Study plan

Name of study plan: Bachelor TET-LOG Full-Time from 2025/26

Faculty/Institute/Others: Department: Branch of study guaranteed by the department: Welcome page Garantor of the study branch: Program of study: Technology in Transportation and Telecommunications Type of study: Bachelor full-time 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: 90 The role of the block: Z

Code of the group: 1S-BP-TET-24/25 Name of the group: 1st Sem. Bachelor Full-Time TET from 2024/25 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 9 courses Credits in the group: 30

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 |
| 11CAL1 | Calculus 1 Olga Vraštilová, Tomáš Tasák, Magdalena Hykšová, Bohumil Ková, Ond ej Navrátil Bohumil Ková Ond ej Navrátil (Gar.) | Z,ZK | 7 | 2P+4C+22B | Z | Z |
| 11LA | Linear Algebra Lucie Kárná, Pavel Provinský, Martina Be vá ová Martina Be vá ová Martina Be vá ová (Gar.) | Z,ZK | 3 | 2P+1C+10B | z | Z |
| 12ZADY | Introduction to Transportation Engineering Zuzana arská, Dagmar Ko árková, Jana Štikarová Dagmar Ko árková (Gar.) | Z,ZK | 4 | 2P+2C | Z | Z |
| 18MTY | Materials Science and Engineering Jaromír Kylar, Veronika Drechslerová, Jaromír Kylar, Nela Kr má ová, Jitka ezní ková, Jaroslav Valach, Vít Malinovský, Veronika Drechslerová, Jaromír Kylar Jaroslav Valach Jaroslav Valach (Gar.) | Z,ZK | 3 | 2P+1C+10B | Z | Z |
| 11GIE | Geometry Pavel Provinský, Old ich Hykš, Šárka Vorá ová Old ich Hykš Old ich Hykš (Gar.) | КZ | 3 | 2P+2C+12B | Z | Z |
| 14ASD | Algorithm and Data Structures Tomáš Brandejský, Michal Je ábek, Alena Kubá ová, Jan Procházka, Vít Fábera, Martin Fiala Vít Fábera Vít Fábera (Gar.) | КZ | 3 | 0P+2C+8B | Z | Z |
| 18TKK | Technical Drawing and Designing Jitka ezní ková, Vít Malinovský, Jan Šleichrt, Martin Brumovský, Jan Mejst ík, Drahomír Schmidt, Lukáš Svoboda, Jan Vogl, Ji í Zeisek, Jan Šleichrt Jan Šleichrt (Gar.) | κz | 4 | 2P+2C+16B | Z | Z |
| 16UDOP | Introduction into Vehicles Zuzana Radová, Petr Bouchner | Z | 2 | 2P+0C+8B | Z | Z |
| TV-1 | Physical Education | Z | 1 | | Z | Z |

Characteristics of the courses of this group of Study Plan: Code=1S-BP-TET-24/25 Name=1st Sem. Bachelor Full-Time TET from 2024/25

| 11CAL1 | Calculus 1 | Z,ZK | 7 | | |
|--|---|--------------------|-------------------|--|--|
| Sequence of real number | ers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton in | tegral, Riemann ir | ntegral, improper | | |
| Riemann integral. First-order differential equations, linear differential equations. | | | | | |
| 11LA Linear Algebra Z,ZK 3 | | | | | |
| Vector spaces (linear co | Vector spaces (linear combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and their solvability. Determinants and | | | | |
| their applications. Scala | eir applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classification. | | | | |
| 12ZADY Introduction to Transportation Engineering Z,ZK | | | | | |

| 18MTY | Materials Science and Engineering | Z,ZK | 3 | | | |
|--|---|---------------------|-------------------|--|--|--|
| Basic course of materia | s science and engineering explains mechanical properties of structural materials based on their bonding forces and microstru | ucture. However th | ne main attention | | | |
| is paid to metals as the | most important engineering materials, also other major classes of materials are presented, namely ceramics, polymers and | composites. Atter | tion is also paid | | | |
| to degradation processe | es in materials, to defectoscopy and to main mechanical tests. | | | | | |
| 11GIE | Geometry | KZ | 3 | | | |
| Differential geometry of curves - parameterization, the arc of the curve, torsion and curvature, Frenet's trihedron. Kinematics - a curve as a trajectory of the motion, the velocity, and | | | | | | |
| acceleration of a particl | acceleration of a particle moving on a curved path. | | | | | |
| 14ASD | 14ASD Algorithm and Data Structures KZ 3 | | | | | |
| Students will analyze pr | oblems, design a theoretical solution to a given problem and write the resulting algorithm using flowcharts, practice reading a | lgorithms written | using flowcharts, | | | |
| and use basic Boolean | algebra to construct constraints in algorithms. Students will be introduced to the basics of the Python programming language | e - variable, branc | hing, loops, they | | | |
| will learn to work with va | ariables of basic data types (integer, floating point and string) and the list data structure in their programs. | | | | | |
| 18TKK | Technical Drawing and Designing | KZ | 4 | | | |
| 16UDOP | Introduction into Vehicles | Z | 2 | | | |
| Vehicles and transporta | tion systems. Functionality and setup. Movement and drive principles. Engines and their characteristics. Rail, road, air and w | ater transport. Alt | ernative means | | | |
| of transport. Lifting equi | pment and conveyors. Legislation. | | | | | |
| TV-1 | Physical Education | Z | 1 | | | |
| | | | | | | |

Code of the group: 2S-BP-TET-20/21

Name of the group: 2nd Sem. Bachelor Full-Time TET from 2020/21 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 9 courses Credits in the group: 30 Note on the group:

| Note on the grou | ib. | | | | | |
|------------------|--|------------|---------|-----------|----------|------|
| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.) | Completion | Credits | Scope | Semester | Role |
| 11CAL2 | Calculus 2 Olga Vraštilová, Tomáš Tasák, Magdalena Hykšová, Ond ej Navrátil, Old ich Hykš Magdalena Hykšová Ond ej Navrátil (Gar.) | Z,ZK | 5 | 2P+3C+20B | L | Z |
| 11STAT | Statistics Pavel Provinský, Evženie Uglickich, Pavla Pecherková, Michal Matowicki, Natálie Blahitka, Ivan Nagy, Jana Kuklová Pavla Pecherková Evženie Uglickich (Gar.) | Z,ZK | 4 | 2P+2C+12B | L | Z |
| 12ZTS | Railway Lines and Stations Lukáš Týfa, Martin Jacura, Petr Šatra, Tomáš Javo ík, Ond ej Trešl Lukáš Týfa (Gar.) | Z,ZK | 4 | 2P+2C+10B | L | Z |
| 18SAT | Structural Analysis Jaromír Kylar, Veronika Drechslerová, Nela Kr má ová, Jitka ezní ková, Jan Šleichrt, Daniel Kytý, Jan Vy ichl, Tomáš Doktor, Jan Falta Daniel Kytý (Gar.) | Z,ZK | 4 | 2P+2C+14B | L | Z |
| 20SYSA | Systems Analysis Zuzana B linová, Ji í R ži ka, Patrik Horaž ovský, Petr Bureš Zuzana B linová (Gar.) | Z,ZK | 5 | 2P+2C+14B | L | Z |
| 14PRG | Programming Alena Kubá ová, Jan Procházka, Martin Fiala, Lukáš Svoboda, Jana Kaliková, Jan Kr ál Jana Kaliková Jana Kaliková (Gar.) | КZ | 2 | 0P+2C+8B | L | Z |
| 17TEDL | Transport Technology and Logistics Vít Janoš, Michal Drábek, Zden k Michl, Rudolf Vávra, Stanislav Metelka Zden k Michl Vít Janoš (Gar.) | КZ | 3 | 2P+1C | L | Z |
| 21ZALD | Basics of Air Transport Jakub Hospodka, Tomáš Tlu ho, Ji í Volt, Peter Olexa, Jan Slezá ek, Jakub Trýb, Sébastien Lán, Bo Stloukal | КZ | 2 | 0P+2C+8B | L | Z |
| TV-2 | Physical Education | Z | 1 | | L | Z |

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

| Z,ZK | 5 | | | | |
|--|--|--|--|--|--|
| egrals. | | | | | |
| Z,ZK | 4 | | | | |
| etric tests Nonpa | rametric tests | | | | |
| Regression and correlation analysis | | | | | |
| Z,ZK | 4 | | | | |
| Rail transport. Railway track geometry parameters. Route layout of railway lines. Railway line construction - railway substructure and superstructure. Spatial layout of railway lines. | | | | | |
| Railway control systems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail transport. | | | | | |
| Z,ZK | 4 | | | | |
| ite beams and sir | nple girders. | | | | |
| ns. Cross-section | al characteristics | | | | |
| | | | | | |
| 20SYSA Systems Analysis Z,ZK 5 | | | | | |
| Introduction to system sciences, system viewpoint, terminology, typical system analysis tasks, system identification, system interface and interface tasks, processes, system behaviour | | | | | |
| and its analysis, strong functions and processes, genetic code, system identity, system architecture. Tools for system analysis - Petri nets, decision tables, algorithms for structural | | | | | |
| s. Soft and hard systems, methods for soft system analysis. | | | | | |
| | tegrals. Z,ZK netric tests Nonpa Z,ZK Spatial layout of r Z,ZK ate beams and sir ns. Cross-section Z,ZK sks, processes, s | | | | |

| 14PRG Programming The Course Programming builds on and fully extends the course 14ASD (Algorithmization and Data Structures). The knowledge of the Python programming language is expa here so that the participant gains skills and can apply them to solve various follow-up tasks. Main topics: lists, multidimensional arrays, sorting and searching, tuples, sets, dicti | | | | | | |
|---|---------------|--|--|--|--|--|
| | | | | | | |
| here so that the participant gains skills and can apply them to solve various follow-up tasks. Main topics: lists, multidimensional arrays, sorting and searching, tuples, sets, dicti | | | | | | |
| | ctionaries | | | | | |
| working with date and time, regular expressions, functions and procedures, working with files (CSV, JSON, XML). | | | | | | |
| 17TEDL Transport Technology and Logistics KZ 3 | | | | | | |
| Basic terms in transport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight transport, organisation of t | of traffic in | | | | | |
| each transport modus, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication using various transport mo | nodus. | | | | | |
| 21ZALD Basics of Air Transport KZ | 2 | | | | | |
| History, definitions, terminology, basic rules. VFR/IFR. Basics of aerodynamics. Propulsion of aircraft. Aircraft design. Basics of navigation, radio navigation. Weight, balance, perfo | rformance | | | | | |
| Flight planning, optimization of speed and heights, minimum fuel. Limitations of operation, maintenance, service life of aircraft. Traffic management, ground handling, security. A | y. Air crew | | | | | |
| Airlines and economics. Space technologies. | | | | | | |
| TV-2 Physical Education Z | 1 | | | | | |

Code of the group: 3S-BP-TET-24/25

Name of the group: 3rd Sem. Bachelor Full-Time TET from 2024/25

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 8 courses

Credits in the group: 30

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 |
|--------|--|------------|---------|-----------|----------|------|
| 11FYZ | Physics Old ich Hykš, Jana Kuklová, Pavel Demo, Zuzana Malá, Tomáš Vít Jana Kuklová Pavel Demo (Gar.) | Z,ZK | 5 | 2P+2C+18E | z | Z |
| 12MDE | Transport Models and Transport Excesses Josef Kocourek, Tomáš Pad lek | Z,ZK | 3 | 2P+1C+8B | Z | Z |
| 11TGA | Graph Theory and its Applications in Transport Denisa Mocková, Dušan Teichmann Denisa Mocková Denisa Mocková (Gar.) | Z,ZK | 4 | 2P+2C+12B | z | Z |
| 18PZP | Elasticity and Strength Jitka ezní ková, Jan Šleichrt, Daniel Kytý, Jan Vy ichl, Tomáš Doktor, Josef Jíra, Ond ej Jiroušek Ond ej Jiroušek Ond ej Jiroušek (Gar.) | Z,ZK | 3 | 2P+1C+10B | Z | Z |
| 20UITS | Introduction to Intelligent Transport Systems Ji í R ži ka, Patrik Horaž ovský, Kristýna Navrátilová, Viktor Beneš, Eva Haj iarová, Martin Langr, Vladimír Faltus, Pavel Hrubeš Martin Langr | Z,ZK | 7 | 3P+2C+20B | Z | Z |
| 12PPOK | Designing Roads, Highways and Motorways Josef Kocourek, Tomáš Pad lek, Polina Zayats, Petr Kumpošt Josef Kocourek (Gar.) | КZ | 3 | 1P+2C+10E | z | Z |
| 14DATS | Database Systems Jana Kaliková, Jan Kr ál Jana Kaliková Jana Kaliková (Gar.) | KZ | 2 | 1P+1C+10B | Z | Z |
| 15JZ1A | Foreign Language - English 1 Markéta Vojanová, Dana Boušová, Marie Michlová, Marek Tome ek, Jan Feit, Markéta Musilová, Peter Morpuss, Lenka Monková, Jitka He manová, | Z | 3 | 0P+4C+10B | Z | Z |

Characteristics of the courses of this group of Study Plan: Code=3S-BP-TET-24/25 Name=3rd Sem. Bachelor Full-Time TET from 2024/25

| 11FYZ Physics | Z,ZK | 5 | | | |
|---|---------------------|--------------------|--|--|--|
| Kinematics, dynamics, Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and electric current. | | | | | |
| 12MDE 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 consequ | uences. Improvin | g of transport | | | |
| safety and fluency. | | | | | |
| 11TGA Graph Theory and its Applications in Transport | Z,ZK | 4 | | | |
| Basic terms of graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in oth | er scientific disci | plines. | | | |
| 18PZP Elasticity and Strength | Z,ZK | 3 | | | |
| Tension and compression. Bending of beam. Shear stress in bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted and welded joints of structures. | | | | | |
| Analysis of deflection curve of beams. Torsion of circular cross sections. Combined loading. Stability. | | | | | |
| 20UITS Introduction to Intelligent Transport Systems | Z,ZK | 7 | | | |
| Terminology and legislative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of int | formation and tel | ecommunication | | | |
| systems for ITS. Principles and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real example | les of possible ap | oplications of the | | | |
| principles of ITS. | | | | | |
| 12PPOK Designing Roads, Highways and Motorways | KZ | 3 | | | |
| Definition, types, ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard | rd 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. Sa | fety device. Cros | sings, junctions, | | | |
| intersections. | | | | | |
| 14DATS Database Systems | KZ | 2 | | | |
| Basic concepts of database systems, conceptual model, relational data model, the principles of normal forms, relational database design, security an | d integrity of dat | a, database | | | |
| queries, relational algebra, SQL language, client / server, multilayer architectures, distributed database systems. Access to data via the WWW. | | | | | |
| 15JZ1A Foreign Language - English 1 | Z | 3 | | | |
| Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and | communicative s | kills. Elementary | | | |
| stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of rhetoric. | | | | | |

Code of the group: X1-BP-LOG-21/22 Name of the group: Research Groups Bachelor Full-Time TET-LOG from 2021/22 Requirement credits in the group: In this group you have to gain 6 credits Requirement courses in the group: In this group you have to complete 3 courses Credits in the group: 6

Note on the group:

| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.) | Completion | Credits | | Semester | Role |
|-------|--|------------|---------|-------|----------|------|
| 11X31 | Project 1 Michal Matowicki Michal Matowicki | Z | 2 | 0P+1C | L | ZP |
| 12X31 | Project 1 Dagmar Ko árková, Martin Höfler | Z | 2 | 0P+1C | L | ZP |
| 14X31 | Project 1 | Z | 2 | 0P+1C | L | ZP |
| 15X31 | Project 1 | Z | 2 | 0P+1C | L | ZP |
| 16X31 | Project 1 | Z | 2 | 0P+1C | L | ZP |
| 17X31 | Project 1 Vít Janoš, Michal Drábek, Zden k Michl, Rudolf Vávra, Stanislav Metelka, Denisa Mocková, Dušan Teichmann, Roman Št rba, Milan K íž, Václav Baroch (Gar.) | z | 2 | 0P+1C | L | ZP |
| 18X31 | Project 1 | Z | 2 | 0P+1C | L | ZP |
| 20X31 | Project 1 Ji í R ži ka | Z | 2 | 0P+1C | L | ZP |
| 21X31 | Project 1 Jakub Hospodka, Jakub Kraus, Andrej Lališ, Slobodan Stoji , Lenka Hanáková, Terézia Pilmannová, Peter Vittek, Natalia Guskova, Kate ina Grötschelová, | Z | 2 | 0P+1C | L | ZP |
| 22X31 | Project 1 | Z | 2 | 0P+1C | L | ZP |
| 11X32 | Project 2 | Z | 2 | 0P+2C | Z | ZP |
| 12X32 | Project 2 | Z | 2 | 0P+2C | Z | ZP |
| 14X32 | Project 2 Jana Kaliková, Jan Kr ál | Z | 2 | 0P+2C | Z | ZP |
| 15X32 | Project 2 | Z | 2 | 0P+2C | Z | ZP |
| 16X32 | Project 2 Petr Bouchner, Tereza Kunclová | Z | 2 | 0P+2C | Z | ZP |
| 17X32 | Project 2 Vít Janoš, Michal Drábek, Zden k Michl, Rudolf Vávra, Stanislav Metelka, Denisa Mocková, Dušan Teichmann, Andrea Hrní ková, Roman Št rba, | Z | 2 | 0P+2C | Z | ZP |
| 18X32 | Project 2 | Z | 2 | 0P+2C | Z | ZP |
| 20X32 | Project 2 Vladimír Faltus | Z | 2 | 0P+2C | Z | ZP |
| 21X32 | Project 2 Jakub Hospodka, Jakub Kraus, Andrej Lališ, Slobodan Stoji , Lenka Hanáková, Terézia Pilmannová, Peter Vittek, Natalia Guskova, Kate ina Grötschelová, | Z | 2 | 0P+2C | Z | ZP |
| 22X32 | Project 2 | Z | 2 | 0P+2C | Z | ZP |
| 11X33 | Project 3 | Z | 2 | 0P+1C | L | ZP |
| 12X33 | Project 3 Dagmar Ko árková, Josef Kocourek, Tomáš Pad lek, Martin Höfler, Jakub Zají ek, Ivo Novotný | Z | 2 | 0P+1C | L | ZP |
| 14X33 | Project 3 Jana Kaliková, Jan Kr ál | Z | 2 | 0P+1C | L | ZP |
| 15X33 | Project 3 | Z | 2 | 0P+1C | L | ZP |
| 16X33 | Project 3 Petr Bouchner, Dmitrij Rožd stvenský | Z | 2 | 0P+1C | L | ZP |
| 17X33 | Project 3 Vít Janoš, Michal Drábek, Zden k Michl, Rudolf Vávra, Stanislav Metelka, Denisa Mocková, Dušan Teichmann, Roman Št rba, Milan K íž, Václav Baroch (Gar.) | Z | 2 | 0P+1C | L | ZP |
| 18X33 | Project 3 Tomáš Fíla | Z | 2 | 0P+1C | L | ZP |
| 20X33 | Project 3 | Z | 2 | 0P+1C | L | ZP |

| 21X33 | Project 3 Jakub Hospodka, Andrej Lališ, Slobodan Stoji , Lenka Hanáková, Terézia Pilmannová, Peter Vittek, Natalia Guskova, Kate ina Grötschelová, Stanislav Pleninger, | Z | 2 | 0P+1C | L | ZP |
|-------|--|---|---|-------|---|----|
| 22X33 | Project 3 | Z | 2 | 0P+1C | L | ZP |

Characteristics of the courses of this group of Study Plan: Code=X1-BP-LOG-21/22 Name=Research Groups Bachelor Full-Time TET-LOG from 2021/22

| 11X31 | Project 1 | Z | 2 |
|-------|-----------|---|---|
| 12X31 | Project 1 | Z | 2 |
| 14X31 | Project 1 | Z | 2 |
| 15X31 | Project 1 | Z | 2 |
| 16X31 | Project 1 | Z | 2 |
| 17X31 | Project 1 | Z | 2 |
| 18X31 | Project 1 | Z | 2 |
| 20X31 | Project 1 | Z | 2 |
| 21X31 | Project 1 | Z | 2 |
| 22X31 | Project 1 | Z | 2 |
| 11X32 | Project 2 | Z | 2 |
| 12X32 | Project 2 | Z | 2 |
| 14X32 | Project 2 | Z | 2 |
| 15X32 | Project 2 | Z | 2 |
| 16X32 | Project 2 | Z | 2 |
| 17X32 | Project 2 | Z | 2 |
| 18X32 | Project 2 | Z | 2 |
| 20X32 | Project 2 | Z | 2 |
| 21X32 | Project 2 | Z | 2 |
| 22X32 | Project 2 | Z | 2 |
| 11X33 | Project 3 | Z | 2 |
| 12X33 | Project 3 | Z | 2 |
| 14X33 | Project 3 | Z | 2 |
| 15X33 | Project 3 | Z | 2 |
| 16X33 | Project 3 | Z | 2 |
| 17X33 | Project 3 | Z | 2 |
| 18X33 | Project 3 | Z | 2 |
| 20X33 | Project 3 | Z | 2 |
| 21X33 | Project 3 | Z | 2 |
| 22X33 | Project 3 | Z | 2 |

Name of the block: Compulsory courses in the program Minimal number of credits of the block: 72 The role of the block: P

Code of the group: 4S-BP-LOG-24/25 Name of the group: 4th Sem. Bachelor Full-Time TET-LOG from 2024/25 Requirement credits in the group: In this group you have to gain 26 credits Requirement courses in the group: In this group you have to complete 7 courses Credits in the group: 26 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 Completion Credits Code Scope Semester Role members) Tutors, authors and guarantors (gar.) Modeling of Systems and Processes 11MSP Z,ZK 2P+2C+12B L 4 Ρ Transport Systems Economy Roman Št rba, Rudolf Franz Heidu Rudolf Franz Heidu (Gar.) 17ESYS Z,ZK 6 3P+2C+18B L Ρ Logistics 17LGT Z,ZK 6 3P+2C+18B L Р Tomáš Horák, Eliška Glaserová Tomáš Horák (Gar.) **Linear Programming** 11LP ΚZ 2P+1C+12B 3 L Р Šárka Vorá ová, Pavla Pecherková, Ivan Nagy Pavla Pecherková Ivan Nagy (Gar.) **Transport Prognostic Methods** 11MDP ΚZ 2 2P+0C+10B L Ρ Alena Rybi ková **Ălena Rybi ková** Denisa Mocková (Gar.)

| 16DPO | Vehicle Technology Josef Mík, Josef Svoboda, P emysl Toman Josef Mík (Gar.) | KZ | 2 | 2P+0C+10B | L | Р |
|--------|---|------|---|-----------|---|---|
| 15JZ2A | Foreign Language - English 2 Markéta Vojanová, Marie Michlová, Marek Tome ek, Jan Feit, Markéta Musilová, Peter Morpuss, Lenka Monková, Jitka He manová, Eva Rezlerová, | Z,ZK | 3 | 0P+4C+10B | L | Ρ |

Characteristics of the courses of this group of Study Plan: Code=4S-BP-LOG-24/25 Name=4th Sem. Bachelor Full-Time TET-LOG from 2024/25

| 11MSP Modeling of Systems and Processes Z,ZK 4 | | | | | |
|---|--------|--|--|--|--|
| System and subsystem, external and internal system description, continuous and discrete system, mathematics as a tool, examples of formulation of differential and differential equations | | | | | |
| Linear and nonlinear system, stationary and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transfer function. Stability of LTI systems. | | | | | |
| Discretization of continuous systems. System interconnection. | | | | | |
| 17ESYS Transport Systems Economy Z,ZK 6 | | | | | |
| Macroeconomics, macroeconomic indicators, transport system, transport externalities, energy in transport, shared economy, state transport system and its quantification, rationali | zation | | | | |
| of transport system. | | | | | |
| 17LGT Logistics Z,ZK 6 | | | | | |
| Logistics definition, basic concepts, store, warehouse, transport and handling equipment, logistics technology, logistics centers, information and intelligent logistics systems, log | istics | | | | |
| city. | | | | | |
| 11LP Linear Programming KZ 3 | | | | | |
| Formulation of the problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex and convex polyedra. Simplex method, | basic | | | | |
| solutions, duality principle in linear programming, stability of solution of linear programming problem. Traffic problem. | | | | | |
| 11MDP Transport Prognostic Methods KZ 2 | | | | | |
| The techniques of economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsion of statistical values using differencie | es and | | | | |
| indices. | | | | | |
| 16DPO Vehicle Technology KZ 2 | | | | | |
| Vehicle. Functions, principles. Drive, vehicle construction. Road transport, safety, heavy duty vehicle desing, dynamics. Rail transport, safety, carriage design. Drive. Electric trac | tion. | | | | |
| Transshipment. Technological components of various modes of transport. Management and control of various means of transport. Safety. | | | | | |
| 15JZ2A Foreign Language - English 2 Z,ZK 3 | | | | | |
| 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. | | | | | |

Code of the group: 5S-BP-LOG-24/25

Name of the group: 5th Sem. Bachelor Full-Time TET-LOG from 2024/25 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 6 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 |
|--------|--|------------|---------|-----------|----------|------|
| 12ZPV | Railway Operation Jan Kruntorád, Martin Jacura | Z,ZK | 4 | 2P+1C+12B | Z | Ρ |
| 17EPOD | Economics of Transport Company Václav Baroch, Alexandra Dvo á ková Alexandra Dvo á ková (Gar.) | Z,ZK | 6 | 4P+2C+18B | Z | Ρ |
| 17TVD | Technology of Public Transport Vít Janoš, Zden k Michl, Stanislav Metelka, Ji í Pospíšil Vít Janoš (Gar.) | Z,ZK | 5 | 2P+2C+18B | Z | Ρ |
| 14DMG | Datamining Radek Holý Radek Holý Radek Holý (Gar.) | KZ | 2 | 0P+2C+10B | Z | Ρ |
| 17MAGD | Marketing in Transport Petra Skolilová Petra Skolilová (Gar.) | KZ | 4 | 2P+1C+12B | Z | Ρ |
| 17ZAP | Fundamentals od law Martina D v rová Martina D v rová (Gar.) | Z | 2 | 2P+0C+10B | Z | Ρ |

Characteristics of the courses of this group of Study Plan: Code=5S-BP-LOG-24/25 Name=5th Sem. Bachelor Full-Time TET-LOG from 2024/25

| 12ZPV | Railway Operation | Z,ZK | 4 | | | |
|---|--|-------------------|------------------|--|--|--|
| Legislation in railway tra | Legislation in railway transport. Railway vehicles. Railway signals and signal devices. Railway traffic organisation and operation. Simplified railway traffic operation. Railway vehicles | | | | | |
| brakes. Railway vehicle | s marking. Operation intervals. Theoretical graph of train running. | | | | | |
| 17EPOD | Economics of Transport Company | Z,ZK | 6 | | | |
| Economy, marginal utili | y, marginal costs, function of supply and demand, market equilibrium, perfect competition and types of market arrangement. | Transportation m | arket, transport | | | |
| company, it's environme | ent, balance sheet, costs, revenue, profit and maximalization of profit. Business plan, taxation in transport. | | | | | |
| 17TVD | Technology of Public Transport | Z,ZK | 5 | | | |
| The course contents a | etailed description of new knowledge and basic principles of hierarchical planning of public transport system accenting the | general transport | planning and | | | |
| quantified transport der | nand. The course would be oriented on multiple and multi-level optimisation of passenger public transport system. | | | | | |
| 14DMG | Datamining | KZ | 2 | | | |
| Types of data sources and knowledge, data warehouses and OLAP technology for data mining, data preprocessing in the process of knowledge acquisition systems for data mining, | | | | | | |
| mining characteristics of concepts (classes), mining association rules from relational db. and data warehousing, classification (decisions tree, Bayesian cob., using neural networks). | | | | | | |
| Prediction. Cluster anal | Prediction. Cluster analysis. Mining in complex structured data, multimedia dbf., www. | | | | | |

| 17MAGD | Marketing in Transport | KZ | 4 | | |
|--|------------------------|----|---|--|--|
| Development of strategic marketing plans. Implementation of marketing campaigns. Branding and brand promotion. Public relations industry, business and vertical market. Website | | | | | |
| development, search engine optimization. Government relations and industry organization lobbying. Advertising and strategic sponsorships. Multimedia presentations and corporate | | | | | |
| videos. Direct marketing and related lead generation campaigns. | | | | | |
| 17ZAP | Fundamentals od law | Z | 2 | | |

Code of the group: 6S-BP-LOG-22/23 Name of the group: 6th Sem. Bachelor Full-Time TET-LOG from 2022/23 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 8 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 |
|--------|--|------------|---------|-----------|----------|------|
| 17FID | Financing and Investment in Transport Alexandra Dvo á ková, Olga Mertlová Olga Mertlová (Gar.) | Z,ZK | 4 | 2P+1C+12B | L | Ρ |
| 17IVED | Integration of Public Transport Roman Št rba Roman Št rba (Gar.) | Z,ZK | 3 | 2P+1C+10B | L | Р |
| 17KLID | Quality in Transport Service Pavel Edvard Van ura Pavel Edvard Van ura (Gar.) | Z,ZK | 3 | 2P+1C+10B | L | Ρ |
| 17MRR | Managerial Decision-making and Management Daniel Pilát, Petra Skolilová Petra Skolilová (Gar.) | Z,ZK | 4 | 2P+2C | L | Ρ |
| 14MPG | Modern Programming Approaches Michal Je ábek, Vít Fábera Michal Je ábek Vít Fábera (Gar.) | KZ | 2 | 0P+2C+8B | L | Ρ |
| 17GEDS | Geography of Transport Systems Miroslav Marada Miroslav Marada (Gar.) | KZ | 2 | 2P+0C+8B | L | Ρ |
| 12ZAR | Introduction to Architectural Design Karel Hájek | Z | 3 | 2P+0C+8B | L | Р |
| 17NAPR | Freight Traffic Roman Št rba Roman Št rba (Gar.) | Z | 2 | 2P+0C+8B | L | Р |

Characteristics of the courses of this group of Study Plan: Code=6S-BP-LOG-22/23 Name=6th Sem. Bachelor Full-Time TET-LOG from 2022/23

| 17FID Financing and Investment in Transport | Z,ZK | 4 | | | | |
|--|---------------------|-------------------|--|--|--|--|
| Sources of financing of transport infrastructure, the role of public administration in the financing and realization of investment in transport, the investment project cycle, subsidy | | | | | | |
| programs and their rules, competition, effectiveness and efficiency of spending public funds, evaluation systems of public projects and programs. | | | | | | |
| 17IVED Integration of Public Transport | Z,ZK | 3 | | | | |
| Transport policy of both EU and CR, transport sectoral strategies, land use planning and evolution of space organization, integration of public service | in territory, form | s and content of | | | | |
| activities and organizational structures of integrated public transport systems, internal and external bindings, contracting, carriage relations, condition | s of both rail and | bus transport | | | | |
| operations, grading and quality, IS, marketing. | | | | | | |
| 17KLID Quality in Transport Service | Z,ZK | 3 | | | | |
| General interpretation of quality, standards and international standardization, integrated management systems, modern attitudes of quality management | ent, quality in tra | insport service | | | | |
| and logistics, methods of quality measurement, quality management, risks and opportunities, public transport quality, view of costumers, carriers and | PT-organizers, q | uality standards, | | | | |
| quality costs, marketing and costumer satisfaction. | | | | | | |
| 17MRR Managerial Decision-making and Management | Z,ZK | 4 | | | | |
| Decision-making process; identifying exactly what the problem is; evaluating the issue; solving the issue; using multiple perspective analysis to make | a decision; usua | I method of | | | | |
| thinking. | | | | | | |
| 14MPG Modern Programming Approaches | KZ | 2 | | | | |
| Students will be reminded of some aspects of Pythom programming, learn basic concepts and constructs from object-oriented programming and their | r implementation | in Python. They | | | | |
| will also try out the basics of working with data libraries in Python, namely NumPy, Pandas, Matplotlib, and practice with examples of smaller and larg | er data sizes. | | | | | |
| 17GEDS Geography of Transport Systems | KZ | 2 | | | | |
| Regional differentiation of the transport system. Sociogeographic regionalization and its relation to transport. Transport and local and regional develop | ment. Spatial in | teraction - | | | | |
| theoretical and methodological framework. Mobility research - travel behavior, mode choice and the influence onto "modal-split." Modal competition. Pract | ical use of transp | ort-geographical | | | | |
| analysis in transportation planning. | | | | | | |
| 12ZAR Introduction to Architectural Design | Z | 3 | | | | |
| Urbanism and architecture of traffic systems. Bus and trolley-bus transport. Tramway and town tracks. Design of vehicles. Subway. Railway transport. | Railway stations | Local | | | | |
| communications. International airports. | | | | | | |
| 17NAPR Freight Traffic | Z | 2 | | | | |
| Freight traffic and transportation system, conditions of implementation, forwarding. | | | | | | |
| | | | | | | |

Name of the block: Compulsory elective courses Minimal number of credits of the block: 6 The role of the block: PV

Code of the group: Y1-BP-LOG-24/25 Name of the group: Comp. Sel. Courses Bachelor Full-Time TET-LOG from 2024/25

Requirement credits in the group: In this group you have to gain 6 credits Requirement courses in the group: In this group you have to complete 3 courses Credits in the group: 6 Note on the group:

| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.) | Completion | Credits | Scope | Semester | Role |
|--------|--|------------|---------|-------|----------|------|
| 21Y1AM | Aeronautical Information Management (AIM) | KZ | 2 | 2P+0C | Z | PV |
| 00Y1XB | Active participation in a scientific project, workshop, short-term trip abroad Patrik Horaž ovský Patrik Horaž ovský Patrik Horaž ovský (Gar.) | KZ | 2 | 2P+0C | | PV |
| 20Y1AF | Alternative Forms of Transportation Project Financing Mária Jánešová Mária Jánešová | KZ | 2 | 2P+0C | Z | PV |
| 18Y1AM | Anatomy, Mobility and Safety of Man | KZ | 2 | 2P+0C | Z | PV |
| 14Y1AV | Animation and Visualization | KZ | 2 | 2P+0C | L | PV |
| 12Y1AE | Applied Ecology Martin Jacura, Kristýna Neubergová | KZ | 2 | 2P+0C | Z | PV |
| 20Y1AE | Applied Electronics | KZ | 2 | 2P+0C | Z | PV |
| 14Y1BE | Barrierless Transport Jan Kr ál | KZ | 2 | 2P+0C | L | PV |
| 15Y1BO | Work Safety and Health Protection in Transportation | KZ | 2 | 2P+0C | L | PV |
| 11Y1BK | Error Detection Codes for Interlocking Systems Lucie Kárná Lucie Kárná Lucie Kárná (Gar.) | KZ | 2 | 2P+0C | Z | PV |
| 21Y1BS | Unmanned aircraft systems 1 Tomáš Tlu ho, Jakub Kraus, Michal erný | KZ | 2 | 2P+0C | L | PV |
| 14Y1BM | Biometric Methods | KZ | 2 | 2P+0C | Z | PV |
| 15Y1DZ | History of Railway Martin Jacura, Eva Rezlerová | KZ | 2 | 2P+0C | L | PV |
| 12Y1DS | Project Documentation in Practice | KZ | 2 | 2P+0C | Z | PV |
| 20Y1EK | Qualification in Electrical Engineering | KZ | 2 | 2P+0C | L | PV |
| 16Y1EN | Energy Requirements of Vehicles | KZ | 2 | 2P+0C | L | PV |
| 20Y1EA | Environmental Aspects of Transport | KZ | 2 | 2P+0C | Z | PV |
| 15Y1EH | European Integration within Historical Context | KZ | 2 | 2P+0C | Z | PV |
| 18Y1EM | Experimental Methods in Mechanics Daniel Kytý Daniel Kytý Daniel Kytý (Gar.) | KZ | 2 | 2P+0C | Z | PV |
| 15Y1FD | French Area Studies and Transportation | KZ | 2 | 2P+0C | L | PV |
| 14Y1HW | Computer Hardware | KZ | 2 | 2P+0C | L | PV |
| 15Y1HL | History of Civil Aviation Vladimír Plos | KZ | 2 | 2P+0C | L | PV |
| 15Y1HD | History of City Mass Transport Milan Dont | KZ | 2 | 2P+0C | Z | PV |
| 12Y1HD | Traffic Noise Dagmar Ko árková, Libor Ládyš | KZ | 2 | 2P+0C | L | PV |
| 15Y1HE | Work Hygiene and Ergonomics in Traffic | KZ | 2 | 2P+0C | Z | PV |
| 16Y1IS | Interactive simulators and simulations | KZ | 2 | 2P+0C | L | PV |
| 12Y1KN | Combined Transportation Petr Nejedlý | KZ | 2 | 2P+0C | Z | PV |
| 12Y1KP | Communication and Promotion of Transport Projects Dagmar Ko árková, Ond ej Kubala | KZ | 2 | 2P+0C | L | PV |
| 20Y1KP | Communication and presentation skills Ji í R ži ka, Patrik Horaž ovský, Kristýna Navrátilová, Eva Haj iarová Ji í R ži ka | КZ | 2 | 2P+0C | z | PV |
| 21Y1LJ | Aeronautical Radio and Flight Instruments | KZ | 2 | 2P+0C | L | PV |
| 21Y1LS | Air Traffic Services | KZ | 2 | 2P+0C | L | PV |
| 17Y1LL | Logistics of Passenger and Freight Air Transport Petra Skolilová Petra Skolilová (Gar.) | KZ | 2 | 2P+0C | L | PV |
| 20Y1LN | Location and Navigation Petr Bureš | KZ | 2 | 2P+0C | L | PV |
| 17Y1MD | Marketing in Transportation | KZ | 2 | 2P+0C | Z | PV |
| 18Y1MT | Engineering Materials Jaroslav Valach Jaroslav Valach (Gar.) | KZ | 2 | 2P+0C | L | PV |
| 21Y1MP | Matlab for project-oriented study Lenka Hanáková, Vladimír Socha Vladimír Socha | KZ | 2 | 2P+0C | Z | PV |

| 14Y1MP | Modeling Complex Assemblies and Models in Parametric | KZ | 2 | 2P+0C | Z | PV |
|--------|---|----|---|-------|---|----|
| | Modeller Modern History in Context: Every Day Life and Transport | | | | | |
| 15Y1MK | Marie Michlová | KZ | 2 | 2P+0C | L | PV |
| 15Y1NE | German in the Economy and Society Eva Rezlerová | KZ | 2 | 2P+0C | Z | PV |
| 21Y1OH | Airline Business and Operations Peter Olexa, Eva Endrizalová Peter Olexa | KZ | 2 | 2P+0C | Z | PV |
| 20Y1OI | Fare Collection and Information Systems Patrik Horaž ovský, Milan Sliacky Milan Sliacky (Gar.) | KZ | 2 | 2P+0C | L | PV |
| 14Y1OJ | Object - oriented programming in JAVA | KZ | 2 | 2P+0C | L | PV |
| 14Y10P | Operating System | KZ | 2 | 2P+0C | Z | PV |
| 17Y10F | Personal Finance | KZ | 2 | 2P+0C | Z | PV |
| 20Y1OK | Road Lighting František Kekula | KZ | 2 | 2P+0C | L | PV |
| 11Y1PV | Parametrical and Multicriterial Programming Olga Vraštilová Olga Vraštilová Olga Vraštilová (Gar.) | KZ | 2 | 2P+0C | Z | PV |
| 17Y1PM | Personnel Management | KZ | 2 | 2P+0C | L | PV |
| 12Y1PC | Pedestrian and Cycling Transport | KZ | 2 | 2P+0C | L | PV |
| 14Y1PG | Denis Liutov Computer Graphics | KZ | 2 | 2P+0C | | PV |
| 14Y1P2 | Computer Graphics Computer Aid of Transportation Projecting 2 | KZ | 2 | 2P+0C | Z | PV |
| 18Y1PS | Computer Simulations in Mechanics | | | | | |
| | Petr Zlámal Petr Zlámal Petr Zlámal (Gar.) | KZ | 2 | 2P+0C | L | PV |
| 14Y1PI | Corporate Information System | KZ | 2 | 2P+0C | Z | PV |
| 14Y1PZ | Advanced Data Processing in Spreadsheets | KZ | 2 | 2P+0C | Z | PV |
| 21Y1PC | ATC Procedures and Activities Terézia Pilmannová Terézia Pilmannová | KZ | 2 | 2P+0C | Z | PV |
| 20Y1PK | Product Quality Management Processes Martin Leso Martin Leso | KZ | 2 | 2P+0C | Z | PV |
| 14Y1PJ | C Programming Language | KZ | 2 | 2P+0C | Z | PV |
| 12Y1C1 | Designing Roads in Civil 3D I Tomáš Honc | KZ | 2 | 2P+0C | L | PV |
| 12Y1C2 | Designing Roads in Civil 3D II Tomáš Honc | KZ | 2 | 2P+0C | Z | PV |
| 14Y1PA | 3D Modeling in AutoCAD | KZ | 2 | 2P+0C | Z | PV |
| 16Y1PV | Operation, Construction and Maintenance of Vehicles | KZ | 2 | 2P+0C | L | PV |
| 12Y1PU | Organization Disposition of Railway Stations | KZ | 2 | 2P+0C | L | PV |
| 12Y1RU | Railway Lines Reconstruction | KZ | 2 | 2P+0C | Z | PV |
| 16Y1RE | Control and Electronic Vehicle Systems Josef Mik, P emysl Toman | KZ | 2 | 2P+0C | Z | PV |
| 21Y1RZ | Human Resources Management | KZ | 2 | 2P+0C | L | PV |
| 17Y1ST | Titan Simulation | KZ | 2 | 2P+0C | L | PV |
| 21Y1SI | ATC Simulator Terézia Pilmannová | KZ | 2 | 2P+0C | L | PV |
| 20Y1SC | Sensors and Actuators | KZ | 2 | 2P+0C | L | PV |
| 17Y1SL | Sociology of Human Resources | KZ | 2 | 2P+0C | Z | PV |
| 11Y1SI | Transportation Software Engineering | KZ | 2 | 2P+0C | Z | PV |
| 16Y1KS | Quality and Reliability of Vehicles Jan Leistner, Filip Kotas, Jaroslav Machan, David Lehet | KZ | 2 | 2P+0C | Z | PV |
| 12Y1SU | Road Management and Maintenance Dagmar Ko árková, Otakar Vacín | KZ | 2 | 2P+0C | L | PV |
| 16Y1SO | Strategy and innovation in mobility | KZ | 2 | 2P+0C | Z | PV |
| 17Y1SK | Urban and Regional Rail Transport Systems Ji í Pospíšil Ji í Pospíšil (Gar.) | KZ | 2 | 2P+0C | L | PV |
| 11Y1TG | Graph Theory Lucie Kárná Lucie Kárná Lucie Kárná (Gar.) | KZ | 2 | 2P+0C | L | PV |
| 14Y1TI | Creating Interactive Internet Applications | KZ | 2 | 2P+0C | L | PV |
| 21Y1UL | Aircraft Maintenance Tomáš T ma | KZ | 2 | 2P+0C | L | PV |
| 14Y1UP | Editing of Theses in MS Word | KZ | 2 | 2P+0C | L | PV |
| 18Y1UK | Introduction of Rail Vehicles Jitka ezní ková, Josef Kolá, Josef Kolá Josef Kolá Josef Kolá (Gar.) | KZ | 2 | 2P+0C | L | PV |
| 12Y1VR | Public Transport in Cities and Regions | KZ | 2 | 2P+0C | Z | PV |
| 14Y1VM | Vladimír Pušman Development of Applications for Mobile Devices | KZ | 2 | 2P+0C | Z | PV |

| 16Y1VT | Development in Railroad Vehicles | KZ | 2 | 2P+0C | L | PV |
|--------|---|----|---|-------|---|----|
| 14Y1WG | Webdesign | KZ | 2 | 2P+0C | Z | PV |
| 14Y1W1 | Webdesign 1 | KZ | 2 | 2P+0C | Z | PV |
| 14Y1W2 | Webdesign 2 | KZ | 2 | 2P+0C | L | PV |
| 16Y1ZG | Introduction into Applied Computer Graphics | KZ | 2 | 2P+0C | L | PV |
| 14Y1ZM | Fundamentals of parametric and adaptive modeling | KZ | 2 | 2P+0C | L | PV |
| 11Y1ZM | Foundation of MATLAB Programming Šárka Vorá ová Šárka Vorá ová Sárka Vorá ová (Gar.) | KZ | 2 | 2P+0C | L | PV |
| 14Y1ZJ | Fundamentals of programming in JAVA | KZ | 2 | 2P+0C | Z | PV |
| 12Y1ZU | Principles of Urbanism Karel Hájek | KZ | 2 | 2P+0C | Z | PV |
| 15Y1ZV | East-West dichotomy: Prelude to the Cold War Marie Michlová | KZ | 2 | 2P+0C | Z | PV |
| 16Y1ZL | Vehicle Testing, Legislation and Construction Zuzana Radová, Josef Mík | KZ | 2 | 2P+0C | Z | PV |

Characteristics of the courses of this group of Study Plan: Code=Y1-BP-LOG-24/25 Name=Comp. Sel. Courses Bachelor Full-Time TET-LOG from 2024/25

| 21Y1AM | Aeronautical Information Management (AIM) | KZ | 2 | | |
|---|--|----------------------|------------------|--|--|
| Definition and basic over | rview of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronautic | I Inf. Publication). | VFR Manual of | | |
| the Czech Rep. AIRAC | System. NOTAM messages.PIB (Pre-flight Informtion Bulletin). AIC (Aeoronautical Inf. Circulars). Aeronautical Charts. EAD (I | Europena AIS Da | tabase). QMS | | |
| (Quality Mng. System). | ADQ (Aeronautical Data Quality). AIXM (Aeronautical Inf. Exchnage Format). | | | | |
| 00Y1XB | Active participation in a scientific project, workshop, short-term trip abroad | KZ | 2 | | |
| 20Y1AF | Alternative Forms of Transportation Project Financing | KZ | 2 | | |
| In will be specifed such | forms of financing in transportation and telecomunications, where the public sector body perform the final debtor, i. e. debt p | ayments come fro | m 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 s | securities as an al | ternative source | | |
| of transportation and te | lecomunication projects. | | | | |
| 18Y1AM | Anatomy, Mobility and Safety of Man | KZ | 2 | | |
| Survey of tissues. Anato | mical structure and growth of bones. Articular joint. Remodelling of bone tissue. Anatomical structure of muscles. Blood circulat | ion and nervous s | ystem. Structure | | |
| and biomechanics of m | uscular-skeletal system. Injury of human organs and musculo-skeletal system during traffic accidents. Mobility of ill and injure | ed man and his tre | atment. Human | | |
| joint prostheses. Protect | tive means and traffic safety regulations. | | | | |
| 14Y1AV | Animation and Visualization | KZ | 2 | | |
| Advanced modifications | and modeling of NURBS, Patch objects, selection of objects (according to filter and properties). 3D Studio MAX systems and | Space Warp obje | cts. Atmospheric | | |
| and other effects, rende | ring filters, Motion blur, advanced animations, Motion panel. Modeling for morphing and animation, bone formation, animation | n using Inverse K | nematics. | | |
| 12Y1AE | Applied Ecology | KZ | 2 | | |
| General ecology - ecolo | gical concepts and principles, ecosystem, ecological factors, energy flow through the ecosystem. Application of knowledge | vithin EIA docume | ntation. Special | | |
| ecology. Landscape eco | ology - origin and historical development. Landscape definition and classification. Success. Traffic constructions in the country | side. Landscape | and nature | | |
| protection. Applied ecol | ogy. | | | | |
| 20Y1AE | Applied Electronics | KZ | 2 | | |
| | nductor components, their principles, characteristics and typical connection diagrams. Semiconductor PN junction diodes, tra- | ansistors, thyristor | , operational | | |
| | ates. Functions of basic electronic circuits and methods for their designs (rectifiers, voltage regulator with Zener diode, transi | - | | | |
| | and noninverting amplifier). | | | | |
| 14Y1BE | Barrierless Transport | KZ | 2 | | |
| | accessible public transportation in terms of architectural barriers and also for transportation-technological point of view. Stude | | _ | | |
| | ent roads, railway stations, public transport stops, terminal buildings, vehicles, public transport, information and orientation syste | - | - 1 | | |
| | will be supplemented by practical examples. | | | | |
| 15Y1BO | Work Safety and Health Protection in Transportation | KZ | 2 | | |
| 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 hon | ne and foreign business trips, statistics, working practice. | | | | |
| 11Y1BK | Error Detection Codes for Interlocking Systems | KZ | 2 | | |
| | d methods for its assuring. Safety codes linear codes, cyclic codes, BCH codes, Reed-Solomon codes. Transmission channels | s, detection of tran | smission errors, | | |
| | d error. Design and assessment of detection codes; requirements of the European standard EN 50159. | | | | |
| 21Y1BS | Unmanned aircraft systems 1 | KZ | 2 | | |
| - | velopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division. | | and operational | | |
| procedures. Practical fli | | | | | |
| 14Y1BM | Biometric Methods | KZ | 2 | | |
| | authentication methods, principles and performance measurement of biometric systems, overview of biometric technologies, | | | | |
| | od, 2D and 3D face recognition, vein patterns on the wrist, ear biometrics, fingerprint recognition, skin spectroscopy, behavior | | - | | |
| - | s, safety and risks of biometric technologies. | | | | |
| 15Y1DZ | History of Railway | KZ | 2 | | |
| | team railways, railway network development in the 2nd half of 19th century, regional railways epoch, railways of the "First Re | | | | |
| | levelopment in the 2nd half of 20th century, high-speed railway origins, railway lines closing, important long-distance train conn | | | | |
| | ay junctions. Excursions and projections. | ·····, ···, | , , , | | |
| 12Y1DS | Project Documentation in Practice | KZ | 2 | | |
| | creating. Project documentation types. Support materials for project documentation creating. Building permit obtaining proces | | | | |
| creation of some project documentation parts. | | | | | |
| 20Y1EK | Qualification in Electrical Engineering | KZ | 2 | | |
| | h measurements in laboratories, electrical equipment, power supply, electrical installation of low voltage, electric shock haza | | | | |
| | red currents, electrical equipment protection against short circuit and overload protection, control and revision, first aid, legisl | | | | |
| voltago, maximam anor | sed currents, cicculour equipment protection against short circult and overload protection, control and revision, mist ald, legisl | | | | |

| 16Y1EN | Energy Requirements of Vehicles | KZ | 2 |
|---|--|--|---|
| - | g inertial of the vehicles. Types of energy - kinetic, static, heat, chemical and others. Ways of energy change into kinetic energy | gy. Combustion e | ngine, electric |
| - | engine. Energy accumulation means, accumulator, flywheel, fuel cell. Energy recuperation. WTW analysis. | 1/7 | |
| 20Y1EA State of the atmosphere | Environmental Aspects of Transport weather observation network, weather in transportation, road meteorology. Weather forecasting, data assimilation, probabili | KZ | 2 cast evaluation |
| | its and their effects, atmospheric chemistry, traffic emissions. Greenhouse gasses, carbon cycle, a role of energy and transp | | |
| 15Y1EH | European Integration within Historical Context | KZ | 2 |
| Versailles system, form | ation of new states. Europe and the powers, League of Nations. European policy in the 1920s. Fascism, nacism, communism | . Little Entente, its | principles and |
| | r's getting to power, system of bilateral agreements. Decline of the LN. Rearrangement of powers during WWII. Cold war and | l its consequence | s for Europe. |
| 18Y1EM | Serman relationship - a driving power of starting European integration. Experimental Methods in Mechanics | KZ | 2 |
| | experimental methods. Sensors for mechanical testing. Overview of experimental methods. Destructive and non-destructi | 1 | |
| experimental procedure | s and sample preparation. Tensile and bending tests. Electrical resistance strain gages. Optical based strain measurement. F testing. Introduction to electron microscopy. Errors in measurement. | - | - |
| 15Y1FD | French Area Studies and Transportation | KZ | 2 |
| | regions, transport infrastructure. Paris and its sights, city public transport. Road traffic, motorways, railway traffic, TGV, air tra | 1 | |
| - | ure. Current political system. System of education, studying in France. Selected authors of French literature. French gastrono | - | |
| 14Y1HW | Computer Hardware | KZ | 2 |
| Computer architecture, arithmetic and logical u | basics of logical circuits design and their realization using FPGA. In detail, description of computer architecture and separate | parts designing - | controllers, |
| 15Y1HL | History of Civil Aviation | KZ | 2 |
| | velopment of aircrafts lighter than air. Beginnings of aircrafts heavier than air. Czechoslovak aviation pioneers. Development of | 1 | |
| | aviators. Helicopters. CSA airplanes. Development of aircrafts in Czechoslovakia between the years 1945-1989. Classic era | - | - |
| | civil aviation. Airline companies. Supersonic flying. | | |
| 15Y1HD | History of City Mass Transport | KZ | 2 |
| | isport in the world, development of tram, bus and trolley-bus systems. History of transport networks in the world, current tren ory of city transport in Prague and Brno. History of tram, bus and trolley-bus operation systems in the Czech Republic and Si | - | ents of tariff and |
| 12Y1HD | Traffic Noise | KZ | 2 |
| | asic terms, quantities. Basics of physiological acoustic, noise impacts on human body. Acoustic legislation, standarts, regulat | 1 | _ |
| | acoustic, noise transmission, soundproofing. Types of noise sources in area. Determination of acoustic situation in the area | | |
| | ement of transport noise. Acoustic studies, measuring protocol. | | |
| 15Y1HE | Work Hygiene and Ergonomics in Traffic | KZ | 2 |
| - | upational hygiene and ergonomics, and their application in transport. Working environment factors, and the influence of these of working conditions that do not damage public health. Mutual links: man-machine-environment. Adaptation of technology to | | |
| | the field of transportation; relevant legislature. | possibilities and | Skills of a filari. |
| 16Y1IS | Interactive simulators and simulations | KZ | 2 |
| Simulation theory and a | pplication of computing equipment. Creating computing models. Mechanical and dynamic systems and their mathematical m | odels. Computing | methods. |
| - | namics, on-land carriage in particular. Virtual reality systems. Practical exercise with simulation software and interactive simu | | _ |
| 12Y1KN | Combined Transportation ategy and legislation. Load units. Means of transport in combined transport. Combined transport systems. Transshipping area | KZ s Multimodal logi | 2 stic centres |
| 12Y1KP | Communication and Promotion of Transport Projects | KZ | 2 |
| | Relations and the power of public opinion. Work and tasks of PR department and press spokesperson. Communication with | 1 | |
| | communication strategy of transport projects. Systematic goodwill building. Crisis situations in communication and preparation | n for crisis commu | nication. The |
| | rketing and political PR on transport projects. Lobbing. | 1/7 | |
| 20Y1KP | Communication and presentation skills d their fulfillment, current communication networks, work with various sources, formal requirements of emails and final these | KZ | 2 f personalities |
| | elligence, manipulation and way of working with it, coping with stressful situations, formal requirements of presentations, way | | |
| | on skills, presentation skills in online environment. | | J |
| 21Y1LJ | Aeronautical Radio and Flight Instruments | KZ | 2 |
| | r of aircraft instrumentation, aerometric instrumentation, Earth magnetism, aircraft electric equipment, gyroscopic instrumenta | | |
| | , engine instrumentation, warning and recording systems, instrumentation operational requirements, radiocommunication an | | 2 |
| 21Y1LS Airspace structure in C | Air Traffic Services ech Republic and other countries. Introduction and description of ATS units in Czech Republic. Practical examples of TWR, A | KZ PP a ACC contro | |
| | akia. ATS - Model of financing. Training System of Air Traffic Controllers. Future development of ATS. | | , |
| 17Y1LL | Logistics of Passenger and Freight Air Transport | KZ | 2 |
| - | ger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial t | ransport process | bassengers and |
| | stems in air transport. Global distribution systems. | K7 | 2 |
| 20Y1LN Description and examp | Location and Navigation es of road networks, localization on the network. Routing algorithms, their properties and implementation. Description and ex | KZ amples of datase | |
| | | | |
| 17Y1MD | outing algorithms, their properties and implementation. | | |
| | | KZ | 2 |
| | outing algorithms, their properties and implementation. Marketing in Transportation arketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transport | KZ | |
| the application of marke | outing algorithms, their properties and implementation. Marketing in Transportation arketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transpor ting. | KZ t and the resulting | differences in |
| the application of marke | outing algorithms, their properties and implementation. Marketing in Transportation arketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transport ting. Engineering Materials | KZ t and the resulting KZ | g differences in 2 |
| the application of market 18Y1MT Systematic overview of | outing algorithms, their properties and implementation. Marketing in Transportation arketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transpor ting. | KZ t and the resulting KZ | g differences in 2 |
| the application of market 18Y1MT Systematic overview of | outing algorithms, their properties and implementation. Marketing in Transportation arketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transport ting. Engineering Materials main classes of materials used in technical design. In addition to main classes of materials, i. e. metals, ceramics, polymers a | KZ t and the resulting KZ | g differences in 2 |
| the application of market 18Y1MT Systematic overview of to biological materials a 21Y1MP The subject's syllabus i | outing algorithms, their properties and implementation. Marketing in Transportation arketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transport ting. Engineering Materials main classes of materials used in technical design. In addition to main classes of materials, i. e. metals, ceramics, polymers a nd to biomimetics. Integral approach to material selection process is also demonstrated based on so called Ashby's selection Matlab for project-oriented study s focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercise | KZ t and the resulting KZ and composites, a n charts. KZ ses will be prepare | g differences in 2 ttention is paid 2 ed according to |
| the application of market 18Y1MT Systematic overview of to biological materials a 21Y1MP The subject's syllabus i particular examples, ba | outing algorithms, their properties and implementation. Marketing in Transportation arketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transport ting. Engineering Materials main classes of materials used in technical design. In addition to main classes of materials, i. e. metals, ceramics, polymers a nd to biomimetics. Integral approach to material selection process is also demonstrated based on so called Ashby's selection Matlab for project-oriented study focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercises and on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improvem | KZ and the resulting KZ and composites, a n charts. KZ ses will be prepare ent of students' M | differences in 2 ttention is paid 2 ed according to atlab skills. |
| the application of market 18Y1MT Systematic overview of to biological materials a 21Y1MP The subject's syllabus in particular examples, bar 14Y1MP | outing algorithms, their properties and implementation. Marketing in Transportation arketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transporting. Engineering Materials main classes of materials used in technical design. In addition to main classes of materials, i. e. metals, ceramics, polymers and to biomimetics. Integral approach to material selection process is also demonstrated based on so called Ashby's selection Matlab for project-oriented study s focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercises and auggestions. The subject will have a flexible form, which is expected to bring an improvem Modeling Complex Assemblies and Models in Parametric Modeller | KZ and the resulting KZ and composites, a o charts. KZ ses will be prepare ent of students' M KZ | differences in 2 ttention is paid 2 ed according to atlab skills. 2 |
| the application of market 18Y1MT Systematic overview of to biological materials a 21Y1MP The subject's syllabus i particular examples, ba 14Y1MP Assemblies programmi | outing algorithms, their properties and implementation. Marketing in Transportation arketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transport ting. Engineering Materials main classes of materials used in technical design. In addition to main classes of materials, i. e. metals, ceramics, polymers a nd to biomimetics. Integral approach to material selection process is also demonstrated based on so called Ashby's selection Matlab for project-oriented study focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercises and on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improvem | KZ and the resulting KZ and composites, a o charts. KZ ses will be prepare ent of students' M KZ | differences in 2 ttention is paid 2 ed according to atlab skills. 2 |

| 15Y1MK Modern History in Context: Every Day Life and Transport | KZ | 2 |
|--|-------------------------------|---------------------|
| Historical overview of modern history of every day life, science, technology and transport in a wider context. 15Y1NE German in the Economy and Society | KZ | 2 |
| Recent economic and social issues of German speaking countries and of the EU. Reading and listening of texts. Lexical, grammatical and | | |
| selected topics. | , | |
| 21Y1OH Airline Business and Operations | KZ | 2 |
| The course provides a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses | - | - |
| various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the esse a basic view of the economic aspects of air transport. | ntials of transportation proc | cesses. It provides |
| 20Y10I Fare Collection and Information Systems | KZ | 2 |
| Fare collection systems in public transport and their components (on-board units, validators, turnstiles,). Information systems and their | · · · | |
| panels) and operators (cycles, location or current delay of vehicles,). The issue of tariff systems. Other examples of clearance system | ns (parking). | |
| 14Y1OJ Object - oriented programming in JAVA | KZ | 2 |
| Objective thinking. Encapsulation. Classes. Attributes. Access modifiers. Methods and overloading. Special methods (constructors, getters / | | |
| data types. Inheritance. Polymorphism. Statics, constants, interfaces, abstract classes, enum, packages, exceptions, collections, generics. | KZ | - |
| 14Y10P Operating System Distributions. Installation GNU/Linux OS. X-window system. Rights management - users and groups, ACL rights. Filesystems and attribute | | SS OS boot |
| runlevels. Basic console programs / commands. Config files. SW management, package systems. Programs in graphic shell - text, spread | | |
| communication. Services management. Safe and secure configuration of OS. Remote administration. | - | |
| 17Y1OF Personal Finance | KZ | 2 |
| Personal finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), finance (budget, finance | | |
| consumer loans, refinancing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, (retirement savings and insurance). | sunability and adequacy), s | securing the future |
| 20Y1OK Road Lighting | KZ | 2 |
| Basic lighting quantities and terms, street lighting components (luminaires, control cabinets for street lighting, street lighting cables), charact | 1 | |
| light distribution), standards, measurement of illuminance and luminance in road lighting, tunnels, conceptual approach to street lighting d | esign, lighting calculations | in DIALux and |
| Relux, street lighting control systems. | | - |
| 11Y1PV Parametrical and Multicriterial Programming | KZ | 2 |
| Solution to the problem of linear programming with a parameter in objective function, on right sides and in the matrix of coefficients of linear | | |
| 17Y1PM Personnel Management Human sources, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwo | rk_intercultural communic: | 2 |
| 12Y1PC Pedestrian and Cycling Transport | KZ | 2 |
| Routes for pedestrians. Pedestrian crossings. Modifications for blind, dim-sighted and disabled people. Design of cycle routes network. Ways | | |
| for cyclists. Separation of cyclists from other transport modes. Cycle tracks and its design - one way streets, reserved traffic lanes, bus sto | | |
| crossroads. Traffic signs and road marking for cyclists. | | |
| 14Y1PG Computer Graphics | KZ | 2 |
| Basic formats of graphic and possibilities of their editing and mutual conversion. Use of individual types according to character of work. We level scope) using layers, DPI, colors. Basics of digital photography, scanning and computer technology like monitors and graphics cards. | ork with editing programs (| within the user |
| 14Y1P2 Computer Aid of Transportation Projecting 2 | KZ | 2 |
| Overview of CAx application for transportation projecting aid. AutoCAD environment possibilities of basic tasks automatizing (programming | | |
| modification (attributes, relation to databases). Work in projecting group, external references. Basic tasks for cummunication projecting (clo | toidic transition curve, cros | s-and longitudinal |
| section). Basics of 3D modelling. | | |
| 18Y1PS Computer Simulations in Mechanics | KZ | 2 |
| Principles and overview of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric mod from other CAE systems. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary | | |
| tasks of structural and modal analysis. Introduction to complex nonlinear problems. | | |
| 14Y1PI Corporate Information System | KZ | 2 |
| Data-information-knowledge, components of information system, syntatic and semantic sense of data, structure of corporate information s | system, particular informat | on system |
| (personalistic, production, storage, etc.), corporate information politic and information control, risks of information system operation, legal e | environment of information | system operation, |
| state information system, information system security, data protection, safety politics. | V7 | 2 |
| 14Y1PZ Advanced Data Processing in Spreadsheets Students will be familiar with principles of working in a spreadsheet. Graphic layout of the table appearance, formatting of numbers, insert | ion of formulas and functio | 2 ns including |
| addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Pivot tables and charts, conditional | | - |
| data analysis. Examples and questions from various companies and training. | 0, | |
| 21Y1PC ATC Procedures and Activities | KZ | 2 |
| Air traffic control procedures, basics of communication and phraseology, aircraft identification, spacing and traffic coordination. In addition | | raffic control at |
| the airports and low visibility operational procedures. Students will during the course learn basic safety management applications applied | 1 | |
| 20Y1PK Product Quality Management Processes General principles of organization management. Management systems and international standards; quality management systems. Quality | products processes syst | 2 |
| of standards for systems management, management principles. Principles of process management, monitoring and measurement systems in | | |
| for systems management. Process management principles. Metrology and testing. Product certification. | . | |
| 14Y1PJ C Programming Language | KZ | 2 |
| C programming language. Preprocessor, basics of the C language (data types, syntax, commands), functions, pointes, dynamical memory a | - | ctures and unions. |
| Implementations of abstract data types (FIFO, LIFO, list), programming techniques (sorting, searching, recursion), using bitwise oprerator | | |
| 12Y1C1 Designing Roads in Civil 3D I | ks as through the complete | 2 |
| The course is devoted to the traffic buildings design field, specifically the design of roads as such, by the means of a 3D software. Studen particular linear building, from the initial situation, over the longitudinal section, to the model and work sections and the cubic capacity call | | - |
| explanation of the traffic building design in the real-life profession. | | |
| 12Y1C2 Designing Roads in Civil 3D II | KZ | 2 |
| The course is devoted to the traffic buildings design field, specifically the design of roads as such, by the means of a 3D software. Studen | | - |
| particular linear building, from the initial situation, over the longitudinal section, to the model and work sections and the cubic capacity call | culation. The previously ac | quired skills are |
| improved and developed. Students learn to design intersections. | | |

| 14Y1PA 3D Modeling in AutoCAD | KZ | 2 |
|--|---------------------------------------|-------------------|
| Work in 3D non-parametric modeller (AutoCAD) environment, scenes rendering, creation of planar and volumetric objects, user setup | creation, object data creation, wo | ork with data |
| connected with external database. Basic definition of work with lights, materials and reflexes. Models presentation. | | |
| 16Y1PV Operation, Construction and Maintenance of Vehicles | KZ | 2 |
| Methods of vehicle production. Vehicle maintenance. Vehicle diagnostics. Maintenence and repair plans. Engine maintenance and em | ission measurement. Transmission | n mechanism. |
| General principles of engine diagnostics. | | |
| 12Y1PU Organization Disposition of Railway Stations | KZ | 2 |
| Connecting station. Passenger transport equipment. Freight transport equipment. Branch lines and railway traffic inside industrial com | | tion yards. |
| Reserve stations. Technology of work in railway station with regard to its disposition. Railway station documentations in the Czech Re | public railway network. | |
| 12Y1RU Railway Lines Reconstruction | KZ | 2 |
| Keeping railway line operational, maintaining lines and stations, geometrical alignment of railway line, vehicles for railway superstructu | are and substructure maintenance. | , scheduling |
| and organising possesions, preparation of railway lines reconstruction and maintenance, process of ralway line reconstruction. | | |
| 16Y1RE Control and Electronic Vehicle Systems | KZ | 2 |
| Elementary concepts of regulation. Tools for analytical solution, linear system description. Basic types of a regulator (PID), properties, ac | | |
| and hybrid drive control. Electric drive. Vehicle communication bus (CAN, LIN, FlexRay, ISObus, KWP2000 protocole etc.). Vehicle ele | ctronic control, safety, communica | tion and |
| comfort systems. | | |
| 21Y1RZ Human Resources Management | KZ | 2 |
| The position of human resources in the organization and related disciplines file. Substance, importance and challenges of human resources in the organization and related disciplines file. | - | |
| environment of human resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, | evaluation and remuneration of sta | aff. Positioning, |
| dismissal and redundancies of employees. Education of employees. Planning career management. | | |
| 17Y1ST Titan Simulation | KZ | 2 |
| Titan is a management game simulating the business decisions. Lets 2-8 student groups to produce and compete in the market with t | | |
| determine the quantity and capacity of production, plan budgets for marketing, research and development. They become familiar with | the consequences of their decision | ons by the form |
| of financial corporate reports and they use this information for other business decisions. | | |
| 21Y1SI ATC Simulator | KZ | 2 |
| Familiarization with the simulation environment, acquiring basic habits, aircraft identification procedures, vectoring, level changes, AT | | |
| exercises focusing on basic vectoring, early application of vertical separation, EST and REV message passing. Practical exercises in | the APPROACH area, practicing a | arrival and |
| departure management procedures, conflict resolution. | 1/7 | 0 |
| 20Y1SC Sensors and Actuators | KZ | 2 |
| Principles of sensors and actuators. Basics of measuring theory and actuating influence. The respective technologies and construction pri | • | ectro-magnetic, |
| state (temperature, humidity), chemical and particle flow values. Electrical, pneumatic and hydraulic actuators and solid phase elements | | |
| 17Y1SL Sociology of Human Resources | KZ | 2 |
| Human resources and their importance, work group as a special kind of social group, communication, personal management, modern i | nanagement, numan resources pla | anning, culture |
| of the organization. | 1/7 | 0 |
| 11Y1SI Transportation Software Engineering | KZ | 2 |
| Basic concepts of software engineering, ranging from domain analysis, requirement analysis and software architectures to analyses, de | sign and implementation using form | mai tecnniques |
| and practical usuage. | | 2 |
| 16Y1KS Quality and Reliability of Vehicles | KZ | 2 |
| Quality and reliability theory in design, development, production and operation of vehicles. Definition and possible approach to quality | | |
| Mode and Effects Analysis), QFD (Quality Function Deployment), DFx (Design for Assamly, Manufacturying, Quality, Services) and Knowledge-based systems of quality and reliability, data collection. | other methods used in industrial a | applications. |
| | | 2 |
| 12Y1SU Road Management and Maintenance Getting familiar with ownership of roads in the Czech Republic and the administration of the road at the state and county level. It is pre- | KZ | 2 |
| medium and long-term strategy of the Ministry of Transport. Maintenance of roads winter and summer, its requirements, specifics, pos | | |
| classroom as well as investment activity in highway engineering. | sibilities and repair methods are di | iscusseu in the |
| | | 2 |
| 16Y1SO Strategy and innovation in mobility Introduction to innovation, definition. Innovation strategy. Innovation life cycle and ecosystem, main sources and funding opportunities | Successful innovation project KE | |
| co-financing, evaluation. Sprint method and its use. Innovative business model - main patterns and examples, design, strategy, process | | - |
| of use). Creating an innovation strategy. Customer and value map, design and testing. | | |
| 17Y1SK Urban and Regional Rail Transport Systems | KZ | 2 |
| Factors affecting transport demand, modal-split, distribution of passenger flows on public regional transport lines. Optimization of line | | |
| evaluation of the timetable. Vehicle circulation creation. Optimizing driver shifts and arranging them in turnus. Effects of barrier-free an | e . e | • |
| marketing. | | |
| 11Y1TG Graph Theory | KZ | 2 |
| Basic concepts and terminology of graph theory, graph representation. Problems of graph theory, problem instance. Graph search alg | · · · · · · · · · · · · · · · · · · · | |
| path problem, Eulerian path, bipartite graph matching, flow networks, circulations, critical path method, traveling salesman problem. Prob | | |
| for their solving. Computational complexity, dealing with NP-complete problems, heuristic approach. | | and algorithme |
| 14Y1TI Creating Interactive Internet Applications | KZ | 2 |
| Possibilities of scripting language PHP. Overview of PHP language syntax, and functions. Analysis of finished scripts and demonstratic | 1 | |
| in PHP language. | | 1 . 3 |
| 21Y1UL Aircraft Maintenance | KZ | 2 |
| Aircraft operations and technical operations. Maintenance and work processes. Defects search methods, status check diagnostic tools. | | |
| Basic documentation for maintenance. Optimization of time maintenance intervals. Regulation no. 1321/2014 Part 145. Human factors | | |
| EASA for aircraft maintenance. Seminars will be focused on practical application. | | |
| 14Y1UP Editing of Theses in MS Word | KZ | 2 |
| Students will be introduced to the principles of creating and editing large documents and basic typographic rules. They will properly a | | |
| figures, tables, graphs, etc. Footnotes, captions, index. They practice corrections of finished documents. The goal is to prepare studen | | |
| so that they are able to concentrate mainly on writing a thesis. | <u> </u> | ., |
| 18Y1UK Introduction of Rail Vehicles | KZ | 2 |
| Basic characteristics and parameters rail transport systems - railway and urban transport. Basis driving mechanics rail vehicles - equa | | |
| track resistance. Total running resistance. Acceleration force. Analyzing driving cycle rail vehicle. Speed-power diagrams and character | | - |
| and electric drive. Design concept rail vehicles and drive of wheel set. | | |

| · | | | |
|------------------------------|--|-----------------------|--------------------|
| 1 | Public Transport in Cities and Regions | KZ | 2 |
| | pillars of public transport. Accessibility of public transport. Transport demand management and directional coordination of I | | • |
| | ers and transport variations. Types of lines according to their routing and basic operating parameters. Time coordination of I | ines. Operational | traffic control. |
| | ration in Prague. Tram safety. | | |
| 14Y1VM [| Development of Applications for Mobile Devices | KZ | 2 |
| Object oriented programm | ning, Java programming language, development environment, operating system Android, development application - widget | s, containers, thre | ads, menu, |
| permissions, services, GL | JI. | | |
| 16Y1VT [| Development in Railroad Vehicles | KZ | 2 |
| Railroad vehicles traction. | Railroad vehicle parametres regulation. Control and driving of railroad vehicles. Importance in heavy duty and personal tra | ansportation. Critic | cal situation |
| assesment. New materials | s in design. International standardization. | | |
| 14Y1WG V | Nebdesign | KZ | 2 |
| Students will learn the bas | sics of HTTP communication, URL and addressing, HTML5 markup language, advanced CSS3 techniques, accessible and | d usable web rule | s, responsive |
| webdesign, content mana | gement systems, web server installation + configuration directives. The subject matter will be trained on examples. | | |
| 14Y1W1 V | Nebdesign 1 | KZ | 2 |
| Students will learn the bas | sics of communication HTTP, URL and addressing, markup languages HTML and XHTML, HTML tags, rules of web accessi | bility and usability | CSS properties |
| and selectors, the issue of | f web browsers, creating one to three column layout pages, sites validation, conditional comments. Topics will be practiced | on practical exan | nples. |
| 14Y1W2 | Nebdesign 2 | KZ | 2 |
| Students will learn advance | ced techniques CSS, responsive webdesign, CSS frontends, content management systems, JavaScript, jQuery, SEO, web | server installation | n + configuration |
| directives. Topics will be p | racticed on practical examples. | | |
| 16Y1ZG | ntroduction into Applied Computer Graphics | KZ | 2 |
| Computer graphics, division | on and applications with emphasis on transport, including development and research. Colours, colour perception, colour so | hemes, models, p | principles of 2D |
| and 3D generation, eleme | entary algorithms for graphic data workout. Visualisation principles and tasks, technics, graphics and visualisation HW basi | cs. Introduction to | 2D and 3D |
| graphics software. | | | |
| 14Y1ZM F | Fundamentals of parametric and adaptive modeling | KZ | 2 |
| Basics of work at products | s and parts creation. Sketch drawing by help of geometric relations, parametric dimensions, creation of adaptive models fro | m 2D sketches. Ir | nport and export |
| from and to another syste | ms. Fundamentals of assemblies creation. | | |
| 11Y1ZM F | Foundation of MATLAB Programming | KZ | 2 |
| To explain the principle of | algorithmization, flow charts, description of MATLAB environment and its settings, MATLAB help, mathematical operators, r | natrices and elerr | ents operations, |
| control flow, inputs and ou | utputs, graphics, optimization and program code debugging. | | |
| 14Y1ZJ F | Fundamentals of programming in JAVA | KZ | 2 |
| Introduction to the Java S | E Platform. IDE Installation and First Project. Comments. Variables and Type System. Operators. User Input and Parsing. C | hain and Chain C | onversion. Text |
| Chain and Mathematical M | Methods. Terms. Relational Operators and Switches. Cycles for, while, foreach. Field - declaration, initialization, methods fo | r field work. ASCI | I. Functions, |
| parameters, return value, | recursion. Program creation. | | |
| 12Y1ZU F | Principles of Urbanism | KZ | 2 |
| | and settlement building. Functional components and their mutual relations (working, living, recreation, transportation). Space | ial arrangement c | f settlements. |
| Types of towns or cities w | ith a certain prevailing function, forms of their development. Brief overview of land-use planning. | | |
| 15Y1ZV E | East-West dichotomy: Prelude to the Cold War | KZ | 2 |
| Historical prologue, evolut | tion of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and con | tinuity of the interr | national relations |
| in the end of 19th century | and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, | the causes and co | onsequences. |
| Economic and financial hi | istory. Social changes. Discussions on texts, sources. | | |
| 16Y1ZL \ | Vehicle Testing, Legislation and Construction | KZ | 2 |
| | e costruction, aggregate computing, driving resistance, build and parameters of traction, constructional arrangement of persor | nal cars, trucks, bu | ses, motorbikes, |
| legislation in the EU and in | in the world, technical legislation creation, testing methods, vehicle tests, accelerated tests, mathematical modelling in testi | ng. | |
| | | | |

Name of the block: Elective courses

Minimal number of credits of the block: 0 The role of the block: V

Code of the group: VP-BP-TET-20/21 Name of the group: Bachelor Full-Time TET voluntary Requirement credits in the group: Requirement courses in the group: Credits in the group: 0

Note on the group:

| Code | Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.) | Completion | Credits | Scope | Semester | Role |
|--------|--|------------|---------|-------|----------|------|
| 14DPK | Digital Support for Designing of Roads and Highways Drahomír Schmidt, Libor Žídek Drahomír Schmidt Drahomír Schmidt (Gar.) | Z | 0 | 0P+2C | Z | V |
| 14DZT | Digital Support for Railway Lines Martin Brumovský Martin Brumovský Martin Brumovský (Gar.) | Z | 0 | 0P+2C | L | V |
| 11SCFZ | Seminar of Physics Old ich Hykš, Jana Kuklová, Zuzana Malá, Tomáš Vít Zuzana Malá Zuzana Malá (Gar.) | Z | 0 | 0P+2C | Z | V |
| 21SLD | Seminar of Air Transport Jakub Kraus, Natalia Guskova, Vladimír Plos Vladimír Plos | Z | 0 | 0P+2C | L | V |
| 18SPP | Seminary from Elasticity and Strength Jan Vy ichl, Tomáš Doktor Jan Vy ichl Jan Vy ichl (Gar.) | Z | 0 | 0P+2C | Z | V |

| 18STD | Seminary from Technical Documentation | Z | 0 | 0P+2C | Z | V |
|---------------------------------|---|--------------------------|---------------|----------------|----------------|-------------|
| 18SS | Seminary from Structural Analysis Jan Vy ichl | Z | 0 | 0P+2C | L | V |
| 11SSF | Secondary School Physics Course Zuzana Malá Zuzana Malá Zuzana Malá (Gar.) | Z | 0 | 0P+2C | L | V |
| TVKLV | Physical Education Course | Z | 0 | 7dní | L | V |
| TVKZV | Physical Education Course | Z | 0 | 7dní | Z | V |
| | of the courses of this group of Study Plan: Code=VP-BP-TET-2 | 20/21 Name=Bach | elor Full | | | |
| 14DPK Seminars possibilities | Digital Support for Designing of Roads and Highways s of technical processing problems focused on designing of roads and highways. | | | | Z | 0 |
| 14DZT Seminars possibilities | Digital Support for Railway Lines s of technical processing problems solved in the field of railway lines. | | | | Z | 0 |
| 11SCFZ | Seminar of Physics | | | | Z | 0 |
| Solving problems on | kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuu | m mechanics, thermody | namics. | | | |
| 21SLD | Seminar of Air Transport | | | | Z | 0 |
| performance. Flight p | erminology, basic rules. VFR / IFR. Basics of aerodynamics. Propulsion of aircraft. Airc Janning, optimization of speed and heights, minimum fuel. Limitations of operation, ma ines and economics. Space technologies. | • | • | • | | |
| 18SPP | Seminary from Elasticity and Strength | | | | Z | 0 |
| | e. Tension and compression. Bending of beam. Shear stress during bending of beam. ircle cross section. Combined loading. Stability of compressed bar and buckling. | Design and analysis of o | cross section | n of beam. Ana | alysis of defl | ection curv |
| 18STD | Seminary from Technical Documentation | | | | Z | 0 |
| | international standardization, technical drawings, representation of technical objects, | technical diagrams and | charts, dim | ensional and g | eometrical a | accuracy, |
| arrangement of drawi | | | | | | |
| 18SS | Seminary from Structural Analysis | | | 1 | Z | 0 |
| | e. General system of forces. Reactions of mass objects and compound systems. Interr works for calculation of reactions of statically determinate systems. Determination of a | | | | | |
| | | | | | | |

| Geometry of cross sec | tions. Plane fiber polygons. | | |
|-------------------------|---|---|---|
| 11SSF | Secondary School Physics Course | Z | 0 |
| Basics of kinematics, c | ynamics, thermodynamics, electric field and magnetic field. | | |
| TVKLV | Physical Education Course | Z | 0 |
| TVKZV | Physical Education Course | Z | 0 |
| | | | |

Name of the block: Jazyky Minimal number of credits of the block: 6 The role of the block: J

Code of the group: JZ-BP-TET-22/23 Name of the group: Bachelor TET (ex LED) 2nd Language Courses from 2022/23 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:

Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their Code Completion Credits Scope Semester Role members) Tutors, authors and guarantors (gar.) Foreign Language - French 3 15JZ3F Ζ 0P+4C+10B Ζ 3 J. Irena Veselková Foreign Language - Italian 3 15JZ3I Ζ 0P+4C+10B Ζ 3 J. Irena Veselková Foreign Language - German 3 7 15JZ3N 3 0P+4C+10B Ζ J Jana Štikarová, Eva Rezlerová, Martina Navrátilová Foreign Language - Russian 3 Marie Michlová Ζ Ζ 15JZ3R 3 0P+4C+10B J Foreign Language - Spanish 3 15JZ3S Ζ 3 0P+4C+10B Ζ J. Nina Hricsina Puškinová Foreign Language - French 4 Z,ZK L 15JZ4F 3 0P+4C+10B J Irena Veselková 15JZ4I Z,ZK 0P+4C+10B 3 L J Foreign Language - Italian 4 Foreign Language - German 4 15JZ4N Z,ZK 3 0P+4C+10B L J Jana Štikarová, Eva Rezlerová, Martina Navrátilová Foreign Language - Russian 4 15JZ4R Z,ZK 3 0P+4C+10B L J Marie Michlová Foreign Language - Spanish 4 15JZ4S Z,ZK 3 0P+4C+10B L J Zuzana Krinková

Characteristics of the courses of this group of Study Plan: Code=JZ-BP-TET-22/23 Name=Bachelor TET (ex LED) 2nd Language Courses from 2022/23

| 15JZ3F | Foreign Language - French 3 | Z | 3 | | |
|--|--|---------------------|------------------|--|--|
| Grammar and stylistics. | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure knowledge | | |
| and perceptive and com | municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo | rk with (professior | al) text and its | | |
| features. Practice of oral | and written presentation. | | | | |
| 15JZ3I | Foreign Language - Italian 3 | Z | 3 | | |
| Grammar and stylistics. | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure knowledge | | |
| and perceptive and com | municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo | rk with (professior | al) text and its | | |
| features. Practice of oral | and written presentation. | | | | |
| 15JZ3N | Foreign Language - German 3 | Z | 3 | | |
| Grammar and stylistics. | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure knowledge | | |
| and perceptive and com | municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo | rk with (professior | al) text and its | | |
| features. Practice of oral | and written presentation. | | | | |
| 15JZ3R | Foreign Language - Russian 3 | Z | 3 | | |
| Grammar and stylistics. | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure knowledge | | |
| and perceptive and com | municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo | rk with (professior | al) text and its | | |
| features. Practice of oral | and written presentation. | | | | |
| 15JZ3S | Foreign Language - Spanish 3 | Z | 3 | | |
| Grammar and stylistics. | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure 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. | | | | | |
| features. Practice of oral | and written presentation. | | | | |
| | Foreign Language - French 4 | Z,ZK | 3 | | |
| Grammar and stylistics. | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure knowledge | | |
| and perceptive and com | municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo | k with (professior | al) text and its | | |
| features. Practice of oral | and written presentation. | | | | |
| 15JZ4I | Foreign Language - Italian 4 | Z,ZK | 3 | | |
| Grammar and stylistics. | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure knowledge | | |
| and perceptive and com | municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo | rk with (professior | al) text and its | | |
| features. Practice of oral | and written presentation. | | | | |
| 15JZ4N | Foreign Language - German 4 | Z,ZK | 3 | | |
| Grammar and stylistics. | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure knowledge | | |
| and perceptive and com | municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo | rk with (professior | al) text and its | | |
| features. Practice of oral | and written presentation. | | | | |
| 15JZ4R | Foreign Language - Russian 4 | Z,ZK | 3 | | |
| | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure knowledge | | |
| and perceptive and com | municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo | rk with (professior | al) text and its | | |
| features. Practice of oral | and written presentation. | | | | |
| 15JZ4S | Foreign Language - Spanish 4 | Z,ZK | 3 | | |
| | Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of | of language struct | ure knowledge | | |
| and perceptive and com | municative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Wo | k with (professior | al) text and its | | |
| features. Practice of oral | and written presentation. | | | | |
| · | | | | | |

List of courses of this pass:

| Code | Name of the course | Completion | Credits |
|---------------------|--|------------------------|--------------|
| 00Y1XB | Active participation in a scientific project, workshop, short-term trip abroad | KZ | 2 |
| 11CAL1 | Calculus 1 | Z,ZK | 7 |
| Sequence of real n | umbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton integ Riemann integral. First-order differential equations, linear differential equations. | ral, Riemann integr | al, improper |
| 11CAL2 | Calculus 2 | Z,ZK | 5 |
| Linea | r differential equations and their systems, differential calculus of functions of several real variables. Riemann integral in Rn. Line and | surface integrals. | |
| 11FYZ | Physics | Z,ZK | 5 |
| | Kinematics, dynamics, Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and elec | tric current. | |
| 11GIE | Geometry | KZ | 3 |
| Differential geome | try of curves - parameterization, the arc of the curve, torsion and curvature, Frenet's trihedron. Kinematics - a curve as a trajectory of | of the motion, the v | elocity, and |
| | acceleration of a particle moving on a curved path. | | |
| 11LA | Linear Algebra | Z,ZK | 3 |
| Vector spaces (line | ar combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and the | ir solvability. Deteri | minants and |
| | their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classificat | ion. | |
| 11LP | Linear Programming | KZ | 3 |
| Formulation of the | problem of linear programming, transcription of some practical problems to the linear programming problems. Simplex and convex po | Jyedra. Simplex m | ethod, basic |
| | solutions, duality principle in linear programming, stability of solution of linear programming problem. Traffic problem. | | |
| 11MDP | Transport Prognostic Methods | KZ | 2 |
| The techniques of | economical analysis in the domain of analysis of dependencies, analysis and construction of time series and comparsion of statistica indices. | il values using diffe | rencies and |

| | | 7 71/ | 4 |
|---|---|---|--|
| | Modeling of Systems and Processes | Z,ZK | 4 |
| | linear system, stationary and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transfer function Discretization of continuous systems. System interconnection. | | |
| 11SCFZ | Seminar of Physics Solving problems on kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermodyr | Z namics. | 0 |
| 11SSF | Secondary School Physics Course Basics of kinematics, dynamics, thermodynamics, electric field and magnetic field. | Z | 0 |
| 11STAT | Statistics | Z,ZK | 4 |
| Basics of probabi | lity Descriptive statistics Population and sample, limit theorem Point estimate, construction and properties Interval estimates Parametri Regression and correlation analysis | | metric tests |
| 11TGA Basic terms of | Graph Theory and its Applications in Transport f graph theory, paths in graphs, flows in networks, location problems, design problems on graphs, optimum routing, use of graphs in ot | Z,ZK her scientific dis | 4 ciplines. |
| 11X31 | Project 1 | Z | 2 |
| 11X32 | Project 2 | Z | 2 |
| 11X33 | Project 3 | Z | 2 |
| 11Y1BK Safe communicatio | Error Detection Codes for Interlocking Systems | | 2 ission error |
| | probability of undetected error. Design and assessment of detection codes; requirements of the European standard EN 50159 | | |
| 11Y1PV | Parametrical and Multicriterial Programming blem of linear programming with a parameter in objective function, on right sides and in the matrix of coeficients of linear constraints. Cor | KZ | 2 ent solutio |
| 11Y1SI | Transportation Software Engineering | KZ | 2 |
| | software engineering, ranging from domain analysis, requirement analysis and software architectures to analyses, design and implement and practical usuage. | | - |
| 11Y1TG | Graph Theory | KZ | 2 |
| | d terminology of graph theory, graph representation. Problems of graph theory, problem instance. Graph search algorithms, trees, mini | | |
| | rian path, bipartite graph matching, flow networks, circulations, critical path method, traveling salesman problem. Problem of existence an for their solving. Computational complexity, dealing with NP-complete problems, heuristic approach. | | |
| 11Y1ZM | Foundation of MATLAB Programming | KZ | 2 |
| o explain the princ | ciple of algorithmization, flow charts, description of MATLAB environment and its settings, MATLAB help, mathematical operators, matric control flow, inputs and outputs, graphics, optimization and program code debugging. | ces and element | s operation |
| transport and its . | assessment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the conseque | | |
| | safety and fluency. | | - |
| 12PPOK | Designing Roads, Highways and Motorways | KZ | 3 |
| 12PPOK Definition, types, | | KZ speed. Route in | 3 rural areas |
| 12PPOK Definition, types, Range of vision for | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. | KZ speed. Route in device. Crossin | 3 rural areas gs, junctior |
| 12PPOK Definition, types, tange of vision for 12X31 | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 | KZ speed. Route in device. Crossin Z | 3 rural areas |
| 12PPOK Definition, types, Range of vision for 12X31 12X32 | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 Project 2 | KZ speed. Route in device. Crossin Z Z | 3 rural areas gs, junctior 2 2 |
| 12PPOK Definition, types, lange of vision for 12X31 12X32 12X33 | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 Project 2 Project 3 | KZ speed. Route in device. Crossin Z Z Z | 3 rural areas gs, junction 2 2 2 2 |
| 12PPOK Definition, types, Range of vision for 12X31 12X32 12X33 12Y1AE General ecology - | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 Project 2 Project 3 Applied Ecology ecological concepts and principles, ecosystem, ecological factors, energy flow through the ecosystem. Application of knowledge withir ape ecology - origin and historical development. Landscape definition and classification. Success. Traffic constructions in the countrysi | KZ speed. Route in device. Crossin Z Z KZ n EIA documenta | 3 rural areas gs, junction 2 2 2 2 4 2 2 4 1 0 . Speci |
| 12PPOK Definition, types, ange of vision for 12X31 12X32 12X33 12Y1AE General ecology - ecology. Landsc | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 Project 2 Project 3 Applied Ecology ecological concepts and principles, ecosystem, ecological factors, energy flow through the ecosystem. Application of knowledge withir ape ecology - origin and historical development. Landscape definition and classification. Success. Traffic constructions in the countrysi protection. Applied ecology. | KZ speed. Route in device. Crossin Z Z KZ h EIA documenta ide. Landscape a | 3 rural areas gs, junction 2 2 2 2 ation. Spec and nature |
| 12PPOK Definition, types, ange of vision for 12X31 12X32 12X33 12Y1AE Seneral ecology - ecology. Landsc 12Y1C1 | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 Project 2 Project 3 Applied Ecology ecological concepts and principles, ecosystem, ecological factors, energy flow through the ecosystem. Application of knowledge withir ape ecology - origin and historical development. Landscape definition and classification. Success. Traffic constructions in the countrysi protection. Applied ecology. Designing Roads in Civil 3D I | KZ speed. Route in device. Crossin Z Z KZ n EIA documenta ide. Landscape a KZ | 3 rural areas gs, junction 2 2 2 2 ation. Spec and nature 2 |
| 12PPOK Definition, types, ange of vision for 12X31 12X32 12X33 12Y1AE Seneral ecology - ecology. Landsc 12Y1C1 The course is dev | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 Project 2 Project 3 Applied Ecology ecological concepts and principles, ecosystem, ecological factors, energy flow through the ecosystem. Application of knowledge withir ape ecology - origin and historical development. Landscape definition and classification. Success. Traffic constructions in the countrysi protection. Applied ecology. | KZ speed. Route in device. Crossin Z Z KZ h EIA documenta ide. Landscape a KZ the complete de | 3 rural areas gs, junction 2 2 2 2 ation. Spec and nature 2 sign of this |
| 12PPOK Definition, types, ange of vision for 12X31 12X32 12X33 12Y1AE Seneral ecology - ecology. Landsc 12Y1C1 The course is dev | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 Project 2 Project 3 Applied Ecology ecological concepts and principles, ecosystem, ecological factors, energy flow through the ecosystem. Application of knowledge withir ape ecology - origin and historical development. Landscape definition and classification. Success. Traffic constructions in the countrysi protection. Applied ecology. Designing Roads in Civil 3D I voted to the traffic buildings design field, specifically the design of roads as such, by the means of a 3D software. Students go through suiding, from the initial situation, over the longitudinal section, to the model and work sections and the cubic capacity calculation. The capacity calculation of the traffic building design in the real-life profession. | KZ speed. Route in device. Crossin Z Z KZ h EIA documenta ide. Landscape a KZ the complete de | 3 rural areas gs, junction 2 2 2 2 ation. Spec and nature 2 sign of this |
| 12PPOK Definition, types, ange of vision for 12X31 12X32 12X33 12Y1AE Seneral ecology - ecology. Landsc 12Y1C1 The course is dev particular linear b 12Y1C2 The course is dev | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 Project 2 Project 3 Applied Ecology ecological concepts and principles, ecosystem, ecological factors, energy flow through the ecosystem. Application of knowledge withir ape ecology - origin and historical development. Landscape definition and classification. Success. Traffic constructions in the countrysi protection. Applied ecology. Designing Roads in Civil 3D I voted to the traffic buildings design field, specifically the design of roads as such, by the means of a 3D software. Students go through uilding, from the initial situation, over the longitudinal section, to the model and work sections and the cubic capacity calculation. The pesigning Roads in Civil 3D I voted to the traffic buildings design field, specifically the design of roads as such, by the means of a 3D software. Students go through uilding, from the initial situation, over the longitudinal section, to the model and work sections and the cubic capacity calculation. The pesigning Roads in Civil 3D I | KZ speed. Route in device. Crossin Z Z KZ h EIA documenta ide. Landscape a KZ the complete de course also inclu KZ the complete de | 3 rural areas gs, junction 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3 3 2 3 <t< td=""></t<> |
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| 12PPOK Definition, types, cange of vision for 12X31 12X32 12X33 12Y1AE General ecology - ecology. Landsc 12Y1C1 The course is der particular linear b 12Y1C2 The course is der particular linear b 12Y1DS | Designing Roads, Highways and Motorways ownership, maintenance, management and categorization of roads and highways. Curve and transition curve. Sinuosity and standard stopping and overtaking. Road body - shapes and proportions, bottom and superstructure. Drainage and components of roads. Safety intersections. Project 1 Project 2 Project 3 Applied Ecology ecological concepts and principles, ecosystem, ecological factors, energy flow through the ecosystem. Application of knowledge withir ape ecology - origin and historical development. Landscape definition and classification. Success. Traffic constructions in the countrysi protection. Applied ecology. Designing Roads in Civil 3D I voted to the traffic buildings design field, specifically the design of roads as such, by the means of a 3D software. Students go through uilding, from the initial situation, over the longitudinal section, to the model and work sections and the cubic capacity calculation. The pesigning Roads in Civil 3D I voted to the traffic buildings design field, specifically the design of roads as such, by the means of a 3D software. Students go through uilding, from the initial situation, over the longitudinal section, to the model and work sections and the cubic capacity calculation. The pesigning Roads in Civil 3D I | KZ speed. Route in r device. Crossin Z Z KZ n EIA documenta ide. Landscape a KZ the complete de course also inclu KZ the complete de previously acquir | 3 rural areas gs, junction 2 |
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| Survey on history of city and settlement building. Functional components and their mutual relations (working living, recreation, transportation). Spacial arrangement of settlements. Types of towns or cities with a certain prevailing function, forms of their development. Brie overview of land-use planning. 12ZADY Introduction to Transportation Engineering Z,ZK 4 12ZAR Introduction to Architectural Design Z 3 Urbanism and architecture of traffic systems. Bus and trolley-bus transport. Trainway and town tracks. Design of vehicles. Subway, Railway stransport. Railway statons. Local communications. International airports. Z,ZK 4 12ZPV Railway Operation Z,ZK 4 Legislation in railway transport. Railway statign and signal devices. Railway traffic organisation and operation. Simplified railways traffic organisation and operation. Simplified railways traffic organisation and superstructure. Spatial layout of railway lines. Railway uchices marking. Operating intervals. Theoretical graph of train running. 12ZITS Railway Lines and Stations Z,ZK 4 Railway control systems in relation to infrastructure. Operating intervals. Theoretical group. Traction in rail transport. Railway lines. Railway using down and write the resulting algorithm using flowcharts, practice reading algorithms written using flowcharts, practice reading algorithms written using flowcharts, practice reading algorithms written using flowcharts. 2 2 12ZITS Algorithm Algorithms. Stud | | Organization of tram operation in Prague. Tram safety. | | |
| Types of towns or cities with a certain prevailing function, forms of their development. Brief overview of land-use planning. 12ZADY Introduction to Transportation Engineering Z,ZK 4 12ZAR Introduction to Architectural Design Z 3 Urbanism and architecture of traffic systems. Bus and trolley-bus transport. Tranway and town tracks. Design of vehicles. Subway. Railway transport. Railway stations. Local communicationsnermational aliports. ZZK 4 Legislation in railway transport. Railway vehicles. Railway signals and signal devices. Railway traffic organisation and operation. Simplified railway traffic operation. Railway track geometry parameters. Roule layout of railway lines. Railway lines. Railway lines and Stations Z,ZK 4 12ZTS Railway track geometry parameters. Roule layout of railway lines. Railway lines and Stations Z,ZK 4 14ASD Algorithm and Data Structures KZ 3 Students will analyze problems, design a theoretical solution to a given problem and write the resulting algorithm using flowcharts, practice reading algorithms, loops, they will learn to work with variables of basic data types (integer, floating point and string) and the list data structure in their programs. KZ 2 14DATS Database Systems Legisla Support for Railway Lines and Stations treading algorithm sy trains problem algebra setters analysis. Mini | | | | 1 |
| 12ZADY Introduction to Transportation Engineering Z,ZK 4 12ZAR Introduction to Architectural Design Z 3 Urbanism and architecture of traffic systems. Bus and trolley-bus transport. Taraway and town tracks. Design of vehicles. Subway. Railway transport. Railway stations. Local communications. International airports. Z,ZK 4 12ZPV Railway Operation Z,ZK 4 Legislation in railway transport. Railway vehicles. Railway is park and signal devices. Railway traffic organisation and operation. Simplified railway traffic organisation and operation. Simplified railway traffic organisation and peration. Simplified railway traffic organisation and peration. Railway traffic organisation and peration. Railway traffic organisation and operation in rail anterport. Railway transport. Railway vehicles. Railway traffic organisation and operation intervals. Theoretical graph of train running. Z,ZK 4 12ZTS Railway control systems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail transport. XZ 3 Students will analyze problems, design a theoretical solution to a given problem and write the resulting algorithm using flowcharts, practice real glaporthms wither using flowcharts, and use basic Boolean algebra to construct constraints in algorithms. Students will be introduced to the basics of the Python programming language - variable, branching, loops, they will learn to work with variables of basic data types (integer, floating point and trig) and the list data structure in heir | Survey on history | | - | ettlements. |
| 12ZAR Introduction to Architectural Design Z 3 Urbanism and architecture of traffic systems. Bus and trolley-bus transport. Tramway and town tracks. Design of vehicles. Subway. Railway transport. Railway stations. Local communications. International airports. Z 3 12ZPV Railway Operation Z,ZK 4 Legislation in railway vehicles. Railway signals and signal devices. Railway traffic organisation and operation. Simplified railway traffic operation. Railway vehicles brakes. Railway incluse. Railway traffic operation. Railway traffic operation. Railway vehicles marking. Operation intervals. Theoretical graph of train running. Z,ZK 4 12ZTS Railway chored systems in relation to infrastructure. Operation intervals. Theoretical graph of train running. Z,ZK 4 12ZTS Railway control systems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail transport. XI as a static astatic sta static as a static asta static as a static as a stati | | | | |
| Urbanism and architecture of traffic systems. Bus and trolley-bus transport. Trainway and town tracks. Design of vehicles. Subway. Railway transport. Railway stations. International aliports. 12ZPV Railway Operation Z,ZK 4 Legislation in railway transport. Railway vehicles. Railway vehicles. Railway upericles marking. Operation intervals. Theoretical graph of train running. 12ZTS Railway Wehicles. Railway lines. Railway lines. Railway lines. Railway lines. Railway upericles marking. Operation intervals. Theoretical graph of train running. 12ZTS Railway Markay Lines and Stations Z,ZK 4 Railway control systems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail transport. 14DATS Algorithm and Data Structures KZ 2 14DATS Database Systems KZ 2 14DMG Nowle database systems. conceptual model, relational data model, the principles of normal forms, relational database design, security and integrity of data, database queries, relational algebra SQL language, client / server, multilayer architectures, distributed database systems. Access to data via the WWW. 14DATS 14DATS Database Systems | | | | |

| 14Y1MP Modeling Complex Assemblies and Models in Par | ametric Modeller KZ | 2 |
|---|--|-------------------|
| Assemblies programming - tools and methodology of working subassemblies and assemblies, sheet me | | tion lines. |
| Photorealistic output rendering - physical and material properties, ligi | | |
| Object - oriented programming in JA | | 2 |
| Objective thinking. Encapsulation. Classes. Attributes. Access modifiers. Methods and overloading. Special n data types. Inheritance. Polymorphism. Statics, constants, interfaces, abstract classes, enum, packages, ex | | |
| 14Y10P Operating System | KZ | 2 |
| Distributions. Installation GNU/Linux OS. X-window system. Rights management - users and groups, AC | | |
| runlevels. Basic console programs / commands. Config files. SW management, package systems. Progra | | |
| communication. Services management. Safe and secure configura | tion of OS. Remote administration. | |
| 14Y1P2 Computer Aid of Transportation Projec | ting 2 KZ | 2 |
| Overview of CAx application for transportation projecting aid. AutoCAD environment possibilities of basic tas | | |
| modification (attributes, relation to databases). Work in projecting group, external references. Basic tasks for section). Basics of 3D modelling. | | d longitudinal |
| 14Y1PA 3D Modeling in AutoCAD | KZ | 2 |
| Work in 3D non-parametric modeller (AutoCAD) environment, scenes rendering, creation of planar and vo | | |
| connected with external database. Basic definition of work with lights, ma | | |
| 14Y1PG Computer Graphics | KZ | 2 |
| Basic formats of graphic and possibilities of their editing and mutual conversion. Use of individual types and | ccording to character of work. Work with editing programs (with | in the user |
| level scope) using layers, DPI, colors. Basics of digital photography, scanning and co | | |
| 14Y1PI Corporate Information System | KZ | 2 |
| Data-information-knowledge, components of information system, syntatic and semantic sense of data, s | | , |
| (personalistic, production, storage, etc.), corporate information politic and information control, risks of inform state information system, information system security, data | | in operation, |
| 14Y1PJ C Programming Language | KZ | 2 |
| C programming language. Preprocessor, basics of the C language (data types, syntax, commands), function | | 1 |
| Implementations of abstract data types (FIFO, LIFO, list), programming techniques (so | | |
| 14Y1PZ Advanced Data Processing in Spreads | sheets KZ | 2 |
| Students will be familiar with principles of working in a spreadsheet. Graphic layout of the table appearar | | |
| addressing, error detection. Working with large spreadsheets, filters, advanced filters, database functions. Piv | | lver, macros, |
| data analysis. Examples and questions from various co | | |
| 14Y1TI Creating Interactive Internet Applicat | | 2 |
| Possibilities of scripting language PHP. Overview of PHP language syntax, and functions. Analysis of finishe in PHP language. | a scripts and demonstration of solutions. Your own application | programmed |
| 14Y1UP Editing of Theses in MS Word | KZ | 2 |
| Students will be introduced to the principles of creating and editing large documents and basic typograph | | 1 |
| figures, tables, graphs, etc. Footnotes, captions, index. They practice corrections of finished documents. The | | |
| so that they are able to concentrate mainly on v | | |
| 14Y1VM Development of Applications for Mobile I | | 2 |
| Object oriented programming, Java programming language, development environment, operating system | n Android, development application - widgets, containers, threa | ds, menu, |
| permissions, services, GUI. 14Y1W1 Webdesign 1 | KZ | 2 |
| 14Y1W1 Webdesign 1 Students will learn the basics of communication HTTP, URL and addressing, markup languages HTML and 3 | | 2 S properties |
| and selectors, the issue of web browsers, creating one to three column layout pages, sites validation, | | |
| 14Y1W2 Webdesign 2 | KZ | 2 |
| Students will learn advanced techniques CSS, responsive webdesign, CSS frontends, content managemer | nt systems, JavaScript, jQuery, SEO, web server installation + o | configuration |
| directives. Topics will be practiced on practice | al examples. | |
| 14Y1WG Webdesign | KZ | 2 |
| Students will learn the basics of HTTP communication, URL and addressing, HTML5 markup language, a | | responsive |
| webdesign, content management systems, web server installation + configuration dire | | - |
| 14Y1ZJ Fundamentals of programming in JA Introduction to the Java SE Platform. IDE Installation and First Project. Comments. Variables and Type Sys | | 2 |
| Chain and Mathematical Methods. Terms. Relational Operators and Switches. Cycles for, while, foreach. I | · · · - | |
| parameters, return value, recursion. Progra | | , |
| 14Y1ZM Fundamentals of parametric and adaptive | modeling KZ | 2 |
| Basics of work at products and parts creation. Sketch drawing by help of geometric relations, parametric dir | nensions, creation of adaptive models from 2D sketches. Impo | rt and export |
| from and to another systems. Fundamentals of as | | |
| 15JZ1A Foreign Language - English 1 | Z | 3 |
| Grammatical Structures and Style. Selection of conversation topics relating to transportation sciences. Extend | | . Elementary |
| stylistics forms. Oral and written presentation of original research. Academic text princip | | <u> </u> |
| 15JZ2A Foreign Language - English 2 Grammatical structures and style. Selection of conversation topics relating to transportation sciences. Extend | Ling vocabulary, developing perceptive and communicative skills | Bementary |
| stylistics forms. Oral and written presentation of original research. Academic text princip | | . Liomentary |
| 15JZ3F Foreign Language - French 3 | Z | 3 |
| Grammar and stylistics. Selection of conversation and professional topics based on the language level and | d study focus at the Faculty. Improvement of language structure | - |
| and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of ov | vn knowledge in oral and written form. Work with (professional) | |
| features. Practice of oral and written pres | | |
| 15JZ3I Foreign Language - Italian 3 | Z | 3 |
| Grammar and stylistics. Selection of conversation and professional topics based on the language level and | | - 1 |
| and perceptive and communicative skills, vocabulary development. Basic stylistic forms. Presentation of ov features. Practice of oral and written pres | | iexi and its |
| | | |

| 15JZ3N | Foreign Language - German 3 | Z | 3 |
|---|---|---|--|
| | stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la | anguage structure | knowledge |
| and perceptive and | d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v | with (professional) | text and its |
| | features. Practice of oral and written presentation. | | |
| 15JZ3R | Foreign Language - Russian 3 | Z | 3 |
| Grammar and styli | stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of li | anguage structure | knowledge |
| and perceptive and | d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v | with (professional) | text and its |
| | features. Practice of oral and written presentation. | | |
| 15JZ3S | Foreign Language - Spanish 3 | Z | 3 |
| Grammar and styli | stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of li | anguage structure | knowledge |
| and perceptive and | d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v | with (professional) | text and its |
| | features. Practice of oral and written presentation. | | |
| 15JZ4F | Foreign Language - French 4 | Z,ZK | 3 |
| Grammar and styli | stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la | anguage structure | knowledge |
| and perceptive and | d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v | with (professional) | text and its |
| | features. Practice of oral and written presentation. | | |
| 15JZ4I | Foreign Language - Italian 4 | Z,ZK | 3 |
| Grammar and styli | stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la | anguage structure | knowledge |
| and perceptive and | d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v | with (professional) | text and its |
| | features. Practice of oral and written presentation. | | |
| 15JZ4N | Foreign Language - German 4 | Z,ZK | 3 |
| | stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la | | - |
| and perceptive and | d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v | with (professional) | text and its |
| | features. Practice of oral and written presentation. | | |
| 15JZ4R | Foreign Language - Russian 4 | Z,ZK | 3 |
| | stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la | | |
| and perceptive and | d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v | with (professional) | text and its |
| | features. Practice of oral and written presentation. | | |
| 15JZ4S | Foreign Language - Spanish 4 | Z,ZK | 3 |
| | stics. Selection of conversation and professional topics based on the language level and study focus at the Faculty. Improvement of la | | - |
| and perceptive and | d communicative skills, vocabulary development. Basic stylistic forms. Presentation of own knowledge in oral and written form. Work v | with (professional) | text and its |
| (=) (= (| features. Practice of oral and written presentation. | _ | - |
| 15X31 | Project 1 | Z | 2 |
| 15X32 | Drojoct 2 | | |
| | Project 2 | Z | 2 |
| 15X33 | Project 3 | Z | 2 |
| 15X33 15Y1BO | Project 3 Work Safety and Health Protection in Transportation | Z KZ | 2 2 |
| 15X33 15Y1BO | Project 3 Work Safety and Health Protection in Transportation lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H | Z KZ | 2 2 |
| 15X33 15Y1BO Fundamental legis | Project 3 Work Safety and Health Protection in Transportation lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H health insurance of home and foreign business trips, statistics, working practice. | Z KZ ealth protection pro | 2 2 ogrammes, |
| 15X33 15Y1BO Fundamental legis 15Y1DZ | Project 3 Work Safety and Health Protection in Transportation lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H health insurance of home and foreign business trips, statistics, working practice. History of Railway | Z KZ ealth protection pr | 2 2 ogrammes, 2 |
| 15X33 15Y1BO Fundamental legis 15Y1DZ Horse-drawn railw | Project 3 Work Safety and Health Protection in Transportation lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H health insurance of home and foreign business trips, statistics, working practice. History of Railway vays, steam railways, railway network development in the 2nd half of 19th century, regional railways epoch, railways of the "First Repu | Z KZ ealth protection pr KZ ublic", electric tract | 2 ogrammes, 2 tion, World |
| 15X33 15Y1BO Fundamental legis 15Y1DZ Horse-drawn railw | Project 3 Work Safety and Health Protection in Transportation lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H health insurance of home and foreign business trips, statistics, working practice. History of Railway rays, steam railways, railway network development in the 2nd half of 19th century, regional railways epoch, railways of the "First Repr vay development in the 2nd half of 20th century, high-speed railway origins, railway lines closing, important long-distance train connecti | Z KZ ealth protection pr KZ ublic", electric tract | 2 ogrammes, 2 tion, World |
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| 15X33 15Y1BO Fundamental legis 15Y1DZ Horse-drawn railw War II railways, railw 15Y1EH | Project 3 Work Safety and Health Protection in Transportation lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H health insurance of home and foreign business trips, statistics, working practice. History of Railway vays, steam railways, railway network development in the 2nd half of 19th century, regional railways epoch, railways of the "First Repi vay development in the 2nd half of 20th century, high-speed railway origins, railway lines closing, important long-distance train connecti railway accidents, railway junctions. Excursions and projections. European Integration within Historical Context | Z KZ ealth protection pr KZ ublic", electric tract ons, railway lines c KZ | 2 ogrammes, 2 tion, World construction, 2 |
| 15X33 15Y1BO Fundamental legis 15Y1DZ Horse-drawn railw War II railways, railw Uar II railways, railw Usr J5Y1EH Versailles system, | Project 3 Work Safety and Health Protection in Transportation lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H health insurance of home and foreign business trips, statistics, working practice. History of Railway vays, steam railways, railway network development in the 2nd half of 19th century, regional railways epoch, railways of the "First Repi vay development in the 2nd half of 20th century, high-speed railway origins, railway lines closing, important long-distance train connecti railway accidents, railway junctions. Excursions and projections. European Integration within Historical Context formation of new states. Europe and the powers, League of Nations. European policy in the 1920s. Fascism, nacism, communism. Li | Z KZ ealth protection pro KZ ublic", electric tract ons, railway lines c KZ ttle Entente, its prii | 2 ogrammes, 2 tion, World construction, 2 nciples and |
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| 15X33 15Y1BO Fundamental legis 15Y1DZ Horse-drawn railw War II railways, railw War II railways, railw Usrsailles system, goals. Europe afte | Project 3 Work Safety and Health Protection in Transportation lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H health insurance of home and foreign business trips, statistics, working practice. History of Railway vays, steam railways, railway network development in the 2nd half of 19th century, regional railways epoch, railways of the "First Repl vay development in the 2nd half of 20th century, high-speed railway origins, railway lines closing, important long-distance train connecti railway accidents, railway junctions. Excursions and projections. European Integration within Historical Context formation of new states. Europe and the powers, League of Nations. European policy in the 1920s. Fascism, nacism, communism. Li er Hitler's getting to power, system of bilateral agreements. Decline of the LN. Rearrangement of powers during WWII. Cold war and i New quality of French-German relationship - a driving power of starting European integration. | Z KZ ealth protection pro KZ ublic", electric tract ons, railway lines c KZ ttle Entente, its pri ts consequences for | 2 ogrammes, 2 tion, World construction, 2 nciples and or Europe. |
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| 15X33 15Y1BO Fundamental legis 15Y1DZ Horse-drawn railw War II railways, railw War II railways, railw Usrsailles system, goals. Europe afte 15Y1FD France - geograp | Project 3 Work Safety and Health Protection in Transportation lative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H health insurance of home and foreign business trips, statistics, working practice. History of Railway vays, steam railways, railway network development in the 2nd half of 19th century, regional railways epoch, railways of the "First Repi vay development in the 2nd half of 20th century, high-speed railway origins, railway lines closing, important long-distance train connecti railway accidents, railway junctions. Excursions and projections. European Integration within Historical Context formation of new states. Europe and the powers, League of Nations. European policy in the 1920s. Fascism, nacism, communism. Li er Hitler's getting to power, system of bilateral agreements. Decline of the LN. Rearrangement of powers during WWII. Cold war and i New quality of French-German relationship - a driving power of starting European integration. French Area Studies and Transportation why and regions, transport infrastructure. Paris and its sights, city public transport. Road traffic, motorways, railway traffic, TGV, air traf | Z KZ ealth protection protection protection protection protection protection protection protection of KZ ublic", electric tract ons, railway lines c MZ ttle Entente, its print ts consequences for KZ ffic, specialised ter | 2 ogrammes, 2 tion, World construction, 2 nciples and or Europe. 2 |
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| heoretical and methodological framework. Mobility research - travel behavior, mode choice and the influence onto "modal-split." Modal competition. Practical use of transport-geog analysis in transportation planning. 17IVED Integration of Public Transport Z,ZK Irransport policy of both EU and CR, transport sectoral strategies, land use planning and evolution of space organization, integration of public service in territory, forms and cr activities and organizational structures of integrated public transport systems, internal and external bindings, contracting, carriage relations, conditions of both rail and bus tr operations, grading and quality, IS, marketing. Z,ZK Z,ZK Z,ZK General interpretation of quality, standards and international standardization, integrated management systems, modern attitudes of quality management, quality in transport and logistics, methods of quality measurement, quality management, risks and opportunities, public transport quality, view of costumers, carriers and PT-organizers, quality st quality costs, marketing and costumer satisfaction. Z,ZK Z,ZK 17LGT Logistics Z,ZK | | | | |
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| Development of strategic marketing plans. Implementation of marketing campaigns. Branding and brand promotion. Public relations industry, business and vertical market. V | | city. | | |
| | | | | 4 |
| development search angine optimization. Government relations and industry organization lobbying. Advartising and strategic opposarshing. Multimodic presentations and as | - | | | |
| | development, searc | ch engine optimization. Government relations and industry organization lobbying. Advertising and strategic sponsorships. Multimedia | presentations and | d corporate |
| videos. Direct marketing and related lead generation campaigns. | 471400 | | 7 71/ | |
| 17MRR Managerial Decision-making and Management Z,ZK | | | | 4 |
| Decision-making process; identifying exactly what the problem is; evaluating the issue; solving the issue; using multiple perspective analysis to make a decision; usual met thinking. | Decision-making | | a decision, usual f | |

| | | | 1 |
|---|---|---|--|
| 17NAPR | Freight Traffic | Z | 2 |
| | Freight traffic and transportation system, conditions of implementation, forwarding. | 1/7 | <u> </u> |
| 17TEDL Basic terms in tran | Transport Technology and Logistics sport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight tran | KZ | 3 |
| | odus, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication usi | | |
| 17TVD | Technology of Public Transport | Z,ZK | 5 |
| | ents a detailed description of new knowledge and basic principles of hierarchical planning of public transport system accenting the ge | | 1 |
| | quantified transport demand. The course would be oriented on multiple and multi-level optimisation of passenger public transport | system. | |
| 17X31 | Project 1 | Z | 2 |
| 17X32 | Project 2 | Z | 2 |
| 17X33 | Project 3 | Z | 2 |
| 17Y1LL | Logistics of Passenger and Freight Air Transport | KZ | 2 |
| Logistics airline pas | ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial trans air cargo. Information systems in air transport. Global distribution systems. | sport process pass | sengers and |
| 17Y1MD | Marketing in Transportation | KZ | 2 |
| General principles | of marketing applied to transport issues, marketing tools suitable for transport as a service, specifics of public passenger transport a the application of marketing. | ind the resulting di | fferences in |
| 17Y10F | Personal Finance | KZ | 2 |
| | budget, financing of basic living needs), debt (loans and credits, payment instruments, interest and fees, debt trap), financing of hous | | |
| consumer loans, re | financing), savings and investments (investment horizon, return, risk, investment strategy), insurance (insurance types, suitability and (retirement savings and insurance). | adequacy), securir | ng the future |
| 17Y1PM | Personnel Management | KZ | 2 |
| | ces, work group, man as personality, planning, choice, evaluation and education of human sources, work adaptation, teamwork, inter | 1 | 1 |
| 17Y1SK | Urban and Regional Rail Transport Systems | KZ | 2 |
| - | transport demand, modal-split, distribution of passenger flows on public regional transport lines. Optimization of line management, li | | |
| - | e timetable. Vehicle circulation creation. Optimizing driver shifts and arranging them in turnus. Effects of barrier-free and public transp marketing. | - | - |
| 17Y1SL | Sociology of Human Resources | KZ | 2 |
| | and their importance, work group as a special kind of social group, communication, personal management, modern management, hum | | |
| | of the organization. | | - |
| 17Y1ST | Titan Simulation | KZ | 2 |
| - | gement game simulating the business decisions. Lets 2-8 student groups to produce and compete in the market with the same produ | | - |
| determine the quar | tity and capacity of production, plan budgets for marketing, research and development. They become familiar with the consequences | s of their decisions | s by the form |
| | | | |
| 17740 | of financial corporate reports and they use this information for other business decisions. | 7 | 2 |
| 17ZAP | Fundamentals od law | Z | 2 |
| 18MTY | Fundamentals od law Materials Science and Engineering | Z,ZK | 3 |
| 18MTY Basic course of ma | Fundamentals od law Materials Science and Engineering terials science and engineering explains mechanical properties of structural materials based on their bonding forces and microstructu | Z,ZK re. However the ma | 3 ain attention |
| 18MTY Basic course of ma | Fundamentals od law Materials Science and Engineering | Z,ZK re. However the ma | 3 ain attention |
| 18MTY Basic course of ma | Fundamentals od law Materials Science and Engineering terials science and engineering explains mechanical properties of structural materials based on their bonding forces and microstructu s the most important engineering materials, also other major classes of materials are presented, namely ceramics, polymers and con | Z,ZK re. However the ma | 3 ain attention |
| 18MTY Basic course of mains paid to metals as 18PZP | Fundamentals od law Materials Science and Engineering terials science and engineering explains mechanical properties of structural materials based on their bonding forces and microstructu s the most important engineering materials, also other major classes of materials are presented, namely ceramics, polymers and con to degradation processes in materials, to defectoscopy and to main mechanical tests. | Z,ZK re. However the ma nposites. Attention Z,ZK | 3 ain attention is also paid |
| 18MTY Basic course of mains is paid to metals as 18PZP Tension and compr | Fundamentals od law Materials Science and Engineering terials science and engineering explains mechanical properties of structural materials based on their bonding forces and microstructu s the most important engineering materials, also other major classes of materials are presented, namely ceramics, polymers and con to degradation processes in materials, to defectoscopy and to main mechanical tests. Elasticity and Strength ession. Bending of beam. Shear stress in bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted a Analysis of deflection curve of beams. Torsion of circular cross sections. Combined loading. Stability. | Z,ZK re. However the man posites. Attention Z,ZK and welded joints o | 3 ain attention is also paid |
| 18MTY Basic course of mains is paid to metals as 18PZP Tension and compro- 18SAT | Fundamentals od law Materials Science and Engineering terials science and engineering explains mechanical properties of structural materials based on their bonding forces and microstructu s the most important engineering materials, also other major classes of materials are presented, namely ceramics, polymers and con to degradation processes in materials, to defectoscopy and to main mechanical tests. Elasticity and Strength ession. Bending of beam. Shear stress in bending of beam. Design and analysis of cross section of beam. Design of riveted, bolted a Analysis of deflection curve of beams. Torsion of circular cross sections. Combined loading. Stability. Structural Analysis | Z,ZK re. However the man posites. Attention Z,ZK and welded joints o Z,ZK | 3 ain attention is also paid 3 of structures. |
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| 18Y1MT | Engineering Materials | KZ | 2 | | | | |
|---|--|-------------------------|------------------|--|--|--|--|
| Systematic overvie | ew of main classes of materials used in technical design. In addition to main classes of materials, i. e. metals, ceramics, polymers and | l composites, atten | ition is paid | | | | |
| to biological materials and to biomimetics. Integral approach to material selection process is also demonstrated based on so called Ashby's selection charts. | | | | | | | |
| 18Y1PS | Computer Simulations in Mechanics | KZ | 2 | | | | |
| | rview of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model developme | | • • | | | | |
| from other CAE systems. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary conditions and application of the load. Basic | | | | | | | |
| 40\/41.11/ | tasks of structural and modal analysis. Introduction to complex nonlinear problems. | V7 | | | | | |
| 18Y1UK | Introduction of Rail Vehicles ics and parameters rail transport systems - railway and urban transport. Basis driving mechanics rail vehicles - equation of motion tra | KZ | 2 Dolling and | | | | |
| | tal running resistance. Acceleration force. Analyzing driving cycle rail vehicle. Speed-power diagrams and characteristics rail vehicle - | | | | | | |
| | and electric drive. Design concept rail vehicles and drive of wheel set. | nyaromeename, ny | arodynamic | | | | |
| 20SYSA | Systems Analysis | Z,ZK | 5 | | | | |
| | em sciences, system viewpoint, terminology, typical system analysis tasks, system identification, system interface and interface tasks | 1 1 | | | | | |
| - | strong functions and processes, genetic code, system identity, system architecture. Tools for system analysis - Petri nets, decision tal | | | | | | |
| | tasks. Soft and hard systems, methods for soft system analysis. | | | | | | |
| 20UITS | Introduction to Intelligent Transport Systems | Z,ZK | 7 | | | | |
| Terminology and le | gislative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of infor | mation and telecom | nmunication | | | | |
| systems for ITS. Pr | inciples and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real examples | of possible applica | ations of the | | | | |
| | principles of ITS. | | | | | | |
| 20X31 | Project 1 | Z | 2 | | | | |
| 20X32 | Project 2 | Z | 2 | | | | |
| 20X33 | Project 3 | Z | 2 | | | | |
| 20Y1AE | Applied Electronics | KZ | 2 | | | | |
| Basic electronic s | semiconductor components, their principles, characteristics and typical connection diagrams. Semiconductor PN junction diodes, tran | isistors, thyristor, or | perational | | | | |
| amplifiers, basic lo | ogic gates. Functions of basic electronic circuits and methods for their designs (rectifiers, voltage regulator with Zener diode, transiste | or as an amplifier, c | operational | | | | |
| | amplifier as an inverting and noninverting amplifier). | | | | | | |
| 20Y1AF | Alternative Forms of Transportation Project Financing | KZ | 2 | | | | |
| | such forms of financing in transportation and telecomunications, where the public sector body perform the final debtor, i. e. debt payr | | - | | | | |
| the final debtor is n | ot a direct participant of the transaction and it is not the counterparty of the financial institute which provides the funding. Issue of sec | urities as an alterna | ative source | | | | |
| | of transportation and telecomunication projects. | 1/7 | 0 | | | | |
| 20Y1EA | Environmental Aspects of Transport | KZ | 2 | | | | |
| | phere, weather observation network, weather in transportation, road meteorology. Weather forecasting, data assimilation, probabilistic n pollutants and their effects, atmospheric chemistry, traffic emissions. Greenhouse gasses, carbon cycle, a role of energy and transp | | | | | | |
| 20Y1EK | Qualification in Electrical Engineering | KZ | 2 | | | | |
| | e with measurements in laboratories, electrical equipment, power supply, electrical installation of low voltage, electric shock hazard, | 1 | | | | | |
| | allowed currents, electrical equipment protection against short circuit and overload protection, control and revision, first aid, legislati | | | | | | |
| | in relation to health and safety and electrical engineering. | | 0 | | | | |
| 20Y1KP | Communication and presentation skills | KZ | 2 | | | | |
| Motivation, prioritie | es and their fulfillment, current communication networks, work with various sources, formal requirements of emails and final theses, b | asic typology of pe | ersonalities, | | | | |
| teamwork, emo | tional intelligence, manipulation and way of working with it, coping with stressful situations, formal requirements of presentations, way | /s of communicatio | n during | | | | |
| | presentation, presentation skills, presentation skills in online environment. | . <u> </u> | | | | | |
| 20Y1LN | Location and Navigation | KZ | 2 | | | | |
| Description and e | examples of road networks, localization on the network. Routing algorithms, their properties and implementation. Description and exa | mples of datasets f | for finding | | | | |
| 00)/4 01 | transport connections, routing algorithms, their properties and implementation. | 1/7 | 0 | | | | |
| 20Y10I | Fare Collection and Information Systems /stems in public transport and their components (on-board units, validators, turnstiles,). Information systems and their components | KZ | 2 | | | | |
| | nels) and operators (cycles, location or current delay of vehicles,). The issue of tariff systems. Other examples of clearance syst | | es, maps, | | | | |
| 20Y1OK | Road Lighting | KZ | 2 | | | | |
| | tities and terms, street lighting components (luminaires, control cabinets for street lighting, street lighting cables), characteristics of lumi | 1 | | | | | |
| 0 01 | standards, measurement of illuminance and luminance in road lighting, tunnels, conceptual approach to street lighting design, lightir | · · | | | | | |
| | Relux, street lighting control systems. | | | | | | |
| 20Y1PK | Product Quality Management Processes | KZ | 2 | | | | |
| | of organization management. Management systems and international standards; quality management systems. Quality products, pro | 1 1 | | | | | |
| of standards for sys | tems management, management principles. Principles of process management, monitoring and measurement systems management. U | Jniform framework o | of standards | | | | |
| | for systems management. Process management principles. Metrology and testing. Product certification. | | | | | | |
| 20Y1SC | Sensors and Actuators | KZ | 2 | | | | |
| Principles of sensor | rs and actuators. Basics of measuring theory and actuating influence. The respective technologies and construction principles. Sensors o | | o-magnetic, | | | | |
| | state (temperature, humidity), chemical and particle flow values. Electrical, pneumatic and hydraulic actuators and solid phase el | | | | | | |
| 21SLD | Seminar of Air Transport | Z | 0 | | | | |
| - | ons, terminology, basic rules. VFR / IFR. Basics of aerodynamics. Propulsion of aircraft. Aircraft design. Basics of navigation, radio na ht planning, optimization of speed and heights, minimum fuel. Limitations of operation, maintenance, service life of aircraft. Traffic ma | | | | | | |
| penormance. ring | security. Air crew. Airlines and economics. Space technologies. | inagement, ground | nanuling, | | | | |
| 21X31 | Project 1 | Z | 2 | | | | |
| 21X31 21X32 | Project 1 Project 2 | Z | 2 | | | | |
| 21X32 21X33 | Project 2 Project 3 | Z | 2 | | | | |
| | | | | | | | |
| 21Y1AM | Aeronautical Information Management (AIM) c overview of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronautical Ir | KZ | 2 Manual of | | | | |
| | RAC System. NOTAM messages. PIB (Pre-flight Information Bulletin). AIC (Aeoronautical Inf. Circulars). Aeronautical Charts. EAD (Eu | - | | | | | |
| | (Quality Mng. System). ADQ (Aeronautical Data Quality). AIXM (Aeronautical Inf. Exchnage Format). | | | | | | |
| L | | | | | | | |

| 21Y1BS | Unmanned aircraft systems 1 | KZ | 2 |
|----------------------|---|----------------------|-----------------|
| Unmanned Aviation | n Development. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division. Op procedures. Practical flights. | erational risks and | d operational |
| 21Y1LJ | Aeronautical Radio and Flight Instruments | KZ | 2 |
| Basic definitions, h | istory of aircraft instrumentation, aerometric instrumentation, Earth magnetism, aircraft electric equipment, gyroscopic instrumentatior | , airframe instrun | nentation and |
| other aircr | aft equipment, engine instrumentation, warning and recording systems, instrumentation operational requirements, radiocommunication | n and radionavig | ation. |
| 21Y1LS | Air Traffic Services | KZ | 2 |
| Airspace structure | in Czech Republic and other countries. Introduction and description of ATS units in Czech Republic. Practical examples of TWR, APP | | listory of ATS |
| | at USA and Czechoslovakia. ATS - Model of financing. Training System of Air Traffic Controllers. Future development of ATS | 6. | |
| 21Y1MP | Matlab for project-oriented study | KZ | 2 |
| The subject's sylla | bus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercises | will be prepared | according to |
| particular exam | ples, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improvement | ent of students' M | atlab skills. |
| 21Y1OH | Airline Business and Operations | KZ | 2 |
| The course provide | s a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses on the organiz | ational structure of | of companies |
| various aspects of | their strategy, economic and operational indicators. It introduces students in detail to operational processes and the essentials of transp | ortation process | es. It provides |
| | a basic view of the economic aspects of air transport. | | |
| 21Y1PC | ATC Procedures and Activities | KZ | 2 |
| Air traffic control | procedures, basics of communication and phraseology, aircraft identification, spacing and traffic coordination. In addition, the course | discusses air traf | fic control at |
| the airpo | rts and low visibility operational procedures. Students will during the course learn basic safety management applications applied acro | ss the infrastruct | ure. |
| 21Y1RZ | Human Resources Management | KZ | 2 |
| The position of | human resources in the organization and related disciplines file. Substance, importance and challenges of human resources manage | ment. Internal an | d external |
| environment of hu | nan resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation and rer | nuneration of staf | f. Positioning |
| | dismissal and redundancies of employees. Education of employees. Planning career management. | | |
| 21Y1SI | ATC Simulator | KZ | 2 |
| | with the simulation environment, acquiring basic habits, aircraft identification procedures, vectoring, level changes, ATC clearance, us | | |
| exercises focusi | ng on basic vectoring, early application of vertical separation, EST and REV message passing. Practical exercises in the APPROACH | l area, practicing | arrival and |
| | departure management procedures, conflict resolution. | | |
| 21Y1UL | Aircraft Maintenance | KZ | 2 |
| • | and technical operations. Maintenance and work processes. Defects search methods, status check diagnostic tools. Selection and qua | | • |
| Basic documenta | tion for maintenance. Optimization of time maintenance intervals. Regulation no. 1321/2014 Part 145. Human factors of aircraft maintenance | enance. Regulation | on of director |
| | EASA for aircraft maintenance. Seminars will be focused on practical application. | | |
| 21ZALD | Basics of Air Transport | KZ | 2 |
| | terminology, basic rules. VFR/IFR. Basics of aerodynamics. Propulsion of aircraft. Aircraft design. Basics of navigation, radio navigation. | | |
| Flight planning, op | timization of speed and heights, minimum fuel. Limitations of operation, maintenance, service life of aircraft. Traffic management, grou | nd handling, sec | urity. Air crew |
| | Airlines and economics. Space technologies. | | - <u>_</u> |
| 22X31 | Project 1 | Z | 2 |
| 22X32 | Project 2 | Z | 2 |
| 22X33 | Project 3 | Z | 2 |
| TV-1 | Physical Education | Z | 1 |
| TV-2 | Physical Education | Z | 1 |
| | Physical Education Course | Z | 0 |
| | | | |
| TVKLV TVKZV | Physical Education Course | Z | 0 |

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