Study plan

Name of study plan: 1.blok TL prez.07/08za átek

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch: Program of study: Welcome page Type of study: unknown full-time

Required credits: 120 Elective courses credits: 0 Sum of credits in the plan: 120

Note on the plan:

Name of the block: Compulsory courses Minimal number of credits of the block: 120

The role of the block: Z

Code of the group: 1.S-TL-07/08

Geometry

Name of the group: 1.s.TL prez.bak.od07/08

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 at least 8 courses

Credits in the group: 30 Note on the group:

11GMR

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
11GMR	Geometry	Z,ZK	5	2+2		Z
15J1A1	Foreign Language - English 1	Z	2	0+2		Z
21LEG1	Aviation Legislation 1	Z,ZK	6	4+1		Z
21LC1	Human Factor 1	ZK	4	3+0		Z
11ML1	Mathematics for Aviation 1	Z,ZK	6	2+3		Z
18TEDL	Technical documentation in Avionics	KZ	3	2+1		Z
15TVC1	Physical Education 1	Z	1	0+2		Z
14ZI	Basic of Informatics	KZ	3	0+2	Z	Z

Characteristics of the courses of this group of Study Plan: Code=1.S-TL-07/08 Name=1.s.TL prez.bak.od07/08

١	opographic surfaces, Orthogonal projection, axonometric projection (orthogonal axonometry, skew projection), perspective projection, curves - conic sections, examples of plane							
	curves, basics of differential geometry of curves: parameterization, arc of the the curve, torsion and curvature, Frenet's trihedron, surfaces of revolution, quadrics, ruled quadrics, etc.							
ſ	15J1A1 Foreign Language - English 1	Z	2					
İ	The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These cours	ses aim at providir	ng sufficient					
	knowledge to communicate about every-day matters but also to read and write and discuss professional and specialised issues. Both gr	adually chosen la	nguage courses					
	are ended with an exam (at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic Control) specialisation students the end of 4th semester; the TL (Air Traffic	nd of 4th semeste	r; the PP					
	Professional Pilot) specialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the Air Traffic specializations are							
	recommended to enrol "English language" as their first choice. This is, however, not a guarantee for being excepted in the project study. < br> Our department provides cou							
	in English, German, French and Russian at different levels. The courses are also taught in our multimedia laboratory.							
г		: /						

Z,ZK

21LEG1	Aviation Legislation 1	Z,ZK	6
21LC1	Human Factor 1	ZK	4
11ML1	Mathematics for Aviation 1	Z,ZK	6

Real and complex numbers. Sequences, real function of real variable, composite and inverse functions, limits, continuity, derivatives, differentials, investigation of functions for their properties. Integral calculus of functions of one variable with applications. Solution of ordinary differential equations, separation of variables.

18TEDL Technical documentation in Avionics

Technical Standards applies on technical drawings in aerospace manufacture, International Standards and European Standards. Technical documents, handling of computer-based technical information, management data for technical documents. Technical drawings of airframes and its parts, technical drawings of parts of aircraft engines. Representation of parts made of composite materials in technical drawings. Diagrams. Accuracy of machine parts.

5TVC1 Physical Education 1

Z 1

The Department of Physical Education provides instruction in a wide variety of sports and games both in regular courses during the term and in winter and summer sport courses. Included are volleyball, basketball, football, tennis, table tennis, athletics, canoeing, orienteering, skiing, gymnastics, bodybuilding, squash, golf etc. The department closely cooperates with the Academic Sport Association of the Faculty of Civil Engineering in the field of recreational and competitive sport.

14ZI Basic of Informatics

ΚZ

Introduce to the faculty network and faculty information systems. Theory of information - basic terms. Number systems, conversions, analog / digital representation of the information. Architecture and activity of the numerical computing systems. Algorithms and their graphical flowchart representation. Algorithm development and solution finding by simple program languages. Engineer computation by specialized software - practical tasks. Classified credit examination.

Code of the group: 2.S-TL-05/06

Name of the group: 2.s.TL prez.bak.od05/06

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 at least 10 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
11FZL1	Physics for Aviation 1	Z,ZK	5	2+2		Z
15J1A2	Foreign Language - English 2	Z	2	0+2		Z
14KPP1	Computer Aided Design 1 (AutoCAD Basic Steps)	KZ	3	0+2		Z
18KKM	Metals and Metal Materials	Z,ZK	3	2+1		Z
21LEG2	Aviation Legislation 2	Z,ZK	3	2+1		Z
21LC2	Human Factor in Aviation 2	KZ	3	0+2	L	Z
11ML2	Mathematics for Air Branches 2	Z,ZK	4	2+2		Z
18SP	Statics and Elasticity	Z,ZK	4	2+1	L	Z
15TVC2	Physical Education 2	Z	1	0+2		Z
17ZKP	Introduction to Law	KZ	2	2+0		Z

Characteristics of the courses of this group of Study Plan: Code=2.S-TL-05/06 Name=2.s.TL prez.bak.od05/06

11FZL1	Z,ZK	5			
Kinematics. Dynamics.T	hermodynamics. Electric field.		'		
15J1A2	Foreign Language - English 2	Z	2		
The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These courses aim at providing sufficient					

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

14KPP1	Computer Aided Design 1 (AutoCAD Basic Steps)	KZ !	3				
Determination of "CAD Systems" term. CAD task in system projecting model. Concurrent CAD system in Czech market. Basic AutoCAD course in 2D environment, user settings, output							
options, designs with gr	options, designs with grid background.						
101/1/1	Motels and Metal Metarials	7 71/	2				

	-		
18KKM	Metals and Metal Materials	Z,ZK	3
21LEG2	Aviation Legislation 2	Z,ZK	3
21LC2	Human Factor in Aviation 2	KZ	3
11ML2	Mathematics for Air Branches 2	Z,ZK	4

Metric spaces, sequences in metric spaces, limit of sequence in metric space. Differential calculus of functions of several variables, differential of function, partial derivations, implicitly defined functions, extremes of functions of several variables. Integral calculus of function of several variables, Riemann integral in Rn, integral over curves and surfaces in R3, application of integral calculus in physics.

0	,		
18SP	Statics and Elasticity	Z,ZK	4
15TVC2	Physical Education 2	Z	1

The Department of Physical Education provides instruction in a wide variety of sports and games both in regular courses during the term and in winter and summer sport courses. Included are volleyball, basketball, football, tennis, table tennis, athletics, canoeing, orienteering, skiing, gymnastics, bodybuilding, squash, golf etc. The department closely cooperates with the Academic Sport Association of the Faculty of Civil Engineering in the field of recreational and competitive sport.

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17ZKP	Introduction to Law	KZ	2

Theoretical foundations of law. The rule of law. Constitutional law. Public law. Substantive and procedural civil law. Commercial law. Trading business. Building permit procedure. Criminal and violation law. Law of nations, European Union and community law.

Code of the group: 3.S.TL-06/07

Name of the group: 3.s.TL prez.bak.od06/07

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 at least 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
11FZL2	Physics for Aviation 2	Z,ZK	5	2+2		Z
15J1A3	Foreign Language - English 3	Z	2	0+2		Z
18KD	Kinematics and Dynamics	Z,ZK	4	2+1		Z
21LP	Aircraft Propulsions	Z,ZK	4	2+2	Z	Z
21PU1	Maintenance Procedures 1	KZ	2	2+1		Z
14SIAW	Internet Services and WWW Pages Design	KZ	3	1+1		Z
18SMT	Special Materials and Technologies	Z,ZK	3	2+1		Z
20ZDT	Basics of Digital Technics	Z,ZK	4	2+2	Z	Z
20ZET	Foundations of Electrical Engineering	KZ	3	2+1		Z

20ZET	Foundations of Electrical Engineering KZ 3				2+1		Z			
Characteristics of the courses of this group of Study Plan: Code=3.S.TL-06/07 Name=3.s.TL prez.bak.od06/07										
11FZL2	11FZL2 Physics for Aviation 2 Z,ZK 5									
Electric Current. Magn	etic fie	ld. Electromagnetic Induction. Electromagnetic Waves, Light. Geometric Optics, Physic	cal Optics. Interac	tion of Radi	ation with M	atter Quan	tization. Atoms.			
Solid State Physics. Se	emicon	ductors.								
15J1A3	For	eign Language - English 3				Z	2			
The students of the Fa	culty o	f Transportation Sciences study two foreign languages one after another at the Depar	tment of Humanit	ies. These o	courses aim	at providing	g sufficient			
knowledge to commun	icate a	bout every-day matters but also to read and write and discuss professional and speci-	alised issues. <l< td=""><td>or> Bot</td><td>th gradually</td><td>chosen lan</td><td>guage courses</td></l<>	or> Bot	th gradually	chosen lan	guage courses			
are ended with an exam	m (at th	he end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take	e an English exar	n only - at th	ne end of 4tl	n semester;	the PP			
(Professional Pilot) spe	ecialisa	ation students take two exams in English - at the end of 4th and 6th semester). Those	students who wa	nt to apply f	or the Air Tra	affic special	izations are			
recommended to enrol	"Engli	sh language" as their first choice. This is, however, not a guarantee for being excepted	d in the project st	udy. <br&g< td=""><td>t; Our de</td><td>partment pro</td><td>ovides courses</td></br&g<>	t; Our de	partment pro	ovides courses			
in English, German, Fr	ench a	and Russian at different levels. The courses are also taught in our multimedia laborato	ry.							
18KD	Kin	ematics and Dynamics			Z	Z,ZK	4			
21LP	Airo	craft Propulsions			Z	Z,ZK	4			
21PU1	Mai	intenance Procedures 1				KZ	2			
14SIAW	Inte	ernet Services and WWW Pages Design				KZ	3			
Orientation and inform	ation s	earching in Internet environment, ability of communication through Internet and basic	knowledge of ow	n WWW pre	esentation by	y help of W	WW sides.			
18SMT	Spe	ecial Materials and Technologies			Z	Z,ZK	3			
20ZDT	Bas	sics of Digital Technics			Z	Z,ZK	4			
20ZET	Fou	undations of Electrical Engineering				KZ	3			
Basic terms of electric	Basic terms of electrical engineering, analysis of linear circuits with resistors, inductors and capacitors supplied with DC/AC sources, including transient phenomena. Basic electrical									
measurements. Energy	measurements. Energy sources, transformers, converters, rotary machines (DC, AC, asynchronous, synchronous, step motors). Safety at work with electrical installation (electrical									
engineering qualification	ngineering qualification).									

Code of the group: 4.S-TL-06/07

Name of the group: 4.s.TL prez.bak.od06/07

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 at least 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
21EPS1	Electronical Instrument Systems 1	Z,ZK	3	2+2		Z
20ELT1	Electrotechnics 1	Z,ZK	4	2+2		Z
15J1A4	Foreign Language - English 4	Z,ZK	2	0+2		Z
21LLA1	Aircraft 1	KZ	4	2+1		Z
18MLP	Materials for Aviation Industry	Z,ZK	3	2+1	L	Z
21PU2	Maintenance Procedures 2	KZ	4	2+2		Z
14UPG	Introduction into Programming	KZ	3	0+2		Z
20ZENT	Basic Electronics	Z,ZK	3	2+1	Z	Z
21ZLU1	Principles of Flight 1	KZ	4	2+1		Z

Characteristics of the courses of this group of Study Plan: Code=4.S-TL-06/07 Name=4.s.TL prez.bak.od06/07

21EPS1	Electronical Instrument Systems 1	Z,ZK	3
20ELT1	Electrotechnics 1	Z,ZK	4
Basic terms from theory of electrical circuits. Definitions of circuit variables and elements. Physical principles of electrotechnics. Generation of static electricity. Issue of direct current			
(sources, circuits).			

15J1A4	Foreign Language - English 4	Z,ZK	2			
The students of the Fac	The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These courses aim at providing sufficient					
knowledge to communic	ate about every-day matters but also to read and write and discuss professional and specialised issues. Both gra	adually chosen lar	nguage courses			
are ended with an exam	(at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the en	d of 4th semester	; the PP			
(Professional Pilot) spec	cialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the	Air Traffic specia	lizations are			
recommended to enrol "	English language" as their first choice. This is, however, not a guarantee for being excepted in the project study. 	Our department p	rovides courses			
in English, German, Fre	nch and Russian at different levels. The courses are also taught in our multimedia laboratory.					
21LLA1	Aircraft 1	KZ	4			
Evolution of aircraft cons	structions, aircraft classification, basic parts of aircraft and their function, wings of low speed aircraft - construction scheme, s	hapes and compo	onents, wings of			
high speed aircraft, wing	gs with changeable geometry, direct lift control, wing mechanization, increase of lift and drag, longitudinal stability and contro	l, flaps, spoilers, ir	nterceptors,			
ailerons. <br< td=""><td>>∖r∖nThe lector of this subject has to have passed an exam at CAA following JAR - FCL 1.</td><td></td><td></td></br<>	>∖r∖nThe lector of this subject has to have passed an exam at CAA following JAR - FCL 1.					
18MLP	Materials for Aviation Industry	Z,ZK	3			
Classification of materia	ls for aviation industry. Special steels, mainly corrosion- resistant steels, and their heat treatnent. Al-alloys. Mg-alloys. Change	s of mechanical p	roperties during			
processing. Deterioratio	n of materials. Properties of polymeric materials. Composites.					
21PU2	Maintenance Procedures 2	KZ	4			
14UPG	Introduction into Programming	KZ	3			
Introduction to task algo	rithmization. Acquaintance with basic programming language types. Basic commands, expressions and functions of the C pr	ogramming langu	age. Practical			
realization of simple programmes in some of higher programming languages (Turbo C).						
20ZENT	Basic Electronics	Z,ZK	3			
The subject is focused on switching elements, operational amplifier, generation harmonic and nonharmonic signals, sources, conduction of high frequencies signals. Analog-Digital						
and Digital-Analog convertor. Extensive part is also dedicated to digital logical circuits and microprocessors.						
21ZLU1	Principles of Flight 1	KZ	4			
Aerodynamic drag, relation between drag and speed, air flow, formula of continuity, formula of Bernoulli, lift and drag, air flow and pressures around wing, angle of attack, reactions of						
a wing in air flow, lift and drag of a wing and a aircraft, coefficient of lift and drag, critical angle of attack, wing with final span, induced drag, interference, devices for lift and drag increase						
$\<br\>\<br\>\r\nThermal \cite{Alt:}$	 \r\nThe lector of this subject has to have passed an exam at CAA following JAR - FCL 1.					

List of courses of this pass:

Code	Name of the course	Completion	Credits
11FZL1	Physics for Aviation 1	Z,ZK	5
	Kinematics. Dynamics. Thermodynamics. Electric field.		ı
11FZL2	Physics for Aviation 2	Z,ZK	5
Electric Current. Ma	agnetic field. Electromagnetic Induction. Electromagnetic Waves, Light. Geometric Optics, Physical Optics. Interaction of Radiation wi	th Matter. Quantiza	tion. Atoms
	Solid State Physics. Semiconductors.		
11GMR	Geometry	Z,ZK	5
Topographic surfa	aces, Orthogonal projection, axonometric projection (orthogonal axonometry, skew projection), perspective projection, curves - conic	sections, example	s of plane
curves, basics of d	ifferential geometry of curves: parameterization, arc of the the curve, torsion and curvature, Frenet's trihedron, surfaces of revolution	ı, quadrics, ruled qı	uadrics, etc
11ML1	Mathematics for Aviation 1	Z,ZK	6
Real and comple:	k numbers. Sequences, real function of real variable, composite and inverse functions, limits, continuity, derivatives, differentials, inve	stigation of function	ns for their
	properties. Integral calculus of functions of one variable with applications. Solution of ordinary differential equations, separation of	variables.	
11ML2	Mathematics for Air Branches 2	Z,ZK	4
Metric spaces, seq	uences in metric spaces, limit of sequence in metric space. Differential calculus of functions of several variables, differential of function	on, partial derivatio	ns, implicitly
defined functions, ϵ	extremes of functions of several variables. Integral calculus of function of several variables, Riemann integral in Rn, integral over curves	and surfaces in R3	, application
	of integral calculus in physics.		
14KPP1	Computer Aided Design 1 (AutoCAD Basic Steps)	KZ	3
Determination of "C	AD Systems" term. CAD task in system projecting model. Concurrent CAD system in Czech market. Basic AutoCAD course in 2D en	rironment, user set	tings, outpu
	options, designs with grid background.		
14SIAW	Internet Services and WWW Pages Design	KZ	3
Orientation and	nformation searching in Internet environment, ability of communication through Internet and basic knowledge of own WWW present	ation by help of WV	W sides.
14UPG	Introduction into Programming	KZ	3
Introduction to tas	k algorithmization. Acquaintance with basic programming language types. Basic commands, expressions and functions of the C pro	gramming languag	e. Practical
	realization of simple programmes in some of higher programming languages (Turbo C).		
14ZI	Basic of Informatics	KZ	3
Introduce to the fac	culty network and faculty information systems. Theory of information - basic terms. Number systems, conversions, analog / digital rep	resentation of the	information
Architecture and a	ctivity of the numerical computing systems. Algorithms and their graphical flowchart representation. Algorithm development and solu	tion finding by simp	ole program
	languages. Engineer computation by specialized software - practical tasks. Classified credit examination.		
15J1A1	Foreign Language - English 1	Z	2
The students of	the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These cours	es aim at providing	sufficient
•	nunicate about every-day matters but also to read and write and discuss professional and specialised issues. Both gradu	,	•
	an exam (at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the e		
•	tt) specialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the	•	
recommended to e	nrol "English language" as their first choice. This is, however, not a guarantee for being excepted in the project study. Ou	r department provi	des courses
	in English, German, French and Russian at different levels. The courses are also taught in our multimedia laboratory.		
			_
15J1A2	Foreign Language - English 2 the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These cours	Z	2

are ended with an exam (at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th semester; the PP (Professional Pilot) specialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the Air Traffic specializations are recommended to enrol "English language" as their first choice. This is, however, not a guarantee for being excepted in the project study.
 Our department provides courses in English, German, French and Russian at different levels. The courses are also taught in our multimedia laboratory. 15J1A3 Foreign Language - English 3 Ζ 2 The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These courses aim at providing sufficient knowledge to communicate about every-day matters but also to read and write and discuss professional and specialised issues.
 Both gradually chosen language courses are ended with an exam (at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th semester; the PP (Professional Pilot) specialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the Air Traffic specializations are recommended to enrol "English language" as their first choice. This is, however, not a guarantee for being excepted in the project study.
 Our department provides courses in English, German, French and Russian at different levels. The courses are also taught in our multimedia laboratory. 15J1A4 Foreign Language - English 4 Z,ZK 2 The students of the Faculty of Transportation Sciences study two foreign languages one after another at the Department of Humanities. These courses aim at providing sufficient knowledge to communicate about every-day matters but also to read and write and discuss professional and specialised issues.
 Both gradually chosen language courses are ended with an exam (at the end of 4th and 8th semester; the TL (Air Traffic Control) specialisation students take an English exam only - at the end of 4th semester; the PP (Professional Pilot) specialisation students take two exams in English - at the end of 4th and 6th semester). Those students who want to apply for the Air Traffic specializations are recommended to enrol "English language" as their first choice. This is, however, not a guarantee for being excepted in the project study.
 Our department provides courses in English, German, French and Russian at different levels. The courses are also taught in our multimedia laboratory. 15TVC1 Physical Education 1 The Department of Physical Education provides instruction in a wide variety of sports and games both in regular courses during the term and in winter and summer sport courses. Included are volleyball, basketball, football, tennis, table tennis, athletics, canoeing, orienteering, skiing, gymnastics, bodybuilding, squash, golf etc. The department closely cooperates with the Academic Sport Association of the Faculty of Civil Engineering in the field of recreational and competitive sport. 15TVC2 Physical Education 2 The Department of Physical Education provides instruction in a wide variety of sports and games both in regular courses during the term and in winter and summer sport courses. Included are volleyball, basketball, football, tennis, table tennis, athletics, canoeing, orienteering, skiing, gymnastics, bodybuilding, squash, golf etc. The department closely cooperates with the Academic Sport Association of the Faculty of Civil Engineering in the field of recreational and competitive sport. 17ZKP ΚZ 2 Introduction to Law Theoretical foundations of law. The rule of law. Constitutional law. Public law. Substantive and procedural civil law. Commercial law. Trading business. Building permit procedure. Criminal and violation law. Law of nations, European Union and community law. 18KD Kinematics and Dynamics 4 18KKM Metals and Metal Materials Z,ZK 3 18MLP Z,ZK 3 Materials for Aviation Industry Classification of materials for aviation industry. Special steels, mainly corrosion- resistant steels, and their heat treatnent. Al-alloys. Mg-alloys. Changes of mechanical properties during processing. Deterioration of materials. Properties of polymeric materials. Composites. 18SMT Special Materials and Technologies Z,ZK 3 18SP Statics and Elasticity Z,ZK 4 18TEDL Technical documentation in Avionics ΚZ 3 Technical Standards applies on technical drawings in aerospace manufacture. International Standards and European Standards, Technical documents, handling of computer-based technical information, management data for technical documents. Technical drawings of airframes and its parts, technical drawings of parts of aircraft engines. Representation of parts made of composite materials in technical drawings. Diagrams. Accuracy of machine parts. 20ELT1 Z,ZK 4 Electrotechnics 1 Basic terms from theory of electrical circuits. Definitions of circuit variables and elements. Physical principles of electrotechnics. Generation of static electricity. Issue of direct current (sources, circuits). 20ZDT **Basics of Digital Technics** Z,ZK 20ZENT Basic Electronics Z.ZK 3 The subject is focused on switching elements, operational amplifier, generation harmonic and nonharmonic signals, sources, conduction of high frequencies signals. Analog-Digital and Digital-Analog convertor. Extensive part is also dedicated to digital logical circuits and microprocessors. Foundations of Electrical Engineering Basic terms of electrical engineering, analysis of linear circuits with resistors, inductors and capacitors supplied with DC/AC sources, including transient phenomena. Basic electrical measurements. Energy sources, transformers, converters, rotary machines (DC, AC, asynchronous, synchronous, step motors). Safety at work with electrical installation (electrical engineering qualification). 21EPS1 Electronical Instrument Systems 1 Z,ZK 3 21LC1 Human Factor 1 7K 4 3 21LC2 Human Factor in Aviation 2 K7 21LEG1 Aviation Legislation 1 Z.ZK 6 21LEG2 Aviation Legislation 2 Z.ZK 3 21LLA1 ΚZ Aircraft 1 high speed aircraft, wings with changeable geometry, direct lift control, wing mechanization, increase of lift and drag, longitudinal stability and control, flaps, spoilers, interceptors,

Evolution of aircraft constructions, aircraft classification, basic parts of aircraft and their function, wings of low speed aircraft - construction scheme, shapes and components, wings of

ailerons.

\r\nThe lector of this subject has to have passed an exam at CAA following JAR - FCL 1.

21LP	Aircraft Propulsions	Z,ZK	4
21PU1	Maintenance Procedures 1	KZ	2
21PU2	Maintenance Procedures 2	KZ	4
21ZLU1	Principles of Flight 1	KZ	4

Aerodynamic drag, relation between drag and speed, air flow, formula of continuity, formula of Bernoulli, lift and drag, air flow and pressures around wing, angle of attack, reactions of a wing in air flow, lift and drag of a wing and a aircraft, coefficient of lift and drag, critical angle of attack, wing with final span, induced drag, interference, devices for lift and drag increase

\r\nThe lector of this subject has to have passed an exam at CAA following JAR - FCL 1.

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