreements, directives, approaches; National transportation system planning according to the constant tenable mobility, and with respect to the international systems and obligations, the comparison of Czech and EU strategies; Legislative harmonization (Czech, EU) on the transportation field, progress in the time; Terms for Czech Republic's entrance on EU integrated transportation market;			
17W1DZ	Transported Commodities Cognization	KZ	4
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.			
17W1HO	Heuristic Methods in Optimization Problems	KZ	4
Introduction and overview of heuristic methods, exact approaches for solving the Traveling Salesman Problem (TSP), Lagrangean approach, assignment problem, algorithm of Little, vehicle routing problem (VRP) - derivation from the TSP, classical heuristics solving the VRP, local search methods, Tabu Search method, genetic algorithms in location problems and its enhancements.			
17W1LL	Logistics of Passenger and Freight Air Transport	KZ	4
Logistics airline passenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transport process passengers and air cargo. Information systems in air transport. Global distribution systems.			
17W1ND	Maritime Transportation	KZ	4
History and importance of the maritime transportation, theoretical discipline in maritime transportation, seafaring vessels, maritime ports and their utilization, inland logistic centre and maritime ports, transport corridors and link by maritime, river and rail transport I and II, global maritime corridors, logistics of maritime transportation, maritime transportation and smart containers, ITS in maritime transport.			
17W1ZC	Tourist Business Transportation	KZ	4
17X17K	Seminar for Bachelor Thesis 1	Z	2
17X18K	Seminar for Bachelor Thesis 2	Z	6
17ZTD	Introduction to Theory of Transport	Z,ZK	4
18X17K	Seminar for Bachelor Thesis 1	Z	2
18X18K	Seminar for Bachelor Thesis 2	Z	6
20SANL	Systems Analysis	Z,ZK	4
Models and analyses of systemic features, means of detection of systemic characteristics, ways, decomposition, boundary and structure of systems, system behavior, decision-making processes, diagram characteristics, fuzzy sets/equations, formulation of states under indistinctly defined conditions, stability of systems.			
20X17K	Seminar for Bachelor Thesis 1	Z	2
20X18K	Seminar for Bachelor Thesis 2	Z	6
21X17K	Seminar for Bachelor Thesis 1	Z	2
21X18K	Seminar for Bachelor Thesis 2	Z	6
22X17K	Seminar for Bachelor Thesis 1	Z	2

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

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