Study plan

Name of study plan: Bachelor PIL (EN) Full-Time from 2024/25

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Professional Pilot Type of study: Bachelor full-time

Required credits: 178
Elective courses credits: 2
Sum of credits in the plan: 180

Note on the plan:

Name of the block: Compulsory courses Minimal number of credits of the block: 168

The role of the block: Z

Code of the group: 1S-BP-PIL-EN-23/24

Calculus 1

navigation, radionavigation, VFR communication, flight planning and monitoring and human factor.

Name of the group: 1st Sem. Bachelor Full-Time PIL (EN) from 2023/24 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 7 courses

Credits in the group: 30 Note on the group:

11CAL1-E

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-E	Calculus 1 Ond ej Navrátil, Magdalena Hykšová Magdalena Hykšová Ond ej Navrátil (Gar.)	Z,ZK	7	2P+4C+22B	Z	Z
11LA-E	Linear Algebra Martina Be vá ová Martina Be vá ová (Gar.)	Z,ZK	3	2P+1C+10B	Z	Z
210BN-E	General Navigation Denisa Svobodová Denisa Svobodová	ZK	5	4P+0C	Z	Z
21VFRC-E	VFR Communication Milan Kameník Milan Kameník	Z,ZK	4	2P+1C	Z	Z
21VFRT-E	Theory for VFR Training Filip Bart n k Filip Bart n k	Z,ZK	6	4P+4C	Z	Z
11GIE-E	Geometry Šárka Vorá ová Šárka Vorá ová Šárka Vorá ová (Gar.)	KZ	3	2P+2C+12B	Z	Z
15JP1A-E	Foreign Language - English for PIL 1 Marek Tome ek, Dana Boušová, Jitka He manová, Eva Rezlerová, Markéta Musilová, Markéta Vojanová, Lenka Monková Markéta Musilová	Z	2	0P+2C	Z	Z

Characteristics of the courses of this group of Study Plan: Code=1S-BP-PIL-EN-23/24 Name=1st Sem. Bachelor Full-Time PIL (EN) from 2023/24

Z,ZK

Sequence of real n	umbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Geometric properties	of n-dimensional Euklic	dean space and
Cartesian coordina	te system. Geometric meaning of the differential of functions several real variables, differential calculus of functions of severa	al real variables.	
11LA-E	Linear Algebra	Z,ZK	3
Vector spaces (line	ar combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations	and their solvability. De	terminants and
their applications. S	Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classification.		
21OBN-E	General Navigation	ZK	5
The Earth: latitude	and longitude. Reference systems. Circles on the Earth and distance. Calculations. Time. Magnetism and sirections. Wind an	d Speed: Course, head	ling, track.
Calculations: navig	ation computer conversions, TAS, rates. Calculations: 1 in 60 and navigation computer track and GS. Projections. Charts. VFF	R navigation. Nav Log p	reparation and
use. Navigation dis	play. Navigation in remote and oceanic areas.		
21VFRC-E	VFR Communication	Z,ZK	4
Course contents ar	e based on PART FCL, part 090. It defines terms and abbreviations used in VFR communication. Phraseology and procedure	es in standard and non	-standard
situations.			
21VFRT-E	Theory for VFR Training	Z,ZK	6
Course content is b	pased on PPL(A) theory requirements according to Part-FCL. Lectures cover topics that are necessary to commence the prac	ctical part of ATP(A) tra	ining, such as
principles of flight,	airframe and powerplant, aircraft systems, instrumentation, mass and balance, performance, air law and ATC procedures, me	eteorology, operational	procedures,

11GIE-E Geometry 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 particle moving on a curved path. 15JP1A-E Foreign Language - English for PIL 1 Ζ

Improvement of language skills within spoken and written form of the language with the focus on aviation English. Practice of comprehension of authentic materials. Improvement of pronunciation and fluency of spoken language. Aviation phraseology in combination with general English. Revision and improvement of grammar structures, syntax and vocabulary. Topics related to air transport and occupation of pilot and air staff.

Code of the group: 2S-BP-PIL-EN-23/24

Topics related to air transport and occupation of pilot and air staff.

VFR route selection; position plotting.

Navigation Calculations

Name of the group: 2nd Sem. Bachelor Full-Time PIL (EN) from 2023/24 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 10 courses

Credits in the group: 30 Note on the group:

Note on the 9	<u> </u>	r			,	
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-E	Calculus 2 Ond ej Navrátil, Magdalena Hykšová Magdalena Hykšová Ond ej Navrátil (Gar.)	Z,ZK	5	2P+3C	L	Z
11STAT-E	Statistics Ivan Nagy, Tetiana Reznychenko Tetiana Reznychenko Evženie Uglickich (Gar.)	Z,ZK	4	2P+2C	L	Z
21HAV-E	Weight and Balance of Aircraft Ota Hajzler Denisa Svobodová Anna Polánecká (Gar.)	Z,ZK	3	2P+2C	L	Z
21LDA1-E	Aircraft 1 Vladimír Plos, Max Chopart Max Chopart Vladimír Plos (Gar.)	Z,ZK	3	2P+1C	L	Z
21LEY1-E	Air Law 1 Radoslav Zozu ák Radoslav Zozu ák (Gar.)	ZK	3	3P+0C	L	Z
21ZYT1-E	Principles of Flight 1 Vladimír Machula	Z,ZK	3	2P+1C	L	Z
15JP2A-E	Foreign Language - English for PIL 2 Marek Tome ek, Jitka He manová, Eva Rezlerová, Markéta Musilová, Markéta Vojanová, Lenka Monková, Jan Feit, Barbora Horá ková, Marie Michlová,	KZ	3	0P+2C	L	Z
21CON-E	Navigation Calculations Milan Kameník, Paul Rousseau Milan Kameník	KZ	2	0P+2C	L	Z
21LPX1-E	Flight Training 1 Iveta Kameníková, Jakub Hospodka	KZ	2	0P+1C	L	Z
21LAP1-E	Aviation English for Professional Pilot 1 Filip Havrda, Lukáš Zibner Filip Havrda	Z	2	0P+2C	L	Z

	Filip Havida, Lukas Zibriei Filip Havida		
Characteristics of	of the courses of this group of Study Plan: Code=2S-BP-PIL-EN-23/24 Name=2nd Sem. Back	nelor Full-Tim	e PIL (EN)
from 2023/24			
11CAL2-E	Calculus 2	Z,ZK	5
Indefinite integral, Ne	wonian integral, Riemannian integral of the function of one variable, improper Riemannian integral, Riemannian integral in Rn	. Parametric descr	iption of regular
k-dimensional surface	es in Rn, Riemannian integral over regular surfaces. Line and surface integrals of the second type, Stokes theorems, ordinary	differential equation	ns of the first
order, linear differenti	al equations with constant coefficients and its systems		
11STAT-E	Statistics	Z,ZK	4
Definition of probabilit	y, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimati	on. Testing of statis	tical hypothesis
•	lation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in line	ar regression, anal	ysis of variance
multiple regression, the	e use of matrices in regression.		
21HAV-E	Weight and Balance of Aircraft	Z,ZK	3
Basic terms of mass a	nd balance, basic aircraft masses, weighing and maximum aircrafts masses, overloading of aircraft, standard weights of passenge	r, baggage and cre	w, determination
of load of aircraft, fligh	nt documentation - loadsheet, trimsheet, securing of load, determination of centre of gravity, influence of centre of gravity posit	ion on aircarft perf	ormance.
21LDA1-E	Aircraft 1	Z,ZK	3
Aircraft structural and	conceptual design types - definitions and basic knowledge of the problem. Development of requirements, aircraft definitions ar	nd categorisation. A	Aircraft loadings
Systems of primary a	nd secondary airframe structure. Airframe and propulsion unit. Lectures are devoted to aeroplane topics.		
21LEY1-E	Air Law 1	ZK	3
Air Law; ICAO Doc 73	00; ICAO Doc 7500 and 9626; International Organizations: ICAO, IATA, EASA, EUROCONTROL; airworthiness; ICAO Annexe	s; Commission rec	gulation (EU)
965/2012			
21ZYT1-E	Principles of Flight 1	Z,ZK	3
Aerodynamic drag, re	lation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow an	d pressures aroun	d wing, angle of
attack, reactions of wi	ng in air flow, lift and drag of a wing and an aircraft, coefficient of lift and drag, critical angle of attack, wing with final span, indu	uced drag, interfere	ence, devices for
lift and drag increase.			
15JP2A-E	Foreign Language - English for PIL 2	KZ	3
Improvement of langu	age skills within spoken and written form of the language with the focus on aviation English. Practice of comprehension of aut	hentic materials. In	nprovement of
pronunciation and flue	ency of spoken language. Aviation phraseology in combination with general English. Revision and improvement of grammar str	ructures, syntax ar	nd vocabulary.

Projection of maps; times - UTC, Zulu, LT; positioning; sunrise and sunset; distance calculation; projection; maps and symbols; declination; speed; wind components and wind drift;

21LPX1-E Flight Training 1
Practical exercises for improvement of theoretical knowledge in a range of at least PPL(A) of the objects 010 - 090 in accordance with Part FCL. The basics of flight control, dual

Practical exercises for improvement of theoretical knowledge in a range of at least PPL(A) of the objects 010 - 090 in accordance with Part FCL. The basics of flight control, dual exercises, solo flights and navigation flights. This course is intended only for long-term student, who are in integrated pilots training and study all courses related to Study field PIL (Professional Pilot) in all three years.

21LAP1-E Aviation English for Professional Pilot 1 Z 2
Exercises focused on continuous reading specialized texts, vocabulary extension of technical English, terminology in the sphere of aircraft construction, principles of flight, aircraft engines, instruments and systems, analyzes relating to topics of air traffic, operational procedures, relevant legislation and operators procedures.

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

Name of the group: 3rd Sem. Bachelor Full-Time PIL (EN) 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:

and their features; terminology.

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-E	Physics Tomáš Vít , Antonio Cammarata, Jana Kuklová, Zuzana Malá Jana Kuklová Pavel Demo (Gar.)	Z,ZK	5	2P+2C+18E	B Z	Z
21LAP2-E	Aviation English for Professional Pilot 2 Filip Havrda	Z,ZK	3	0P+4C	Z	Z
21LDA2-E	Aircraft 2 Max Chopart, Michal erný	Z,ZK	4	2P+1C	Z	Z
21LPTY-E	Aircraft Operations Ladislav Capoušek Ladislav Capoušek	ZK	2	2P+0C	Z	Z
21PUP1-E	Instrumentation 1 Pavel Hovorka	ZK	3	2P+0C	Z	Z
21RNV-E	Radionavigation Jan Žižka Jan Žižka	Z,ZK	4	3P+1C	Z	Z
21VL-E	Aircraft Performance Denisa Svobodová Anna Polánecká	Z,ZK	4	2P+2C	Z	Z
21LPX2-E	Flight Training 2 Iveta Kameníková, Jakub Hospodka, Jakub Charezinski, Roman Matyáš Iveta Kameníková	KZ	2	0P+1C	Z	Z
15JZ3A-E	Foreign Language - English 3 Dana Boušová, Jitka He manová, Eva Rezlerová, Markéta Musilová, Markéta Vojanová, Lenka Monková, Jan Feit, Marie Michlová, Peter Morpuss	Z	3	0P+4C	Z	Z

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

from 2024/25			,
11FYZ-E	Physics	Z,ZK	5
Kinematics, particle dy	namics, dynamics of particle systems and rigid body. Continuum mechanics, thermodynamics.		1
21LAP2-E	Aviation English for Professional Pilot 2	Z,ZK	3
Exercises focused on r	epetition and smoother communication within VFR and IFR communication, communication with technical staff at the airport,	a fluent conversa	ition within the
airlines.			
21LDA2-E	Aircraft 2	Z,ZK	4
Manufacturers respons	bility, responsibilities of operator and professional supervising. Legislation in area of airworthiness. International and national	standards. Static :	solidity of aircraft
structures. Aeroelastici	ty. Inherent and operational reliability of aircraft structure. Fatigue strength. Aircraft structure lifetime presumption.		
21LPTY-E	Aircraft Operations	ZK	2
Aircraft oepration for cr	uise, approach, final approach, missed approach, hodling, PBN, augmented GNSS, aviation charts for IFR flight	•	
21PUP1-E	Instrumentation 1	ZK	3
Basic classification and	construction of flight instruments, electric systems, power plant sensors and instruments, airframe sensors and instruments, me	easurement of air	data parameters,
integrated instrument s	ystems.		
21RNV-E	Radionavigation	Z,ZK	4
Ground direction finder	(VDF), ADF, VOR and Doppler VOR, DME, ILS, MLS, ground ATC radar, weather Radar, SSR and transponder. Radar utilizate	tion for navigation	during the flight.
Area navigation (RNAV) - general philosophy, gauges and equipment, indication and sensors for RNAV, VOR/DME (RNAV). Autopilot and flight direc	tor. Satellite navig	jation, systems
and backups.			
21VL-E	Aircraft Performance	Z,ZK	4
Basic terms of aircraft p	performance, basic characteristic speeds, runway characteristics, single and multiengine aircraft performance class B, aircraft	performance class	s A, take off and
landing performance, a	fter take off and missed approach climb, noise abatement procedures, range of aircraft, drift down, MEL, ETOPS.		
21LPX2-E	Flight Training 2	KZ	2
Practical exercises for i	mprovement of theoretical knowledge in a range MEP land and IFR from the relevant subjects in accordance with Part FCL.	The basics of inst	rument flying,
	ncy procedures, descents and navigation flights. This course is intended only for long-term student, who are in integrated pilk	ots training and st	udy all courses
related to Study field P	IL (Professional Pilot) in all three years.		
15JZ3A-E	Foreign Language - English 3	Z	3
Grammar structure and	stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Facul	ty's fields of study	pilot. Focus on

improvement in perceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral and written form. Technical texts

Code of the group: 4S-BP-PIL-EN-24/25

Name of the group: 4th Sem. Bachelor Full-Time PIL (EN) from 2024/25 Requirement credits in the group: In this group you have to gain 28 credits

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

Credits in the group: 28 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
11EMO-E	Electromagnetic Field and Optics Tomáš Vít , Antonio Cammarata, Zuzana Malá Tomáš Vít Pavel Demo (Gar.)	Z,ZK	4	2P+1C	L	Z
21AFL1-E	Advanced Flying 1 Viktor Valenta Viktor Valenta	Z,ZK	3	2P+1C	L	Z
21MEE1-E	Meteorology 1 Milan Kameník, Iveta Kameníková Iveta Kameníková	Z,ZK	3	2P+2C	L	Z
21PML-E	Flight Planning and Monitoring Anna Polánecká Anna Polánecká	Z,ZK	3	2P+2C	L	Z
21PRJ2-E	Instrumentation 2 Pavel Hovorka Pavel Hovorka	ZK	3	2P+0C	L,Z	Z
14AP-E	Algorithm and Programming Vít Fábera, Michal Je ábek, Júlia Škovierová Vít Fábera Vít Fábera (Gar.)	KZ	4	2P+2C	L	Z
21IFRC-E	IFR Communication Milan Kameník Milan Kameník	KZ	2	1P+1C	L	Z
21LPX3-E	Flight Training 3 Iveta Kameníková, Jakub Hospodka	KZ	2	0P+1C	L	Z
21SBU1-E	Bachelor Thesis Seminar 1 Lenka Hanáková Lenka Hanáková	Z	1	1P+0C	L	Z
15JZ4A-E	Foreign Language - English 4 Jitka He manová, Eva Rezlerová, Markéta Musilová, Markéta Vojanová, Lenka Monková, Jan Feit, Barbora Horá ková, Marie Michlová, Peter Morpuss	Z,ZK	3	0P+4C	L	Z

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

11EMO-E	Electromagnetic Field and Optics	Z,ZK	4
Electric field. Electr	ic current. Magnetic field. Electromagnetic field. Optics. Basics of solid-state physics.	1 , 1	
21AFL1-E	Advanced Flying 1	Z,ZK	3
This course supple	ments Learning objectives laid down in Commission Regulation (EU) No 1178/2011. Instrument flying introduction, threat	and error management, pro	ocedures for
•	res, enroute flight, holdings and arrivals, instrument approaches, performance based navigation, weather consideration, f	light planning and monitorin	ng, effective
oriefings, phraseolo	ogy differences, lost communication procedures, CFIT prevention, decompresion		
21MEE1-E	Meteorology 1	Z,ZK	3
	and vertical structure of the atmosphere. QNH, QFE, QFF, QNE, density and height measurements. Wind, moisture and a	diabatic processes. Creatin	g and types o
cloud, fog, haze. Pr	ecipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-frontal cyclone.		
21PML-E	Flight Planning and Monitoring	Z,ZK	3
Flight planning for \	/FR flights for small, single- and multi-engine aeroplanes		
21PRJ2-E	Instrumentation 2	ZK	3
Compass, gyroscop	oic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems,	warning systems (TCAS, C	PWS), AFC
autopilot, flight dire	ector, autothrust), FMS, flight envelope protection, communication systems, flight computers		
autopilot, flight dire	ector, autothrust), FMS, flight envelope protection, communication systems, flight computers Algorithm and Programming	KZ	4
14AP-E		1	-
14AP-E Computers, data re	Algorithm and Programming	arching and sorting algorith	nms, abstract
14AP-E Computers, data re data types (set, tup	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, se	arching and sorting algorith	nms, abstract
14AP-E Computers, data re data types (set, tup programming	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, se	arching and sorting algorith	nms, abstract
14AP-E Computers, data re data types (set, tup programming 21IFRC-E	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, seple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with	arching and sorting algorith h files, instroduction into ob	nms, abstract ject oriented
14AP-E Computers, data re data types (set, tup programming 21IFRC-E Definitions, Terms, A	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, seple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with IFR Communication	arching and sorting algorith h files, instroduction into ob	nms, abstract ject oriented
14AP-E Computers, data re data types (set, tup programming 21IFRC-E Definitions, Terms, or IFR flights, Rada	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, seple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working wit IFR Communication Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time a	arching and sorting algorith h files, instroduction into ob	nms, abstract ject oriented
14AP-E Computers, data re data types (set, tup programming 21IFRC-E Definitions, Terms, a or IFR flights, Rada 21LPX3-E	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, see ple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working wit IFR Communication Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time a procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and	arching and sorting algorith h files, instroduction into ob KZ nd symbols, Standard word d emergency situations.	nms, abstract ject oriented 2 Is and phrase
14AP-E Computers, data re data types (set, tup programming 21IFRC-E Definitions, Terms, a or IFR flights, Rada 21LPX3-E Deepening of theor	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, se ple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working wit IFR Communication Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time a ar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal an Flight Training 3	arching and sorting algorith h files, instroduction into ob KZ nd symbols, Standard word d emergency situations.	nms, abstract ject oriented 2 Is and phrase
14AP-E Computers, data re data types (set, tup programming 21IFRC-E Definitions, Terms, a or IFR flights, Rada 21LPX3-E Deepening of theor 21SBU1-E	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, se ple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working wit IFR Communication Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time a ar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal an Flight Training 3 etical knowledge and practical examination of progress in professional competence in pilot skills and knowledge	arching and sorting algorith h files, instroduction into ob KZ and symbols, Standard word d emergency situations.	nms, abstract pject oriented 2 Is and phrase 2
14AP-E Computers, data re data types (set, tup programming 21IFRC-E Definitions, Terms, a or IFR flights, Rada 21LPX3-E Deepening of theor 21SBU1-E Types of thesis (rev	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, see ple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working wit IFR Communication Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time a procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal an Flight Training 3 etical knowledge and practical examination of progress in professional competence in pilot skills and knowledge Bachelor Thesis Seminar 1	arching and sorting algorith h files, instroduction into ob KZ and symbols, Standard word d emergency situations. KZ	nms, abstract pject oriented 2 Is and phrase
14AP-E Computers, data re data types (set, tup programming 21IFRC-E Definitions, Terms, a or IFR flights, Rada 21LPX3-E Deepening of theor 21SBU1-E Types of thesis (rev o cite). Analyzing the	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, see ple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working wit IFR Communication Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time a air procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal an Flight Training 3 etical knowledge and practical examination of progress in professional competence in pilot skills and knowledge Bachelor Thesis Seminar 1 riew, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources)	arching and sorting algorith h files, instroduction into ob KZ and symbols, Standard word d emergency situations. KZ	nms, abstract pject oriented 2 Is and phrase
AAP-E Computers, data re lata types (set, tup programming 21IFRC-E Definitions, Terms, a por IFR flights, Rada 21LPX3-E Deepening of theor 21SBU1-E Types of thesis (rev to cite). Analyzing the	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, see ple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working wit IFR Communication Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time a ar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal an Flight Training 3 etical knowledge and practical examination of progress in professional competence in pilot skills and knowledge Bachelor Thesis Seminar 1 riew, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation source the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis	arching and sorting algorith h files, instroduction into obtending the files, instruction of the files, in	anns, abstractification of the control of the contr
14AP-E Computers, data re data types (set, tup programming 21IFRC-E Definitions, Terms, A for IFR flights, Rada 21LPX3-E Deepening of theor 21SBU1-E Types of thesis (rev to cite). Analyzing the 15JZ4A-E Grammar structure	Algorithm and Programming presentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, see ple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working wit IFR Communication Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time a ar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal an Flight Training 3 etical knowledge and practical examination of progress in professional competence in pilot skills and knowledge Bachelor Thesis Seminar 1 riew, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation source the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis Foreign Language - English 4	arching and sorting algorith h files, instroduction into ob KZ KZ nd symbols, Standard word d emergency situations. KZ Z es, citation databases, citatimethodology. Z,ZK e Faculty's fields of study -	nms, abstract 2 Is and phrase 2 In the phrase of the phr

Code of the group: 5S-BP-PIL-EN-25/26

Name of the group: 5th Sem. Bachelor Full-Time PIL (EN) from 2025/26 Requirement credits in the group: In this group you have to gain 24 credits

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

Credits in the group: 24 Note on the group:

21LEY2-E

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
21LEY2-E	Air Law 2	ZK	3	3P+0C	Z	Z
21LILE-E	Human Factors in Aviation	KZ	3	4P+0C	Z	Z
21MET2-E	Meteorology 2 Iveta Kameniková Iveta Kameniková	Z,ZK	5	2P+2C	Z	Z
21PPY1-E	Operational Procedures 1 Ladislav Capoušek Ladislav Capoušek	Z,ZK	3	2P+1C	Z	Z
21PRKP-E	Practical Flight Planning Anna Polánecká, Jakub Hospodka Ota Hajzler	Z,ZK	4	2P+2C	Z	Z
21ZYT2-E	Principles of Flight 2 Vladimír Machula	Z,ZK	3	2P+1C	Z	Z
21LPX4-E	Flight Training 4 Iveta Kameníková, Jakub Hospodka, Jakub Charezinski, Roman Matyáš Iveta Kameníková	KZ	2	0P+1C	Z	Z
21SBU2-E	Bachelor Thesis Seminar 2	Z	1	1P+0C	Z	Z

Characteristics of the courses of this group of Study Plan: Code=5S-BP-PIL-EN-25/26 Name=5th Sem. Bachelor Full-Time PIL (EN) from 2025/26

ZK

3

The course is focuse	d on the issue of commercial commercial air transport in accordance with applicable European legislation. Within the course, t	the issue of EC regulation	one ie analyz
	/2012, regulation no. 1321/2014 and ICAO Annexes, which significantly affect the form, method and structure of commercial	•	
21LILE-E	Human Factors in Aviation	KZ	3
	iation. Breathing, atmosphere. Heart and circulation. Radiation. Human sensory organs, nervous system. Vision, hearing, illu		Ū
	ep. Information processing, human error. Cockpit management. Behaviour and workload. Automation. Core competencies.	Sions. Health and hygie	sne, laligue,
21MET2-E	Meteorology 2	Z,ZK	5
	cal climatology, meteorological situation of mid-latitudes. Icing, turbulence, wind shear, thunderstorms, tornadoes, flying in the	1 '	_
	enomena. Observation, weather maps, important information for flight planning.	To ottatoop.io.o, iiioaiit	u u. ouo,
1PPY1-E	Operational Procedures 1	Z,ZK	3
Annex 6, PART-OPS	, Air operator, Aircraft operation, Operating procedures, Airplane equipment, Flight management, Airspace		
1PRKP-E	Practical Flight Planning	Z,ZK	4
. mass and balance	e 2. fuel planning, PDP, RIF,RCF 3. ATC FPL 4. Preflight procedure and briefing-NOTAM + weather(METAR,SIGMET) 5. Jep	pesen charts 6. VFR fl	ight planning
heory 7. VFR flight	olanning- ICAO mapa, softwary 8. IFR flight planning- theory 9. PBN- RNAV, RNP 10. IFR flight planning- softwary 11. MRJT	- OFP 12. ETOPS a NA	AT HLA 13.
PET, PSR, PNR 14.	practical VFR a IFR flight planning		
21ZYT2-E	Principles of Flight 2	Z,ZK	3
Vays of producing tl	nrust, propeller, jet propulsion, thrust and momentum, propulsion efficiency, aerodynamics of fixed and variable pitch propelle	r, propeller operation m	odes, prope
irstream effect, gyr	oscopic effect, balance of forces in horizontal flight, glide and landing, performances, take off an climb, acceleration, positive	load, manoevures, sta	bility and
ontrollability, transs	onic speeds.		
21LPX4-E	Flight Training 4	KZ	2
Deepening of theore	tical knowledge and practical examination of progress in professional competence in pilot skills and knowledge	<u>'</u>	
21SBU2-E	Bachelor Thesis Seminar 2	Z	1
Nethodology of thes	is writing (introduction, analysis of the current state, specification of the problem, objectives and hypotheses). Definition of m	naterials and methods,	approach to
btaining results, pr	esentation and discussion of results, formulation of thesis conclusions, Basics of LaTeX, working with LaTeX and Word temp	late.	

Code of the group: 6S-BP-PIL-EN-25/26

Air Law 2

Name of the group: 6th Sem. Bachelor Full-Time PIL (EN) from 2025/26 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 9 courses

Credits in the group: 26

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
11MSP-E	Modeling of Systems and Processes Jana Kuklová	Z,ZK	4	2P+2C	L	Z
21ELDO-E	Air Transport Economy	Z,ZK	3	3P+1C	L	Z
21KPSL-E	Communication and Surveillance Systems in Aviation Jakub Steiner Jakub Steiner	ZK	3	2P+0C	L	Z
21LCM-E	Aircraft Engines Vladimír Machula Jakub Kraus (Gar.)	Z,ZK	3	2P+1C	L	Z
21LEIS-E	Aerodromes Ladislav Capoušek, Slobodan Stoji Ladislav Capoušek	Z,ZK	3	2P+1C	L	Z

21PKL2-E	Advanced Flying 2 Viktor Valenta Viktor Valenta	ZK	2	2P+0C	L,Z	Z
21PRY2-E	Operational Procedures 2	ZK	3	3P+0C	L	Z
21KSA-E	KSA Assessment	KZ	2	0P+2C	L	Z
21LPX5-E	Flight Training 5 Iveta Kameníková, Jakub Hospodka	KZ	2	0P+1C	L	Z
21LVIP-E	MCC - Multicrew Cooperation	KZ	2	2P+1C	L	Z
21SBU3-E	Bachelor Thesis Seminar 3	Z	1	1P+0C	L	Z

Characteristics of the courses of this group of Study Plan: Code=6S-BP-PIL-EN-25/26 Name=6th Sem. Bachelor Full-Time PIL (EN) from 2025/26

MSP-E Modeling of Systems and Processes Z,ZK nematical methods and algorithms as a basis for system analysis. Methods for modelling and evaluating the systems in continuous and discrete time domain. Laplace transform, and the recursive algorithms in solution of differential and difference equations, as an instrument for system description. Practical use of technical computing environment terminology used in air transport. Economy Z,ZK nomic terminology used in air transport. Basic microeconomic laws. Division of the economic disciplines. Economy carrier. Economic indicators in the management of air ness activities in air transport. WPSL-E Communication and Surveillance Systems in Aviation ZK course acquaints students with communication and surveillance systems both from the perspective of the air segment (aircraft systems) and from the perspective of grostructure (ground systems), which together create the necessary prerequisites for ensuring safe, efficient and economical air transport. WMSL-E Aircraft Engines Z,ZK raft piston engine, theoretical background, operational characteristics and construction schemes. Propellers, operational characterictics. Turbine engine, theoretical background schemes, operational characteristics. Turbojet and turbofan engines, basic construction modules, and their operational characteristics. Engine of the stransport Z,ZK raft piston engine, theoretical background, operational characteristics. Turbojet and turbofan engines, basic construction modules, and their operational characteristics. Engine of the definitions. Applicability. Airport design. Reference code. Declared distances of runways (RWY). Taxiways and aprons. Clearway. Stopway. Markings of movement areas kings. Signs. Markers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting systems. Visual approach slope erms. Runway lights. Taxiway lights. Visual aids for denoting obstacles.	3 transport 3 ound 3 aground, control. 3 is.
Insform, and the recursive algorithms in solution of differential and difference equations, as an instrument for system description. Practical use of technical computing entrals). ELDO-E Air Transport Economy Z,ZK Inomic terminology used in air transport. Basic microeconomic laws. Division of the economic disciplines. Economy carrier. Economic indicators in the management of air ness activities in air transport. INDICATE Communication and Surveillance Systems in Aviation ZK Indicate a course acquaints students with communication and surveillance systems both from the perspective of the air segment (aircraft systems) and from the perspective of grostructure (ground systems), which together create the necessary prerequisites for ensuring safe, efficient and economical air transport. INDICATE Aircraft Engines Z,ZK Indicate a construction schemes, operational characteristics and construction schemes. Propellers, operational characterictics. Turbine engine, theoretical background, operational characteristics. Engine of the secondary of the secon	3 transport 3 ound 3 aground, control. 3 is.
ELDO-E Air Transport Economy Z,ZK nomic terminology used in air transport. Basic microeconomic laws. Division of the economic disciplines. Economy carrier. Economic indicators in the management of air ness activities in air transport. KPSL-E Communication and Surveillance Systems in Aviation ZK course acquaints students with communication and surveillance systems both from the perspective of the air segment (aircraft systems) and from the perspective of ground systems), which together create the necessary prerequisites for ensuring safe, efficient and economical air transport. CM-E Aircraft Engines Z,ZK raft piston engine, theoretical background, operational characteristics and construction schemes. Propellers, operational characterictics. Turbine engine, theoretical background cycles, construction schemes, operational characteristics. Engine or EIS-E Aerodromes Z,ZK c definitions. Applicability. Airport design. Reference code. Declared distances of runways (RWY). Taxiways and aprons. Clearway. Stopway. Markings of movement areaskings. Signs. Markers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting systems. Visual approach slopes	3 apund 3 aground, control. 3 ass.
ELDO-E Air Transport Economy Z,ZK nomic terminology used in air transport. Basic microeconomic laws. Division of the economic disciplines. Economy carrier. Economic indicators in the management of air ness activities in air transport. KPSL-E Communication and Surveillance Systems in Aviation ZK course acquaints students with communication and surveillance systems both from the perspective of the air segment (aircraft systems) and from the perspective of grostructure (ground systems), which together create the necessary prerequisites for ensuring safe, efficient and economical air transport. CM-E Aircraft Engines Z,ZK raft piston engine, theoretical background, operational characteristics and construction schemes. Propellers, operational characterictics. Turbine engine, theoretical background cycles, construction schemes, operational characteristics. Engine or EIS-E Aerodromes Z,ZK c definitions. Applicability. Airport design. Reference code. Declared distances of runways (RWY). Taxiways and aprons. Clearway. Stopway. Markings of movement areaskings. Signs. Markers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting systems. Visual approach slopes	3 aground, control. 3 as.
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RPSL-E Communication and Surveillance Systems in Aviation course acquaints students with communication and surveillance systems both from the perspective of the air segment (aircraft systems) and from the perspective of grostructure (ground systems), which together create the necessary prerequisites for ensuring safe, efficient and economical air transport. CM-E Aircraft Engines aft piston engine, theoretical background, operational characteristics and construction schemes. Propellers, operational characterictics. Turbine engine, theoretical background cycles, construction schemes, operational characteristics. Engine or EIS-E Aerodromes c definitions. Applicability. Airport design. Reference code. Declared distances of runways (RWY). Taxiways and aprons. Clearway. Stopway. Markings of movement areaskings. Signs. Markers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting systems. Visual approach slopes	3 ground, control. 3 as.
CPSL-E Communication and Surveillance Systems in Aviation course acquaints students with communication and surveillance systems both from the perspective of the air segment (aircraft systems) and from the perspective of grostructure (ground systems), which together create the necessary prerequisites for ensuring safe, efficient and economical air transport. CM-E Aircraft Engines caft piston engine, theoretical background, operational characteristics and construction schemes. Propellers, operational characterictics. Turbine engine, theoretical background cycles, construction schemes, operational characteristics. Engine of the construction schemes. EIS-E Aerodromes c definitions. Applicability. Airport design. Reference code. Declared distances of runways (RWY). Taxiways and aprons. Clearway. Stopway. Markings of movement areaskings. Signs. Markers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting systems. Visual approach slopes	3 aground, control. 3 as.
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EIS-E Aerodromes C definitions. Applicability. Airport design. Reference code. Declared distances of runways (RWY). Taxiways and aprons. Clearway. Stopway. Markings of movement areasings. Signs. Markers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting systems. Visual approach slopes.	3 ıs.
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kings. Signs. Markers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting systems. Visual approach slope	
	e indicato
ems. Runway lights. Taxiway lights. Visual aids for denoting obstacles.	
PKL2-E Advanced Flying 2 ZK	2
rning objectives are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine aircraft and jet aircraft characte	eristics,
gy management, stabilized approach and landing errors, jet - performance - engine out flight, jet - handling - engine out flight go around, UPRT, volcanic ash, cold weath	her
ations, operation manuals, MEL procedures and deviations, flight time limitation	
PRY2-E Operational Procedures 2 ZK	3
nt documentation and manuals, Icing and protection of the aircraft against icing, noise abatement procedures, Abnormal and emergency situations and procedures, Run	iway
amination	
KSA-E KSA Assessment KZ	2
munication. Management of flight path. Automation of flight. Leadership and teamwork. Problem solving. Decision making. Situation awarness. Workload management. I	Upset
entation and recovery training. Mental math.	
PX5-E Flight Training 5 KZ	2
pening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge	
VIP-E MCC - Multicrew Cooperation KZ	2
nt safety analysis in relation to human factor. MCC - basic principles, phases and methods within the area of air transport. CRM - leadership, situational awareness, decision	on making
ess, communication, effect of stress to the multi-crew performance, standard operational procedures, automation.	,
SBU3-E Bachelor Thesis Seminar 3 Z	1
nal and graphic design of the thesis. Data collection and presentation, basic statistical reasoning, validation of results and designs. Achieving the objectives of the thesis	and

Name of the block: Semestrální projekt Minimal number of credits of the block: 6

The role of the block: ZP

Code of the group: X1-BP-PIL-EN-22/23

Name of the group: Research Groups Bachelor Full-Time PIL (EN) 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 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
11X31-E	Project 1	Z	2	0P+1C	L	ZP
12X31-E	Project 1	Z	2	0P+1C	L	ZP
14X31-E	Project 1	Z	2	0P+1C	L	ZP
15X31-E	Project 1	Z	2	0P+1C	L	ZP

				, , ,		
16X31-E	Project 1	Z	2	0P+1C	L	ZP
17X31-E	Project 1	Z	2	0P+1C	L	ZP
18X31-E	Project 1	Z	2	0P+1C	L	ZP
20X31-E	Project 1	Z	2	0P+1C	L	ZP
21X31-E	Project 1 Jakub Hospodka, Lenka Hanáková, Jakub Kraus, Slobodan Stoji , Peter Vittek, Natalia Guskova, Kate ina Grötschelová, Terézia Pilmannová, Lukáš Popek	Z	2	0P+1C	L	ZP
22X31-E	Project 1	Z	2	0P+1C	L	ZP
23X31-E	Project 1	Z	2	0P+1C	L	ZP
11X32-E	Project 2	Z	2	0P+2C	Z	ZP
12X32-E	Project 2	Z	2	0P+2C	Z	ZP
14X32-E	Project 2	Z	2	0P+2C	Z	ZP
15X32-E	Project 2	Z	2	0P+2C	Z	ZP
16X32-E	Project 2	Z	2	0P+2C	Z	ZP
17X32-E	Project 2	Z	2	0P+2C	Z	ZP
18X32-E	Project 2	Z	2	0P+2C	Z	ZP
20X32-E	Project 2	Z	2	0P+2C	Z	ZP
21X32-E	Project 2 Jakub Hospodka, Lenka Hanáková, Peter Vittek, Terézia Pilmannová, Bo Stloukal, Andrej Lališ	Z	2	0P+2C	Z	ZP
22X32-E	Project 2	Z	2	0P+2C	Z	ZP
23X32-E	Project 2	Z	2	0P+2C	Z	ZP
11X33-E	Project 3	Z	2	0P+1C	L	ZP
12X33-E	Project 3	Z	2	0P+1C	L	ZP
14X33-E	Project 3	Z	2	0P+1C	L	ZP
15X33-E	Project 3	Z	2	0P+1C	L	ZP
16X33-E	Project 3	Z	2	0P+1C	L	ZP
17X33-E	Project 3	Z	2	0P+1C	L	ZP
18X33-E	Project 3	Z	2	0P+1C	L	ZP
20X33-E	Project 3	Z	2	0P+1C	L	ZP
21X33-E	Project 3 Max Chopart, Jakub Hospodka, Lenka Hanáková, Peter Vittek, Kate ina Grötschelová, Terézia Pilmannová, Bo Stloukal, Andrej Lališ, Vladimír Socha	Z	2	0P+1C	L	ZP
22X33-E	Project 3	Z	2	0P+1C	L	ZP
23X33-E	Project 3	Z	2	0P+1C	L	ZP

Characteristics of the courses of this group of Study Plan: Code=X1-BP-PIL-EN-22/23 Name=Research Groups Bachelor Full-Time PIL (EN) from 2022/23

11X31-E	Project 1	Z	2
12X31-E	Project 1	Z	2
14X31-E	Project 1	Z	2
15X31-E	Project 1	Z	2
16X31-E	Project 1	Z	2
17X31-E	Project 1	Z	2
18X31-E	Project 1	Z	2
20X31-E	Project 1	Z	2
21X31-E	Project 1	Z	2
22X31-E	Project 1	Z	2
23X31-E	Project 1	Z	2
11X32-E	Project 2	Z	2
12X32-E	Project 2	Z	2
14X32-E	Project 2	Z	2
15X32-E	Project 2	Z	2
16X32-E	Project 2	Z	2
17X32-E	Project 2	Z	2
18X32-E	Project 2	Z	2
20X32-E	Project 2	Z	2
21X32-E	Project 2	Z	2
22X32-E	Project 2	Z	2
23X32-E	Project 2	Z	2
11X33-E	Project 3	Z	2

12X33-E	Project 3	Z	2
14X33-E	Project 3	Z	2
15X33-E	Project 3	Z	2
16X33-E	Project 3	Z	2
17X33-E	Project 3	Z	2
18X33-E	Project 3	Z	2
20X33-E	Project 3	Z	2
21X33-E	Project 3	Z	2
22X33-E	Project 3	Z	2
23X33-E	Project 3	Z	2

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 4

The role of the block: PV

Code of the group: Y1-BP-PIL-EN-24/25

Name of the group: Comp. Sel. Courses Bachelor Full-Time PIL (EN) from 2024/25

Requirement credits in the group: In this group you have to gain 4 credits

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

Credits in the group: 4 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
15Y1EH-E	European Integration within Historical Context Jan Feit	KZ	2	2P+0C	Z	PV
15Y1HE-E	Work Hygiene and Ergonomics in Traffic	KZ	2	2P+0C	Z	PV
15Y1ZV-E	East-West dichotomy: Prelude to the Cold War Marie Michlová	KZ	2	2P+0C	Z	PV
18Y1AM-E	Anatomy, Mobility and Safety of Man	KZ	2	2P+0C	Z	PV
18Y1EM-E	Experimental Methods in Mechanics	KZ	2	2P+0C	Z	PV
21Y1MJ-E	Matlab for projects	KZ	2	2P+0C	Z	PV
21Y1MP-E	Matlab for project-oriented study Lenka Hanáková, Vladimír Socha Vladimír Socha	KZ	2	2P+0C	Z	PV
21Y1OH-E	Airline Business and Operations Peter Olexa, Eva Endrizalová Peter Olexa	KZ	2	2P+0C	Z	PV
15Y1BO-E	Work Safety and Health Protection in Transportation	KZ	2	2P+0C	L	PV
15Y1HL-E	History of Civil Aviation	KZ	2	2P+0C	L	PV
17Y1LL-E	Logistics of Passenger and Freight Air Transport	KZ	2	2P+0C	L	PV
18Y1MT-E	Engineering Materials	KZ	2	2P+0C	L	PV
18Y1MX-E	Materials in Transportation	KZ	2	2P+0C	L	PV
18Y1PD-E	Computer Simulations in Transportation	KZ	2	2P+0C	L	PV
18Y1PS-E	Computer Simulations in Mechanics Petr Zlámal	KZ	2	2P+0C	L	PV
21Y1BC-E	Aviation safety and security	KZ	2	2P+0C	L	PV
21Y1BS-E	Unmanned aircraft systems 1 Michal erný, Jakub Kraus, Tomáš Tlu ho	KZ	2	2P+0C	L	PV
21Y1RZ-E	Human Resources Management	KZ	2	2P+0C	L	PV
00Y1XB	Active participation in a scientific project, workshop, short-term trip abroad Patrik Horaž ovský Patrik Horaž ovský (Gar.)	KZ	2	2P+0C		PV

Characteristics of the courses of this group of Study Plan: Code=Y1-BP-PIL-EN-24/25 Name=Comp. Sel. Courses Bachelor Full-Time PII (FN) from 2024/25

PIL (EN) from 202	4/25		
15Y1EH-E	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	n. Little Entente, its	s principles and
goals. Europe after Hitle	er's getting to power, system of bilateral agreements. Decline of the LN. Rearrangement of powers during WWII. Cold war an	d its consequence	s for Europe.
New quality of French-0	German relationship - a driving power of starting European integration.		
15Y1HE-E	Work Hygiene and Ergonomics in Traffic	KZ	2
Basic knowledge of occ	upational hygiene and ergonomics, and their application in transport. Working environment factors, and the influence of thes	e factors on healtl	h of workers.
Creation and protection	of working conditions that do not damage public health. Mutual links: man-machine-environment. Adaptation of technology t	o possibilities and	l skills of a man.
Practical examples from	n the field of transportation; relevant legislature.		

15Y1ZV-E	East-West dichotomy: Prelude to the Cold War	KZ	2
	East-vest dicriotorny. Freidde to the Cold vval plution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and co	1 1	-
· -	ury and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress,	=	
	I history. Social changes. Discussions on texts, sources.	, the causes and col	isequerices.
18Y1AM-E	Anatomy, Mobility and Safety of Man	KZ	2
	omical structure and growth of bones. Articular joint. Remodelling of bone tissue. Anatomical structure of muscles. Blood circular	1	-
-	nuscular-skeletal system. Injury of human organs and musculo-skeletal system during traffic accidents. Mobility of ill and inju	-	
	ctive means and traffic safety regulations.		
18Y1EM-E	Experimental Methods in Mechanics	KZ	2
-	of experimental mechanics. Sensors for mechanical testing. Overview of experimental methods. Destructive and non-destructive		
	es and sample preparation. Tensile and bending tests. Electrical resistance strain gages. Optical based strain measurement.		
	s testing. Introduction to electron microscopy. Errors in measurement.	J	,
21Y1MJ-E	Matlab for projects	KZ	2
-	is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exerc	1 1	· -
	ased on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improve		_
21Y1MP-E	Matlab for project-oriented study	KZ	2
	is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exerc	1 1	-
	ased on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improve		_
21Y1OH-E	Airline Business and Operations	KZ	2
	comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses on the org	1	
•	strategy, economic and operational indicators. It introduces students in detail to operational processes and the essentials of tr	_	-
•	nomic aspects of air transport.		
5Y1BO-E	Work Safety and Health Protection in Transportation	KZ	2
	e, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation		
•	me and foreign business trips, statistics, working practice.	riodiii protodiio	programmos,
5Y1HL-E	History of Civil Aviation	KZ	2
-	ps of aircrafts heavier than air. Czechoslovak aviation pioneers. Development of airports in the Czech Republic. World airport	1 1	
_	s aviators. Classic era of aviation. Golden era of civil aviation. Supersonic flying. Modern era of civil aviation. Flying in the wo		ia. Froncoptore
17Y1LL-E	Logistics of Passenger and Freight Air Transport	KZ	2
	nger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial	1 1	
-	systems in air transport. Global distribution systems.	transport process p	asserigers and
18Y1MT-E		KZ	2
-	Engineering Materials	1	-
-	f 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	•	iterition is paid
18Y1MX-E		KZ	2
_	Materials in Transportation	1 1	
-	f 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 selecti		iterition is paid
18Y1PD-E	Computer Simulations in Transportation	KZ	2
	w of programs for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model do	-	-
-	AE systems. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary uctural and modal analysis. Introduction to complex nonlinear problems.	Conditions and app	nication of the
	· · · · · · · · · · · · · · · · · · ·	1/7	
8Y1PS-E	Computer Simulations in Mechanics	KZ	2
	w of programs for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model do AE systems. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary		-
	• • •	Conditions and app	nication of the
	uctural and modal analysis. Introduction to complex nonlinear problems.	1/7	
21Y1BC-E	Aviation safety and security	KZ	2
	ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s		
21Y1BS-E	Unmanned aircraft systems 1	KZ	2
	evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division.	. Operational risks a	nd operational
procedures. Practical f		1	
21Y1RZ-E	Human Resources Management	KZ	2
The position of human	resources in the organization and related disciplines file. Substance, importance and challenges of human resources management of the organization and related disciplines file. Substance, importance and challenges of human resources management of the organization and related disciplines file.	=	
			aff Positioning
	resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation an	a remuneration of s	an. i osmornių
	resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation an ncies of employees. Education of employees. Planning career management. Active participation in a scientific project, workshop, short-term trip abroad	KZ	2

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-PIL-EN

Name of the group: Bachelor Full-Time PIL (EN) 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
11SEMO-E	Seminar of Electromagnetic Field and Optics Tomáš Vít , Antonio Cammarata, Zuzana Malá Tomáš Vít Tomáš Vít (Gar.)	Z	0	0P+2C	L	V
11SCFZ-E	Seminar of Physics Tomáš Vít , Antonio Cammarata, Jana Kuklová, Zuzana Malá Tomáš Vít Tomáš Vít (Gar)	Z	0	0P+2C	Z	V

Characteristics of the courses of this group of Study Plan: Code=VP-BP-PIL-EN Name=Bachelor Full-Time PIL (EN) voluntary

11SEMO-E	Seminar of Electromagnetic Field and Optics	Z	0
Solving problems on ele	ectric and magnetic field, electromagnetic field, optics and basics of solid-state physics.	•	
11SCFZ-E	Seminar of Physics	Z	0
Solving problems on kir	nematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermodynamics.	,	,

List of courses of this pass:

	Name of the course	Completion	Credits
00Y1XB	Active participation in a scientific project, workshop, short-term trip abroad	KZ	2
•	Calculus 1 umbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Geometric properties of n-diman coordinate system. Geometric meaning of the differential of functions several real variables, differential calculus of functions of several real variables.		•
k-dimensional su	Calculus 2 Newtonian integral, Riemannian integral of the function of one variable, improper Riemannian integral, Riemannian integral in Rn. Par rfaces in Rn, Riemannian integral over regular surfaces. Line and surface integrals of the second type, Stokes theorems, ordinary differential equations with constant coefficients and its systems	erential equations	of the first
11EMO-E	Electromagnetic Field and Optics Electric field. Electric current. Magnetic field. Electromagnetic field. Optics. Basics of solid-state physics.	Z,ZK	4
11FYZ-E	Physics Kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermodynamics.	Z,ZK	5
11GIE-E Differential geome	Geometry try of curves - parameterization, the arc of the curve, torsion and curvature, Frenet's trihedron. Kinematics - a curve as a trajectory of acceleration of a particle moving on a curved path.	KZ f the motion, the ve	3 elocity, and
11LA-E Vector spaces (line	Linear Algebra ear combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and their their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classifications.	•	3 minants and
	Modeling of Systems and Processes hods and algorithms as a basis for system analysis. Methods for modelling and evaluating the systems in continuous and discrete tim e recursive algorithms in solution of differential and difference equations, as an instrument for system description. Practical use of tecl (MATLAB).	•	
11SCFZ-E	Seminar of Physics Solving problems on kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermody	Z namics.	0
11SEMO-E	Seminar of Electromagnetic Field and Optics		
	Solving problems on electric and magnetic field, electromagnetic field, optics and basics of solid-state physics.	Z	0
Regression and co	Statistics ility, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation. To rrelation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear remultiple regression, the use of matrices in regression.	Z,ZK esting of statistical	4 hypothesis.
Definition of probab Regression and co 11X31-E	Statistics ility, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation. To prelation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear remails multiple regression, the use of matrices in regression. Project 1	Z,ZK esting of statistical gression, analysis Z	4 hypothesis. of variance,
Definition of probab Regression and con 11X31-E 11X32-E	Statistics illity, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation. To prelation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear remultiple regression, the use of matrices in regression. Project 1 Project 2	Z,ZK esting of statistical gression, analysis Z Z	4 hypothesis. of variance, 2 2
Definition of probab Regression and co 11X31-E 11X32-E 11X33-E	Statistics Statistics	Z,ZK esting of statistical gression, analysis Z Z Z	4 hypothesis. of variance,
Definition of probab Regression and con 11X31-E 11X32-E	Statistics illity, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation. To prelation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear remultiple regression, the use of matrices in regression. Project 1 Project 2	Z,ZK esting of statistical gression, analysis Z Z	4 hypothesis. of variance, 2 2
Definition of probab Regression and co 11X31-E 11X32-E 11X33-E	Statistics Statistics	Z,ZK esting of statistical gression, analysis Z Z Z	4 hypothesis. of variance, 2 2 2
Definition of probab Regression and con 11X31-E 11X32-E 11X33-E 12X31-E	Statistics Statistics	Z,ZK esting of statistical gression, analysis Z Z Z Z	4 hypothesis. of variance, 2 2 2 2
Definition of probab Regression and con 11X31-E 11X32-E 11X33-E 12X31-E 12X32-E 12X33-E 14AP-E Computers, data r	Statistics iility, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation. To relation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear remultiple regression, the use of matrices in regression. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Algorithm and Programming epresentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching an pple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, insti	Z,ZK esting of statistical gression, analysis Z Z Z Z Z Z KZ d sorting algorithm	4 hypothesis. of variance, 2 2 2 2 2 4 as, abstract
Definition of probab Regression and con 11X31-E 11X32-E 11X33-E 12X31-E 12X32-E 12X33-E 14AP-E Computers, data r data types (set, tu	Statistics iility, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation. To relation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear remultiple regression, the use of matrices in regression. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Project 3 Algorithm and Programming epresentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching an pple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, inst programming	Z,ZK esting of statistical gression, analysis Z Z Z Z Z Z KZ d sorting algorithm	4 hypothesis. of variance, 2 2 2 2 2 4 as, abstract ct oriented
Definition of probab Regression and con 11X31-E 11X32-E 11X33-E 12X31-E 12X32-E 12X33-E 14AP-E Computers, data r	Statistics iility, random variable and its description, known distributions, random vector, function of random variable. Methods of point estimation. To relation, linear regression, correlation coefficient, coefficient of determination, the general linear model, statistical inference in linear remultiple regression, the use of matrices in regression. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Algorithm and Programming epresentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching an pple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, insti	Z,ZK esting of statistical gression, analysis Z Z Z Z Z Z d S KZ d sorting algorithm roduction into obje	4 hypothesis. of variance, 2 2 2 2 2 4 as, abstract

15JP1A-E	Foreign Language - English for PIL 1	Z	2
Improvement of la	inguage skills within spoken and written form of the language with the focus on aviation English. Practice of comprehension of authen	tic materials. Impr	rovement of
pronunciation and	f fluency of spoken language. Aviation phraseology in combination with general English. Revision and improvement of grammar struct	ures, syntax and	vocabulary.
	Topics related to air transport and occupation of pilot and air staff.		
15JP2A-E	Foreign Language - English for PIL 2	KZ	3
•	inguage skills within spoken and written form of the language with the focus on aviation English. Practice of comprehension of authen	•	
pronunciation and	I fluency of spoken language. Aviation phraseology in combination with general English. Revision and improvement of grammar struct	ures, syntax and	vocabulary.
	Topics related to air transport and occupation of pilot and air staff.		_
15JZ3A-E	Foreign Language - English 3	Z	3
	e and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's		
improvement in per	rceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral ar	d written form. Te	chnical texts
	and their features; terminology.		
15JZ4A-E	Foreign Language - English 4	Z,ZK	3
	and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's		
improvement in per	rceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral ar	d written form. Ie	chnical texts
	and their features; terminology.		
15X31-E	Project 1	Z	2
15X32-E	Project 2	Z	2
15X33-E	Project 3	Z	2
15Y1BO-E	Work Safety and Health Protection in Transportation	KZ	2
Fundamental legis	slative, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation. H	ealth protection pr	rogrammes,
	health insurance of home and foreign business trips, statistics, working practice.		
15Y1EH-E	European Integration within Historical Context	KZ	2
Versailles system,	formation of new states. Europe and the powers, League of Nations. European policy in the 1920s. Fascism, nacism, communism. Li	tle Entente, its pri	inciples and
goals. Europe afte	er Hitler's getting to power, system of bilateral agreements. Decline of the LN. Rearrangement of powers during WWII. Cold war and it	s consequences f	for Europe.
	New quality of French-German relationship - a driving power of starting European integration.		
15Y1HE-E	Work Hygiene and Ergonomics in Traffic	KZ	2
Basic knowledge	of occupational hygiene and ergonomics, and their application in transport. Working environment factors, and the influence of these	actors on health of	of workers.
Creation and prote	ection of working conditions that do not damage public health. Mutual links: man-machine-environment. Adaptation of technology to po	ssibilities and ski	lls of a man.
	Practical examples from the field of transportation; relevant legislature.		
15Y1HL-E	History of Civil Aviation	KZ	2
	nings of aircrafts heavier than air. Czechoslovak aviation pioneers. Development of airports in the Czech Republic. World airports. Air		Helicopters.
CS	A airplanes. Famous aviators. Classic era of aviation. Golden era of civil aviation. Supersonic flying. Modern era of civil aviation. Flyin		
	· · · · · · · · · · · · · · · · · · ·	=	
15Y1ZV-E	East-West dichotomy: Prelude to the Cold War	KZ	2
Historical prologue,	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing	KZ ty of the internatio	nal relations
Historical prologue,	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the	KZ ty of the internatio	nal relations
Historical prologue, in the end of 19th	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources.	KZ ty of the internation causes and cons	onal relations sequences.
Historical prologue, in the end of 19th	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1	KZ ty of the internation causes and cons	onal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2	KZ ty of the internatio causes and cons	pnal relations sequences.
Historical prologue, in the end of 19th	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1	KZ ty of the internation causes and cons	onal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2	KZ ty of the internatio causes and cons	pnal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E	East-West dichotomy: Prelude to the Cold War , evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1	KZ ty of the internation causes and cons Z Z Z	2 2 2
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E	East-West dichotomy: Prelude to the Cold War , evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2	KZ ty of the internatio causes and cons Z Z Z Z Z Z	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Project 2 Project 3 Project 3 Project 3	KZ ty of the internation causes and cons Z Z Z Z Z Z Z	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E 17Y1LL-E	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Project 3 Logistics of Passenger and Freight Air Transport	KZ ty of the internatio causes and cons Z Z Z Z Z Z Z KZ	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E 17Y1LL-E	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 2 Project 3 Logistics of Passenger and Freight Air Transport ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transport	KZ ty of the internatio causes and cons Z Z Z Z Z Z Z KZ	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E 17Y1LL-E Logistics airline pas	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuit century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Project 3 Logistics of Passenger and Freight Air Transport ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Global distribution systems.	KZ ty of the internation of causes and consists of causes of caus	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E 17Y1LL-E Logistics airline pas	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuit century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Project 3 Logistics of Passenger and Freight Air Transport ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transair cargo. Information systems in air transport. Global distribution systems. Project 1	KZ ty of the internation of causes and consists of causes and causes of causes of causes and causes of causes and causes of causes and causes of causes and causes of cause	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E 17Y1LL-E Logistics airline pas	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuit century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Logistics of Passenger and Freight Air Transport ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transair cargo. Information systems in air transport. Global distribution systems. Project 1 Project 2	KZ ty of the internation causes and consists and consists are caused and consists are caused and consists are caused and consists are caused as a caused and consists are caused as a caused are caused are caused as a caused are caused are caused are caused as a caused are caused are caused are caused as a caused are caused are caused are caused as a caused are	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E 17Y1LL-E Logistics airline pass 18X31-E 18X32-E 18X33-E	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Logistics of Passenger and Freight Air Transport ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transport air cargo. Information systems in air transport. Global distribution systems. Project 1 Project 2 Project 1 Project 1 Project 2 Project 3	KZ ty of the internation causes and consists and consists are causes and consists are caused and consists are caused and consists are caused and consists are caused as a caused and consists are caused as a caused and consists are caused as a caused are caused are caused as a caused are caused are caused as a caused are caused as a caused are caused are caused are caused as a caused are caused are caused are caused as a caused are caused are caused are caused are caused are caused as a caused are	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E 17Y1LL-E Logistics airline pass 18X31-E 18X32-E 18X33-E 18Y1AM-E	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuit century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Logistics of Passenger and Freight Air Transport ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transair cargo. Information systems in air transport. Global distribution systems. Project 1 Project 2 Project 3 Anatomy, Mobility and Safety of Man	KZ ty of the internation causes and consists and consists are causes and consists are caused and consi	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E 17Y1LL-E Logistics airline past 18X31-E 18X32-E 18X33-E 18Y1AM-E Survey of tissues. A	East-West dichotomy: Prelude to the Cold War , evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Logistics of Passenger and Freight Air Transport ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transport of the project 1 Project 1 Project 1 Project 1 Project 1 Project 1 Project 2 Project 3 Anatomy, Mobility and Safety of Man Anatomical structure and growth of bones. Articular joint. Remodelling of bone tissue. Anatomical structure of muscles. Blood circulation.	KZ ty of the internation causes and consist a cause	anal relations sequences.
Historical prologue, in the end of 19th 16X31-E 16X32-E 16X33-E 17X31-E 17X32-E 17X33-E 17Y1LL-E Logistics airline past 18X31-E 18X32-E 18X33-E 18Y1AM-E Survey of tissues. A	East-West dichotomy: Prelude to the Cold War, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and continuing century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, the Economic and financial history. Social changes. Discussions on texts, sources. Project 1 Project 2 Project 3 Project 1 Project 2 Project 3 Logistics of Passenger and Freight Air Transport seenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial transport air cargo. Information systems in air transport. Global distribution systems. Project 1 Project 2 Project 3 Anatomy, Mobility and Safety of Man Anatomical structure and growth of bones. Articular joint. Remodelling of bone tissue. Anatomical structure of muscles. Blood circulation of muscular-skeletal system. Injury of human organs and musculo-skeletal system during traffic accidents. Mobility of ill and injured muscular-skeletal system.	KZ ty of the internation causes and consist a cause	anal relations sequences.
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18Y1PS-E	Computer Simulations in Mechanics	KZ	2
	verview of programs for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model deve		
geometry from oth	er CAE systems. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary cor load. Basic tasks of structural and modal analysis. Introduction to complex nonlinear problems.	iditions and applic	ation of the
20X31-E	Project 1	Z	2
20X32-E	Project 2	<u>Z</u>	2
20X33-E	Project 3	<u>Z</u>	2
21AFL1-E	Advanced Flying 1	Z,ZK	3
	ements Learning objectives laid down in Commission Regulation (EU) No 1178/2011. Instrument flying introduction, threat and error		cedures for
instrument depart	tures, enroute flight, holdings and arrivals, instrument approaches, performance based navigation, weather consideration, flight plann briefings, phraseology differences, lost communication procedures, CFIT prevention, decompresion	ing and monitoring	g, effective
21CON-E	Navigation Calculations	KZ	2
, ,	s; times - UTC, Zulu, LT; positioning; sunrise and sunset; distance calculation; projection; maps and symbols; declination; speed; wind VFR route selection; position plotting.		wind drift;
21ELDO-E	Air Transport Economy	Z,ZK	3
	ogy used in air transport. Basic microeconomic laws. Division of the economic disciplines. Economy carrier. Economic indicators in the Business activities in air transport.	-	
21HAV-E	Weight and Balance of Aircraft	Z,ZK	3
	s and balance, basic aircraft masses, weighing and maximum aircrafts masses, overloading of aircraft, standard weights of passenger, ba ft, flight documentation - loadsheet, trimsheet, securing of load, determination of centre of gravity, influence of centre of gravity positic		
21IFRC-E	IFR Communication	KZ	2
	Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time and symbols		
	hts, Radar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and e		
21KPSL-E	Communication and Surveillance Systems in Aviation	ZK	3
The course acqu	uaints students with communication and surveillance systems both from the perspective of the air segment (aircraft systems) and from		of ground
21KSA-E	infrastructure (ground systems), which together create the necessary prerequisites for ensuring safe, efficient and economical air t KSA Assessment	KZ	2
	ן אסא אפסטרום וואר אינער א Management of flight path. Automation of flight. Leadership and teamwork. Problem solving. Decision making. Situation awarness. We	- -	. –
	preventation and recovery training. Mental math.	g	
21LAP1-E	Aviation English for Professional Pilot 1	Z	2
	d on continuous reading specialized texts, vocabulary extension of technical English, terminology in the sphere of aircraft construction		ht, aircraft
	engines, instruments and systems, analyzes relating to topics of air traffic, operational procedures, relevant legislation and operators		
21LAP2-E	Aviation English for Professional Pilot 2 I on repetition and smoother communication within VFR and IFR communication, communication with technical staff at the airport, a	Z,ZK	within the
Exercises resuces	airlines.	naoni oonvordanoi	· widiiii dio
21LCM-E	Aircraft Engines	Z,ZK	3
	ine, theoretical background, operational characteristics and construction schemes. Propellers, operational characteristics. Turbine en	-	-
	onstruction schemes, operational characteristics. Turbojet and turbofan engines, basic construction modules, and their operational ch		
21LDA1-E	Aircraft 1 nd conceptual design types - definitions and basic knowledge of the problem. Development of requirements, aircraft definitions and ca	Z,ZK	aft loadings
/ inoralit structurar a	Systems of primary and secondary airframe structure. Airframe and propulsion unit. Lectures are devoted to aeroplane topic	-	art loadii igs.
21LDA2-E	Aircraft 2	Z,ZK	4
Manufacturers resp	onsibility, responsibilities of operator and professional supervising. Legislation in area of airworthiness. International and national stan		ty of aircraft
	structures. Aeroelasticity. Inherent and operational reliability of aircraft structure. Fatigue strength. Aircraft structure lifetime presul		_
21LEIS-E	Aerodromes Applicability Airport design Reference and Resland distances of gravity (RWV) Taylyana and angene Clearyay Stanyay May	Z,ZK	3
	s. Applicability. Airport design. Reference code. Declared distances of runways (RWY). Taxiways and aprons. Clearway. Stopway. Mar arkers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting systems. V		
3. 2.3	systems. Runway lights. Taxiway lights. Visual aids for denoting obstacles.		
21LEY1-E	Air Law 1	ZK	3
Air Law; ICAO Do	oc 7300; ICAO Doc 7500 and 9626; International Organizations: ICAO, IATA, EASA, EUROCONTROL; airworthiness; ICAO Annexes;	Commission regul	ation (EU)
21LEY2-E	965/2012 Air Law 2	ZK	3
	All Law 2 sed on the issue of commercial commercial air transport in accordance with applicable European legislation. Within the course, the issue		-
	965/2012, regulation no. 1321/2014 and ICAO Annexes, which significantly affect the form, method and structure of commercial air tr	-	
21LILE-E	Human Factors in Aviation	KZ	3
Human factors in	aviation. Breathing, atmosphere. Heart and circulation. Radiation. Human sensory organs, nervous system. Vision, hearing, illusions.		ne, fatigue,
241 DTV F	wakefulness and sleep. Information processing, human error. Cockpit management. Behaviour and workload. Automation. Core com	·	2
21LPTY-E	Aircraft Operations Aircraft operation for cruise, approach, final approach , missed approach, hodling, PBN, augmented GNSS, aviation charts for IF	ZK R flight	2
21LPX1-E	Flight Training 1	KZ	2
	es for improvement of theoretical knowledge in a range of at least PPL(A) of the objects 010 - 090 in accordance with Part FCL. The		
exercises, solo fli	ights and navigation flights. This course is intended only for long-term student, who are in integrated pilots training and study all cours	es related to Stud	y field PIL
241 DV2 F	(Professional Pilot) in all three years.	νz	
21LPX2-E Practical exercise	Flight Training 2 s for improvement of theoretical knowledge in a range MEP land and IFR from the relevant subjects in accordance with Part FCL. Th	KZ e basics of instrum	2 nent flying.
	nergency procedures, descents and navigation flights. This course is intended only for long-term student, who are in integrated pilots		
	related to Study field PIL (Professional Pilot) in all three years.		
21LPX3-E	Flight Training 3	KZ	2
	Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowle	edge	

21LPX4-E	Flight Training 4	KZ	2			
	Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowl		_			
21LPX5-E	1LPX5-E Flight Training 5 KZ 2 Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge					
21LVIP-E	MCC - Multicrew Cooperation	KZ	2			
Flight safety analys	sis in relation to human factor. MCC - basic principles, phases and methods within the area of air transport. CRM - leadership, situation	al awareness, decis	sion making			
0414554.5	process, communication, effect of stress to the multi-crew performance, standard operational procedures, automation.	7.71				
21MEE1-E	Meteorology 1 and vertical structure of the atmosphere. QNH, QFE, QFF, QNE, density and height measurements. Wind, moisture and adiabatic pro	Z,ZK	3			
Composition, size	and vertical structure of the atmosphere. QNH, QNE, QNE, QNE, density and neight measurements. White, moisture and adiabatic pro- cloud, fog, haze. Precipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-fronta	•	ind types of			
21MET2-E	Meteorology 2	Z,ZK	5			
	tropical climatology, meteorological situation of mid-latitudes. Icing, turbulence, wind shear, thunderstorms, tornadoes, flying in the str	, ,	-			
	reducing visibility phenomena. Observation, weather maps, important information for flight planning.	•				
210BN-E	General Navigation	ZK	5			
	de and longitude. Reference systems. Circles on the Earth and distance. Calculations. Time. Magnetism and sirections. Wind and Specific and Indiana.					
Calculations: navig	jation computer conversions, TAS, rates. Calculations: 1 in 60 and navigation computer track and GS. Projections. Charts. VFR navigation in computer track and GS. Projections. Charts. VFR navigation in computer track and GS. Projections.	ation. Nav Log prep	aration and			
24 DKL 2 F	use. Navigation display. Navigation in remote and oceanic areas.	ZK	2			
21PKL2-E	Advanced Flying 2		2			
Learning objectives are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine aircraft and jet aircraft characteristics, energy management, stabilized approach and landing errors, jet - performance - engine out flight, jet - handling - engine out flight go around, UPRT, volcanic ash, cold weather						
3, 3, 3,	operations, operation manuals, MEL procedures and deviations, flight time limitation	,				
21PML-E	Flight Planning and Monitoring	Z,ZK	3			
	Flight planning for VFR flights for small, single- and multi-engine aeroplanes	'				
21PPY1-E	Operational Procedures 1	Z,ZK	3			
	Annex 6, PART-OPS, Air operator, Aircraft operation, Operating procedures, Airplane equipment, Flight management, Airspa					
21PRJ2-E	Instrumentation 2	ZK	3			
Compass, gyrosco	pic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning sy	stems (TCAS, GP	NS), AFCS			
04 DDKD E	(autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers	7 71/	4			
21PRKP-E	Practical Flight Planning nce 2. fuel planning, PDP, RIF,RCF 3. ATC FPL 4. Preflight procedure and briefing-NOTAM + weather(METAR,SIGMET) 5. Jeppesen	Z,ZK	t planning.			
	ght planning- ICAO mapa, softwary 8. IFR flight planning- theory 9. PBN- RNAV, RNP 10. IFR flight planning- softwary 11. MRJT- OFF	_				
	PET, PSR, PNR 14. practical VFR a IFR flight planning					
21PRY2-E	Operational Procedures 2	ZK	3			
Flight document	iation and manuals, Icing and protection of the aircraft against icing, noise abatement procedures, Abnormal and emergency situation	ns and procedures,	Runway			
	contamination		_			
21PUP1-E	Instrumentation 1	ZK	3			
Basic classification	and construction of flight instruments, electric systems, power plant sensors and instruments, airframe sensors and instruments, measured integrated instrument systems.	rement of all data	Darameters,			
21RNV-E	Radionavigation	Z,ZK	4			
	nder (VDF), ADF, VOR and Doppler VOR, DME, ILS, MLS, ground ATC radar, weather Radar, SSR and transponder. Radar utilization					
Area navigation (F	RNAV) - general philosophy, gauges and equipment, indication and sensors for RNAV, VOR/DME (RNAV). Autopilot and flight director	. Satellite navigatio	n, systems			
	and backups.					
21SBU1-E	Bachelor Thesis Seminar 1	Z	1			
	view, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation		styles, how			
	re). Analyzing the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the these	sis methodology.	4			
21SBU2-E	Bachelor Thesis Seminar 2 nesis writing (introduction, analysis of the current state, specification of the problem, objectives and hypotheses). Definition of materia	∠ ols and methods, ar	nroach to			
1	otaining results, presentation and discussion of results, formulation of thesis conclusions. Basics of LaTeX, working with LaTeX and W	-	proderito			
21SBU3-E	Bachelor Thesis Seminar 3	Z	1			
	phic design of the thesis. Data collection and presentation, basic statistical reasoning, validation of results and designs. Achieving the	objectives of the th	esis and			
	evaluation of hypothesis tests. Preparation of the presentation, principles of presentation of the thesis.					
21VFRC-E	VFR Communication	Z,ZK	4			
Course contents	s are based on PART FCL, part 090. It defines terms and abbreviations used in VFR communication. Phraseology and procedures in	standard and non-	standard			
24\/EDT E	situations. Theory for VED Training	7 7V	6			
21VFRT-E	Theory for VFR Training based on PPL(A) theory requirements according to Part-FCL. Lectures cover topics that are necessary to commence the practical parts.	Z,ZK				
	t, airframe and powerplant, aircraft systems, instrumentation, mass and balance, performance, air law and ATC procedures, meteorol		-			
	navigation, radionavigation, VFR communication, flight planning and monitoring and human factor.					
21VL-E	Aircraft Performance	Z,ZK	4			
Basic terms of airc	raft performance, basic characteristic speeds, runway characteristics, single and multiengine aircraft performance class B, aircraft per		take off and			
041/04 =	landing performance, after take off and missed approach climb, noise abatement procedures, range of aircraft, drift down, MEL, I					
21X31-E	Project 1	Z	2			
21X32-E	Project 2	Z	2			
21X33-E	Project 3	Z	2			
21Y1BC-E	Aviation safety and security f safety and security development in aviation. Modern tools for safety and security management. Research and development of safe	KZ	2			
	f safety and security development in aviation. Modern tools for safety and security management. Research and development of safe	KZ	s. 2			
21Y1BS-E Unmanned Aviatio	Unmanned aircraft systems 1 In Development. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division. Ope					
	= 1.1.1					

21Y1MJ-E	Matlab for projects	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 examp	oles, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improvement	ent of students' Ma	atlab skills.
21Y1MP-E	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 examp	oles, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improvement	ent of students' Ma	atlab skills.
21Y1OH-E	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 c	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 processe	es. It provides
	a basic view of the economic aspects of air transport.		
21Y1RZ-E	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 hur	nan resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation and rer	nuneration of staff	f. Positioning,
	dismissal and redundancies of employees. Education of employees. Planning career management.		
21ZYT1-E	Principles of Flight 1	Z,ZK	3
, ,	, relation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and pr		•
attack, reactions of	f wing in air flow, lift and drag of a wing and an aircraft, coefficient of lift and drag, critical angle of attack, wing with final span, induced	drag, interference	e, devices for
	lift and drag increase.		
21ZYT2-E	Principles of Flight 2	Z,ZK	3
Ways of producing	thrust, propeller, jet propulsion, thrust and momentum, propulsion efficiency, aerodynamics of fixed and variable pitch propeller, prope	ller operation mod	les, propeller
airstream effect,	, gyroscopic effect, balance of forces in horizontal flight, glide and landing, performances, take off an climb, acceleration, positive load	d, manoevures, st	ability and
	controllability, transsonic speeds.		
22X31-E	Project 1	Z	2
22X32-E	Project 2	Z	2
22X33-E	Project 3	Z	2
23X31-E	Project 1	Z	2
23X32-E	Project 2	Z	2
23X33-E	Project 3	7	2

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