Recomended pass through the study plan

Name of the pass: Bachelor Full-Time TET-Common Part of the Study from 2024/25

Faculty/Institute/Others:

Department:

Pass through the study plan: Bachelor TET Common Part of Study Full-Time from 2024/25

Branch of study guranteed by the department: Welcome page

Guarantor of the study branch:

Program of study: Technology in Transportation and Telecommunications

Type of study: Bachelor full-time

Note on the pass:

Coding of roles of courses and groups of courses:

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

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

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

Number of semester: 1

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
614ASD	Algorithm and Data Structures Jan Mejst ik	KZ	3	0P+2C+8E	B Z	Z
611CAL1	Calculus 1 Romana Zibnerová Ond ej Navrátil (Gar.)	Z,ZK	7	2P+4C+22E	B Z	Z
611GIE	Geometry Vít Malinovský Šárka Vorá ová (Gar.)	KZ	3	2P+2C+12E	B Z	Z
611LA	Linear Algebra Romana Zibnerová Romana Zibnerová Martina Be vá ová (Gar.)	Z,ZK	3	2P+1C+10E	B Z	Z
618MTY	Materials Science and Engineering Vít Malinovský Jaroslav Valach (Gar.)	Z,ZK	3	2P+1C+10E	B Z	Z
618TKK	Technical Drawing and Designing Vít Malinovský, Libor Žídek	KZ	4	2P+2C	Z	Z
TV-1	Physical Education	Z	1		Z	Z
616UDOP	Introduction into Vehicles Zuzana Radová Petr Bouchner (Gar.)	Z	2	2P+0C+8E	B Z	Z
612ZADY	Introduction to Transportation Engineering Jana Štikarová, Dagmar Ko árková Dagmar Ko árková (Gar.)	Z,ZK	4	2P+2C	Z	Z
618STKK	Seminary from Technical Drawing and Designing	Z	0	0P+2C	Z	V
TVKZV	Physical Education Course	Z	0	7dní	Z	V

Number of semester: 2

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
611CAL2	Calculus 2 Romana Zibnerová	Z,ZK	5	2P+3C+20B	L	Z
614PRG	Programming	KZ	2	0P+2C+8B	L	Z
618SAT	Structural Analysis	Z,ZK	4	2P+2C+14B	L	Z
611STAT	Statistics	Z,ZK	4	2P+2C+12B	L	Z
620SYSA	Systems Analysis	Z,ZK	5	2P+2C+14B	L	Z
617TEDL	Transport Technology and Logistics	KZ	3	2P+1C	L	Z
TV-2	Physical Education	Z	1		L	Z
621ZALD	Basics of Air Transport	KZ	2	0P+2C+8B	L	Z
612ZTS	Railway Lines and Stations	Z,ZK	4	2P+2C+10B	L	Z
614DZT	Digital Support for Railway Lines	Z	0	0P+2C	L	V
621SLD	Seminar of Air Transport	Z	0	0P+2C	L	V
618SS	Seminary from Structural Analysis	Z	0	0P+2C	L	V

611SSF	Secondary School Physics Course	Z	0	0P+2C	L	V
TVKLV	Physical Education Course	Z	0	7dní	L	V

Number of semester: 3

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
615JZ1A	Foreign Language - English 1 Jan Feit	Z	3	0P+4C+10B	Z	Z
614DATS	Database Systems Ond ej Smíšek Jana Kaliková (Gar.)	KZ	2	1P+1C+10B	Z	Z
611FYZ	Physics Goce Chadzitaskos Zuzana Malá (Gar.)	Z,ZK	5	2P+2C+18B	Z	Z
612MDE	Transport Models and Transport Excesses Josef Kocourek, Tomáš Pad lek Josef Kocourek (Gar.)	Z,ZK	3	2P+1C+8B	Z	Z
612PPOK	Designing Roads, Highways and Motorways Tomáš Pad lek Josef Kocourek (Gar.)	KZ	3	1P+2C+10B	Z	Z
618PZP	Elasticity and Strength Tomáš Doktor Ond ej Jiroušek (Gar.)	Z,ZK	3	2P+1C+10B	Z	Z
611TGA	Graph Theory and its Applications in Transport Denisa Mocková, Dušan Teichmann, Andrea Hrní ková Denisa Mocková Denisa Mocková (Gar.)	Z,ZK	4	2P+2C+12B	Z	Z
620UITS	Introduction to Intelligent Transport Systems Vladimír Faltus Pavel Hrubeš (Gar.)	Z,ZK	7	3P+2C+20B	Z	Z
614DPK	Digital Support for Designing of Roads and Highways	Z	0	0P+2C	Z	V
611SCFZ	Seminar of Physics	Z	0	0P+2C	Z	V
618SPP	Seminary from Elasticity and Strength	Z	0	0P+2C	Z	V

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

List of courses of this pass:

Code	Name of the course	Completion	Credits
611CAL1	Calculus 1	Z,ZK	7
Sequence of real nu	mbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton integr Riemann integral. First-order differential equations, linear differential equations.	al, Riemann integr	al, improper
611CAL2	Calculus 2	Z,ZK	5
Lineai	r differential equations and their systems, differential calculus of functions of several real variables. Riemann integral in Rn. Line and s	surface integrals.	
611FYZ	Physics	Z,ZK	5
	Kinematics, dynamics, Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and elect	ric current.	
611GIE	Geometry	KZ	3
Orthographic and	oblique projections, linear perspective. Topographic surfaces and their orthogonal projection. Differential geometry of curves - param	eterization, arc of	the curve,
torsion a	and curvature, Frenet's trihedron. Kinematics - a curve as a trajectory of the motion, the velocity and acceleration of a particle moving	on a curved path	
611LA	Linear Algebra	Z,ZK	3
Vector spaces (line	ar combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and their	r solvability. Deteri	ninants and
	their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classifications.	on.	
611SCFZ	Seminar of Physics	Z	0
•	Solving problems on kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermody	namics.	
611SSF	Secondary School Physics Course	Z	0
	Basics of kinematics, dynamics, thermodynamics, electric field and magnetic field.		•
611STAT	Statistics	Z,ZK	4
Definition of probab	ility, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation. T	esting of statistical	hypothesis.
Regression and cor	relation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear re	gression, analysis	of variance,
	multiple regression, the use of matrices in regression.		
611TGA	Graph Theory and its Applications in Transport	Z,ZK	4

612MDE	Transport Models and Transport Excesses	Z,ZK	3
Parameters of the	traffic flow and methods for their measurement. Models of the traffic flow, communications load, line and urban systems. Theory of qu	eues, shock wave	s. Quality of
transport and its	assessment. Statistical characteristics of transport. Transport excesses, their analysis, the causes, identify and minimize the consequences safety and fluency.	ences. Improving o	of transport
612PPOK	Designing Roads, Highways and Motorways	KZ	3
	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. Safet		
	intersections.		
612ZADY	Introduction to Transportation Engineering	Z,ZK	4
612ZTS	Railway Lines and Stations	Z,ZK	4
Rail transport. R	ailway track geometry parameters. Route layout of railway lines. Railway line construction - railway substructure and superstructure. S	patial layout of rail	way lines.
	Railway control systems in relation to infrastructure. Operating and carriage points. Railway lines net and category. Traction in rail to		
614ASD	Algorithm and Data Structures	KZ	3
	niliarized with selected basic and derived data structures, algorithms, their properties and their design procedure. Students will analyze		
solutions to the s	et task and the resulting algorithm write by means of flowcharts, practice in reading algorithms recorded by means of the flowchart ar	id use the basics of	of Boolean
0.1.15.470	algebra with forming the conditions for the algorithms.		
614DATS	Database Systems	KZ	2
Basic concepts of	of database systems, conceptual model, relational data model, the principles of normal forms, relational database design, security an queries, relational algebra, SQL language, client / server, multilayer architectures, distributed database systems. Access to data via		database
614DPK	Digital Support for Designing of Roads and Highways	Z	0
014DPK	Seminars possibilities of technical processing problems focused on designing of roads and highways.	۷	l 0
614DZT	Digital Support for Railway Lines	Z	0
011521	Seminars possibilities of technical processing problems solved in the field of railway lines.	- '	
614PRG	Programming	KZ	2
	pment, methods of structured programming, high-level programming languages, basics of C programming languages (types, variable		l
-	functions), programming techniques, complexity.	-	-
615JZ1A	Foreign Language - English 1	Z	3
Grammatical struct	tures and style. Selection of conversation topics relating to transportation sciences. Extending vocabulary, developing perceptive and col	nmunicative skills.	Elementary
	stylistics forms. Oral and written presentation of original research. Academic text principles and reading comprehension. Principles of	of rhetoric.	
616UDOP	Introduction into Vehicles	Z	2
Vehicles and trans	sportation systems. Functionality and setup. Movement and drive principles. Engines and their characteristics. Rail, road, air and wate	r transport. Alterna	tive means
	of transport. Lifting equipment and conveyors. Legislation.		ı
617TEDL	Transport Technology and Logistics	KZ	3
	asport technology and logistics, particular steps of transport planning, line planning, timetabling, planning in pasanger and freight tran		
	nodus, technologic factors of the side of operator and client, organisation of city transport, logistic technologies and their aplication usi		
618MTY	Materials Science and Engineering	Z,ZK	3
	sterials 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		
is paid to metals a	to degradation processes in materials, to defectoscopy and to main mechanical tests.	iposites. Attention	is also paid
618PZP	Elasticity and Strength	Z,ZK	3
	ression. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of beam. Design of riveted, bolter		_
	ection curve of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling. Beam on elastic for	•	
618SAT	Structural Analysis	Z,ZK	4
	of forces in plane and space. Calculation of reactions of bodies and structures. Assessment of internal forces on statically determinate		le girders.
Principle of virtual v	work. Kinematic method for calculation of reactions of statically determinate systems. Determination of axial forces in truss constructions.	Cross-sectional ch	aracteristics
	of planar shapes. Fiber polygons and chains.		
618SPP	Seminary from Elasticity and Strength	Z	0
Excersise for prac	tice. Tension and compression. Bending of beam. Shear stress during bending of beam. Design and analysis of cross section of bean	Analysis of defle	ction curve
	of beam. Torsion of circle cross section. Combined loading. Stability of compressed bar and buckling.		
618SS	Seminary from Structural Analysis	Z	0
	ise. General system of forces. Reactions of mass objects and compound systems. Internal forces on statically determinate beam and		
or principle of virti	ual works for calculation of reactions of staticaly determinate systems. Determination of axial forces in truss construction - method of j	oints and method of	of sections.
C10CTVV	Geometry of cross sections. Plane fiber polygons.	7	0
618STKK	Seminary from Technical Drawing and Designing	Z	0
618TKK	Technical Drawing and Designing	KZ	4
620SYSA	Systems Analysis	Z,ZK	5
· · · · · · · · · · · · · · · · · · ·	tem sciences, system viewpoint, terminology, typical system analysis tasks, system identification, system interface and interface tasks,	-	
and its analysis,	strong functions and processes, genetic code, system identity, system architecture. Tools for system analysis - Petri nets, decision tak tasks. Soft and hard systems, methods for soft system analysis.	ies, aigontinins ior	Structural
620UITS		Z,ZK	7
	Introduction to Intelligent Transport Systems gislative framework telematics systems and their architecture. Telematics systems in practice and their operation. Fundamentals of infor		ļ.
	rinciples and technical support measurement of traffic data, localization and navigation. Practical work with traffic data. Real examples		
	principles of ITS.	,	
621SLD	Seminar of Air Transport	Z	0
	ions, terminology, basic rules. VFR / IFR. Basics of aerodynamics. Propulsion of aircraft. Aircraft design. Basics of navigation, radio na	ا vigation. Weight, b	l
performance. Flig	th planning, optimization of speed and heights, minimum fuel. Limitations of operation, maintenance, service life of aircraft. Traffic ma	nagement, ground	l handling,
	security. Air crew. Airlines and economics. Space technologies.		
621ZALD	Basics of Air Transport	KZ	2
	terminology, basic rules. VFR/IFR. Basics of aerodynamics. Propulsion of aircraft. Aircraft design. Basics of navigation, radio navigation.		
⊢light planning, op	timization of speed and heights, minimum fuel. Limitations of operation, maintenance, service life of aircraft. Traffic management, grou	na handling, secur	ity. Air crew.
	Airlines and economics. Space technologies.		

TV-1	Physical Education	Z	1
TV-2	Physical Education	Z	1
TVKLV	Physical Education Course	Z	0
TVKZV	Physical Education Course	Z	0

For updated information see http://bilakniha.cvut.cz/en/FF.html Generated: day 2025-11-19, time 12:52.