Study plan

Name of study plan: Bachelor PIL (CS) Full-Time from 2023/24

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: 180 Elective courses credits: 0 Sum of credits in the plan: 180

Note on the plan:

Name of the block: Compulsory courses Minimal number of credits of the block: 170

The role of the block: Z

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

Name of the group: 1st Sem. Bachelor Full-Time PIL (CS) 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:

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Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
11CAL1	Calculus 1 Tomáš Tasák, Olga Vraštilová, Magdalena Hykšová, Bohumil Ková, Ond ej Navrátil Bohumil Ková Ond ej Navrátil (Gar.)	Z,ZK	7	2P+4C+22B	Z	Z
11LA	Linear Algebra Lucie Kárná, Pavel Provinský, Martina Be vá ová Martina Be vá ová (Gar.) Be vá ová (Gar.)	Z,ZK	3	2P+1C+10B	Z	Z
210BN	General Navigation Jan Slezá ek	ZK	5	4P+0C	Z	Z
21VFRC	VFR Communication Milan Kameník Milan Kameník	Z,ZK	4	2P+1C	Z	Z
21VFRT	Theory for VFR Training Ladislav Capoušek Jakub Kraus	Z,ZK	6	4P+4C	Z	Z
11GIE	Geometry Pavel Provinský, Old ich Hykš, Šárka Vorá ová Old ich Hykš Old ich Hykš (Gar.)	KZ	3	2P+2C+12B	Z	Z
15JP1A	Foreign Language - English for PIL 1 Marek Tome ek, Dana Boušová, Peter Morpuss, Lenka Monková, Marie Michlová, Eva Rezlerová, Markéta Musilová, Markéta Vojanová, Jitka He manová,	Z	2	0P+2C	Z	Z

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

11CAL1	Calculus 1	Z,ZK	7						
Sequence of real numbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton integral, Riemann integral, impro									
Riemann integral. First-	order differential equations, linear differential equations.								
11LA	Linear Algebra	Z,ZK	3						
Vector spaces (linear co	mbinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and	their solvability. D	eterminants and						
their applications. Scala	r product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classification.								
210BN	General Navigation	ZK	5						
The Earth: latitude and	ongitude. Reference systems. Circles on the Earth and distance. Calculations. Time. Magnetism and sirections. Wind and Sp	eed: Course, hea	ding, track.						
Calculations: navigation computer conversions, TAS, rates. Calculations: 1 in 60 and navigation computer track and GS. Projections. Charts. VFR navigation. Nav Log preparation and									
use. Navigation display.	Navigation in remote and oceanic areas.								
21VFRC	VFR Communication	Z,ZK	4						

Course contents are based on PART FCL, part 090. It defines terms and abbreviations used in VFR communication. Phraseology and procedures in standard and non-standard situations.

Theory for VFR Training

Course content is based on PPL(A) theory requirements according to Part-FCL. Lectures cover topics that are necessary to commence the practical part of ATP(A) training, such as principles of flight, airframe and powerplant, aircraft systems, instrumentation, mass and balance, performance, air law and ATC procedures, meteorology, operational procedures, navigation, radionavigation, VFR communication, flight planning and monitoring and human factor.

11GIE

Geometry

KZ

3

Differential geometry of curves - parameterization, the arc of the curve, torsion and curvature, Frenet's trihedron. Kinematics - a curve as a trajectory of the motion, the velocity, and acceleration of a particle moving on a curved path.

15JP1A

Foreign Language - English for PIL 1

Z

2

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.

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

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

Name of the group: 2nd Sem. Bachelor Full-Time PIL (CS) 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:

VFR route selection; position plotting.

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
11CAL2	Calculus 2 Magdalena Hykšová	Z,ZK	5	2P+3C+20B	L	Z
11STAT	Statistics	Z,ZK	4	2P+2C+12B	L	Z
21HAV-E	Weight and Balance of Aircraft Denisa Svobodová	Z,ZK	3	2P+2C	L	Z
21LDA1	Aircraft 1 Karel Mündel	Z,ZK	3	2P+1C	L	Z
21LEY1	Air Law 1	ZK	3	3P+0C	L	Z
21ZYT1	Principles of Flight 1 Jakub Trýb	Z,ZK	3	2P+1C	L	Z
15JP2A	Foreign Language - English for PIL 2	KZ	3	0P+2C	L	Z
21CON-E	Navigation Calculations Milan Kameník	KZ	2	0P+2C	L	Z
21LPX1	Flight Training 1	KZ	2	0P+1C	Z,L	Z
21LAP1	Aviation English for Professional Pilot 1 Filip Havrda	Z	2	0P+2C	L	Z

Characteristics of the courses of this group of Study Plan: Code=2S-BP-PIL-CS-23/24 Name=2nd Sem. Bachelor Full-Time PIL (CS) from 2023/24

from 2023/24			
11CAL2 Calculus	3 2	Z,ZK	5
Linear differential equations and the	eir systems, differential calculus of functions of several real variables. Riemann integral in Rn. Line and surface int	egrals.	
11STAT Statistics	S	Z,ZK	4
Basics of probability Descriptive sta	itistics Population and sample, limit theorem Point estimate, construction and properties Interval estimates Parame	etric tests Nonpar	ametric tests
Regression and correlation analysis	S		
21HAV-E Weight a	and Balance of Aircraft	Z,ZK	3
Basic terms of mass and balance, ba	asic aircraft masses, weighing and maximum aircrafts masses, overloading of aircraft, standard weights of passenger,	baggage and crev	w, determination
of load of aircraft, flight documentat	ion - loadsheet, trimsheet, securing of load, determination of centre of gravity, influence of centre of gravity position	n on aircarft perfo	ormance.
21LDA1 Aircraft	1	Z,ZK	3
Aircraft structural and conceptual de	esign types - definitions and basic knowledge of the problem. Development of requirements, aircraft definitions and	categorisation. A	ircraft loadings.
Systems of primary and secondary	airframe structure. Airframe and propulsion unit. Lectures are devoted to aeroplane topics.		
21LEY1 Air Law	1	ZK	3
Air Law; ICAO Doc 7300; ICAO Doc	c 7500 and 9626; International Organizations: ICAO, IATA, EASA, EUROCONTROL; airworthiness; ICAO Annexes	; Commission reg	julation (EU)
965/2012.			
21ZYT1 Principle	es of Flight 1	Z,ZK	3
Aerodynamic drag, relation between	n drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and	pressures around	d wing, angle of
attack, reactions of 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, induc	ed drag, interfere	nce, devices for
lift and drag increase.			
15JP2A Foreign	Language - English for PIL 2	KZ	3
Improvement of language skills with	nin spoken and written form of the language with the focus on aviation English. Practice of comprehension of author	entic materials. Im	provement of
1.	n language. Aviation phraseology in combination with general English. Revision and improvement of grammar stru	ctures, syntax an	d vocabulary.
Topics related to air transport and o	occupation of pilot and air staff.		
21CON-E Navigati	on Calculations	KZ	2
Projection of maps; times - UTC, Zu	ulu, LT; positioning; sunrise and sunset; distance calculation; projection; maps and symbols; declination; speed; wir	nd components ar	nd wind drift;

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 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.

Aviation English for Professional Pilot 1

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-CS-24/25

Name of the group: 3rd Sem. Bachelor Full-Time PIL (CS) 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	Physics Old ich Hykš, Pavel Demo, Zuzana Malá, Tomáš Vít , Jana Kuklová Jana Kuklová Pavel Demo (Gar.)	Z,ZK	5	2P+2C+18B	Z	Z
21LAP2	Aviation English for Professional Pilot 2 Lukáš Zibner, Filip Havrda, Zden k Ove ka Lukáš Zibner Andrej Lališ (Gar.)	Z,ZK	3	0P+4C	Z	Z
21LDA2	Aircraft 2 Karel Mündel Karel Mündel	Z,ZK	4	2P+1C	Z	Z
21LPTY-E	Aircraft Operations Ladislav Capoušek Ladislav Capoušek	ZK	2	2P+0C	Z	Z
21PUP1	Instrumentation 1 Pavel Hovorka	ZK	3	2P+0C	Z	Z
21RNV	Radionavigation Milan Kameník Milan Kameník	Z,ZK	4	3P+1C	Z	Z
21VL-E	Aircraft Performance Denisa Svobodová, Anna Polánecká Anna Polánecká	Z,ZK	4	2P+2C	Z	Z
21LPX2	Flight Training 2 Iveta Kameníková, Jakub Hospodka, Jakub Charezinski, Roman Matyáš Iveta Kameníková	KZ	2	0P+1C	L,Z	Z
15JZ3A	Foreign Language - English 3 Marek Tome ek, Dana Boušová, Peter Morpuss, Lenka Monková, Marie Michlová, Eva Rezlerová, Markéta Musilová, Markéta Vojanová, Jitka He manová,	Z	3	0P+4C	Z	Z

Characteristics of from 2024/25	the courses of this group of Study Plan: Code=3S-BP-PIL-CS-24/25 Name=3rd Sem. Bach	elor Full-Time	e PIL (CS)
11FYZ	Physics	Z,ZK	5
	Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and electric current.	_,	
21LAP2	Aviation English for Professional Pilot 2	Z,ZK	3
Exercises focused on re	epetition and smoother communication within VFR and IFR communication, communication with technical staff at the airport,		ation within the
airlines.			
21LDA2	Aircraft 2	Z,ZK	4
Manufacturers responsi	bility, responsibilities of operator and professional supervising. Legislation in area of airworthiness. International and national	standards. Static :	solidity of aircraft
structures. Aeroelasticit	y. 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	Instrumentation 1	ZK	3
Basic construction princ	ciples of instrumentation, electronic displays, basics of measurement - sensitivity and errors, engine instrumentation (pressur	e gauges, thermo	meters, fuel
quantity and fuel flow m	neasurement, torque and EPR measurement), indication in other aircraft systems (position, fire and icing indication, vibration	monitoring, press	surisation system
monitoring, aerometric	instruments (sensors, altimeter, air speed indicator, VSI, ADC).		
21RNV	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 utilizat	ion 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	gation, systems
and backups.			
21VL-E	Aircraft Performance	Z,ZK	4
·	erformance, 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	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 pilo	ots training and st	udy all courses
related to Study field PI	L (Professional Pilot) in all three years.		
15JZ3A	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 Facult	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-CS-24/25

Name of the group: 4th Sem. Bachelor Full-Time PIL (CS) 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	Electromagnetic Field and Optics Zuzana Malá	Z,ZK	4	2P+1C	L	Z
21AFL1-E	Advanced Flying 1	Z,ZK	3	2P+1C	L	Z
21MEE1	Meteorology 1 Iveta Kameníková	Z,ZK	3	2P+2C	L	Z
21PML-E	Flight Planning and Monitoring Anna Polánecká	Z,ZK	3	2P+2C	L	Z
21PRJ2	Instrumentation 2 Pavel Hovorka Jakub Hospodka (Gar.)	ZK	3	2P+0C	L,Z	Z
14AP	Algorithm and Programming	KZ	4	2P+2C	L	Z
21IFRC	IFR Communication Milan Kameník	KZ	2	1P+1C	L	Z
21LPX3	Flight Training 3	KZ	2	0P+1C	L	Z
21SBU1	Bachelor Thesis Seminar 1 Lenka Hanáková	Z	1	1P+0C	L	Z
15JZ4A	Foreign Language - English 4	Z,ZK	3	0P+4C	L	Z

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

Electric field. Electric current. Magnetic field. Electromagnetic field. Optics. Basics of solid-state physics. 21 AFL1-E Advanced Flying 1 This course supplements Learning objectives laid down in Commission Regulation (EU) No 1178/2011. Instrument flying introduction, threat and error management, procedures for instrument departures, enroute flight, holdings and arrivals, instrument approaches, performance based navigation, weather consideration, flight planning and monitoring, effective briefings, phraseology differences, lost communication procedures, CFIT prevention, decompresion 21 MEE1 Meteorology 1 Composition, size and vertical structure of the atmosphere. QNH, QFE, QFF, QNE, density and height measurements. Wind, moisture and adiabatic processes. Creating and types cloud, fog, haze. Precipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-frontal cyclone. 21 PML-E Flight Planning and Monitoring Flight planning for VFR flights for small, single- and multi-engine aeroplanes 21 PRJ2 Instrumentation 2 Compass, gyroscopic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning systems (TCAS, GPWS), AFI (autopilot, flight director, autobrust), FNS, flight envelope protection, communication systems, flight computers. 14AP Algorithm and Programming Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstra data types (set, tupple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, instroduction into object oriente programming 21 FRC FR Communication KZ 2 2 Definitions, Terms, Abbreviations, Q-codes, Transport message categories, Transmission technique, Transmission of letters, numbers, time and symbols, Standard words and phraseology and horse code, Practical IFR	11EMO	Electromagnetic Field and Optics	Z,ZK	4
This course supplements Learning objectives taid down in Commission Regulation (EU) No 1178/2011. Instrument flying introduction, threat and error management, procedures for instrument departures, enroute flight, holdings and arrivals, instrument approaches, performance based navigation, weather consideration, flight planning and monitoring, effective orientings, phraseology differences, lost communication procedures, CFIT prevention, decompresion 21MEE1 Meteorology 1 Z,ZK 3 Composition, size and vertical structure of the atmosphere. QNH, QFE, QFF, QNE, density and height measurements. Wind, moisture and adiabatic processes. Creating and types cloud, fog, haze. Precipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-frontal cyclone. 21PML-E Flight Planning and Monitoring Z,ZK 3 21PML-E Flight Planning and Monitoring Z,ZK 3 21PMJ-E Instrumentation 2 ZK 3 22PMJ-E Instrumentation 2 ZK 3 22 Compass, gyroscopic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning systems (TCAS, GPWS), AFI (autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers. 14AP Algorithm and Programming KZ 4 20 Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstratiata types (set, tupple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, instroduction into object orienter organizations. 21 IFR C	Electric field. Electr	c current. Magnetic field. Electromagnetic field. Optics. Basics of solid-state physics.	, , ,	
Instrument departures, enroute flight, holdings and arrivals, instrument approaches, performance based navigation, weather consideration, flight planning and monitoring, effective prieflings, phraseology differences, lost communication procedures, CFIT prevention, decompresion 2.7 K 3 2.7 K 3 2.7 K 3 2.7 K 3 2.7 Composition, size and vertical structure of the atmosphere. QNH, QFE, QFF, QNE, density and height measurements. Wind, moisture and adiabatic processes. Creating and types cloud, fog, haze. Precipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-frontal cyclone. 2.1 PML-E Flight Planning and Monitoring Z, ZK 3 2.1 PRJ2 Instrumentation 2 2.2 Compass, gyroscopic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning systems (TCAS, GPWS), AFF (autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers. 1.4 AP Algorithm and Programming 2.1 Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstratata types (set, tupple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, instroduction into object oriented programming 2.1 FRC FR Communication KZ 2 2.2 Definitions, Terms, Abbreviations, Q-codes, Transport message categories, Transmission technique., Transmission of letters, numbers, time and symbols, Standard words and phraseology of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 2.1 ENRO Bachelor Thesis Seminar 1 3.	21AFL1-E	Advanced Flying 1	Z,ZK	3
Meteorology 1 Demosition, size and vertical structure of the atmosphere. QNH, QFE, QFF, QNE, density and height measurements. Wind, moisture and adiabatic processes. Creating and types doud, fog, haze. Precipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-frontal cyclone. PIGHT Planning and Monitoring Right planning for VFR flights for small, single- and multi-engine aeroplanes Instrumentation 2 Dempass. gyroscopic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning systems (TCAS, GPWS), AFI autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers. Algorithm and Programming Algorithm and Programming Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstra lata types (set, tupple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, instroduction into object oriente reorgamming IFRC IFR Communication KZ 2 Definitions, Terms, Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time and symbols, Standard words and phrase or IFR flights, Radar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and emergency situations. PIGHT Training 3 KZ 2 Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge PISBU1 Bachelor Thesis Seminar 1 Z 1 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, to cite), Analyzing the state of the art (standards of research writing). Defining the limitations of	his course supple	nents Learning objectives laid down in Commission Regulation (EU) No 1178/2011. Instrument flying introduction, threat ar	nd error management, pr	ocedures for
Composition, size and vertical structure of the atmosphere. QNH, QFE, QFF, QNE, density and height measurements. Wind, moisture and adiabatic processes. Creating and types cloud, fog, haze. Precipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-frontal cyclone. 27 K 3 28 Flight Planning and Monitoring Z,ZK 3 29 Instrumentation 2 20 Instrumental (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning systems (TCAS, GPWS), AFI autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers. 20 Algorithm and Programming 30 KZ 4 31 Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstrated tata types (set, tupple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, instroduction into object oriented or organization. 21 IFRC IFR Communication 31 KZ 2 32 Definitions, Terms, Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time and symbols, Standard words and phrace or IFR flights, Radar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and emergency situations. 21 LPX3 Flight Training 3 32 Peepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 22 LISBU1 Bachelor Thesis Seminar 1 32 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, to ocite). Analyzing the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis methodology.	•		ht planning and monitorin	ng, effective
cloud, fog, haze. Precipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-frontal cyclone. 21 PML-E Flight Planning and Monitoring Z,ZK 3 22 PML-E Flight Planning and Monitoring Z,ZK 3 23 Instrumentation 2 ZK 3 24 PMJ2 Instrumentation 2 ZK 3 25 Compass, gyroscopic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning systems (TCAS, GPWS), AFI (autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers. 26 AAP Algorithm and Programming KZ 4 27 Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstratata types (set, tupple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, instroduction into object oriented original programming KZ 2 28 IFR Communication KZ 2 29 Celinitions, Terms, Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time and symbols, Standard words and phratical FR flights, Radar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and emergency situations. 20 Elight Training 3 KZ 2 21 Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21 SBU1 Bachelor Thesis Seminar 1 Z 1 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, Foreign Language - English 4 Z,ZK 3	21MEE1	Meteorology 1	Z,ZK	3
PIPML-E Flight Planning and Monitoring Z,ZK 3 Plight planning for VFR flights for small, single- and multi-engine aeroplanes PIPMJ2 Instrumentation 2 ZK 3 Compass, gyroscopic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning systems (TCAS, GPWS), AFI autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers. PAP Algorithm and Programming KZ 4 Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstrated tata types (set, tupple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, instroduction into object oriented or oriented or oriented or oriented or oriented original forms. PAP Algorithm and Programming KZ 4 Algorithm and Programming LKZ 4 Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstration to the search specific process of the search specific process of the art specific process of the search specific process of the search specific process of the state of the search, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, to cite). Analyzing the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis methodology. Paper Language - English 4 Paper Language - Engl	Composition, size a	nd vertical structure of the atmosphere. QNH, QFE, QFF, QNE, density and height measurements. Wind, moisture and adia	abatic processes. Creatin	g and types
Elight planning for VFR flights for small, single- and multi-engine aeroplanes 21 PRJ2	loud, fog, haze. Pr	ecipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-frontal cyclone.		
Instrumentation 2 ZK 3 Compass, gyroscopic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning systems (TCAS, GPWS), AFI (autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers. AAP Algorithm and Programming Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstrated tata types (set, tupple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, instroduction into object oriented to regard time. EVEX 2 Descriptions, Terms, Abbreviations, Q-codes, Transport message categories, Transmission technique, Transmission of letters, numbers, time and symbols, Standard words and phrase for IFR flights, Radar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and emergency situations. EVEX 2 Despening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge EVENTIAL Bachelor Thesis Seminar 1 EVEX 1 EVEX 2 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, be ocite). Analyzing the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis methodology. EVEX 3 EVEX 3 EVEX 4 3 EVEX 4 1 EVEX 1 EVEX 3 EVEX 3 EVEX 3 EVEX 3 EVEX 4 EVEX 4 EVEX 4 EVEX 3 EVEX 3 EVEX 4 EVEX 4 EVEX 3 EVEX 4 EVEX 4 EVEX 4 EVEX 3 EVEX 4 EVEX 3 EVEX 4	21PML-E	Flight Planning and Monitoring	Z,ZK	3
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			, citation databases, citat	1 ion styles, h
Grammar structure and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's fields of study - pilot. Focus	ypes of thesis (rev	ew, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources,	, , , , , , , , , , , , , , , , , , ,	1 ion styles, h
	Types of thesis (revo	ew, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, ne state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis me	ethodology.	
	Types of thesis (revolves) o cite). Analyzing the 15JZ4A Grammar structure	ew, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, se state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis mediate Foreign Language - English 4	ethodology. Z,ZK Faculty's fields of study -	3 pilot. Focus

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

Name of the group: 5th Sem. Bachelor Full-Time PIL (CS) 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:

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
21LEY2	Air Law 2 Iveta Kameníková, Miroslav Malina	ZK	3	3P+0C	Z	Z
21LILE	Human Factors in Aviation Boris Oniš enko Boris Oniš enko	KZ	3	4P+0C	Z	Z
21MET2	Meteorology 2 Iveta Kameniková Iveta Kameniková	Z,ZK	5	2P+2C	L,Z	Z
21PPY1-E	Operational Procedures 1 Ladislav Capoušek Ladislav Capoušek	Z,ZK	3	2P+1C	Z	Z
21PRKP-E	Practical Flight Planning Jakub Hospodka, Ota Hajzler Ota Hajzler	Z,ZK	4	2P+2C	Z	Z
21ZYT2	Principles of Flight 2 Jakub Trýb, P emysl Vávra Jakub Trýb	Z,ZK	3	2P+1C	Z	Z
21LPX4	Flight Training 4 Iveta Kameníková, Jakub Hospodka, Jakub Charezinski, Roman Matyáš Iveta Kameníková	KZ	2	0P+1C	Z	Z
21SBU2	Bachelor Thesis Seminar 2 Lenka Hanáková, Vladimír Socha Vladimír Socha	Z	1	1P+0C	Z	Z

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

21LEY2	Air Law 2	ZK	3
The course is focus	sed on the issue of commercial commercial air transport in accordance with applicable European legislation. Within the course, t	he issue of EC regulati	ons is analyz
in detail File no. 96	5/2012, regulation no. 1321/2014 and ICAO Annexes, which significantly affect the form, method and structure of commercial	air transport and trans	portation.
21LILE	Human Factors in Aviation	KZ	3
Human factors in a	aviation. Breathing, atmosphere. Heart and circulation. Radiation. Human sensory organs, nervous system. Vision, hearing, illu	sions. Health and hygi-	ene, fatigue,
wakefulness and s	leep. Information processing, human error. Cockpit management. Behaviour and workload. Automation. Core competencies.		
21MET2	Meteorology 2	Z,ZK	5
Climatic zones, tro	pical climatology, meteorological situation of mid-latitudes. Icing, turbulence, wind shear, thunderstorms, tornadoes, flying in the	ne stratosphere, mount	ain areas,
reducing visibility p	phenomena. Observation, weather maps, important information for flight planning.		
21PPY1-E	Operational Procedures 1	Z,ZK	3
Annex 6, PART-OP	S, Air operator, Aircraft operation, Operating procedures, Airplane equipment, Flight management, Airspace		
21PRKP-E	Practical Flight Planning	Z,ZK	4
1. mass and baland	ce 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	light planning
theory 7. VFR flight	t planning- ICAO mapa, softwary 8. IFR flight planning- theory 9. PBN- RNAV, RNP 10. IFR flight planning- softwary 11. MRJT-	OFP 12. ETOPS a N	AT HLA 13.
PET, PSR, PNR 14	4. practical VFR a IFR flight planning		
21ZYT2	Principles of Flight 2	Z,ZK	3
Static & amp; dynai	mic longitudinal stability, neutral point, location of centre of gravity, static directional & amp; lateral stability, dynamic directional	& lateral stability,	control pitch
(longitudinal), yaw	(directional) & amp; roll (lateral), roll/yaw interaction, trimming, speed of sound, Mach number, compressibility, shock waves, or	ritical Mach number, ac	erodynamic
heating, operating	limitations, manoeuvring envelope, gust-load diagram.		
21LPX4	Flight Training 4	KZ	2
Deepening of theo	retical knowledge and practical examination of progress in professional competence in pilot skills and knowledge	1 1	
21SBU2	Bachelor Thesis Seminar 2	Z	1
Methodology of the	esis writing (introduction, analysis of the current state, specification of the problem, objectives and hypotheses). Definition of m	naterials and methods,	approach to
obtaining results, p	presentation and discussion of results, formulation of thesis conclusions, Basics of LaTeX, working with LaTeX and Word templ	late.	•

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

Name of the group: 6th Sem. Bachelor Full-Time PIL (CS) from 2025/26 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 11 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
11MSP	Modeling of Systems and Processes Bohumil Ková	Z,ZK	4	2P+2C+12B	L	Z
21ELDO	Air Transport Economy	Z,ZK	3	3P+1C	L	Z
21KPSL	Communication and Surveillance Systems in Aviation Stanislav Pleninger	ZK	3	2P+0C	L	Z
21LCM	Aircraft Engines	Z,ZK	3	2P+1C	Z,L	Z
21LEIS	Aerodromes Ladislav Capoušek	Z,ZK	3	2P+1C	L	Z
21PKL2-E	Advanced Flying 2	ZK	2	2P+0C	L,Z	Z
21PRY2-E	Operational Procedures 2	ZK	3	3P+0C	L	Z

21KSA	KSA Assessment	KZ	2	0P+2C	L	Z
21LPX5	Flight Training 5	KZ	2	0P+1C	L	Z
21LVIP	MCC - Multicrew Cooperation	KZ	2	2P+1C	L	Z
21SBU3	Bachelor Thesis Seminar 3 Lenka Hanáková	Z	1	1P+0C	L	z

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

11MSP	Modeling of Systems and Processes	Z,ZK	4
System and subsyst	tem, external and internal system description, continuous and discrete system, mathematics as a tool, examples of formulation	of differential and differ	ential equation
inear and nonlinea	ar system, stationary and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transfer fui	nction. Stability of LTI s	systems.
Discretization of cor	ntinuous systems. System interconnection.		
21ELDO	Air Transport Economy	Z,ZK	3
21KPSL	Communication and Surveillance Systems in Aviation	ZK	3
he course acquain	its students with communication and surveillance systems both from the perspective of the air segment (aircraft systems) an	nd from the perspective	of ground
nfrastructure (grour	nd systems), which together create the necessary prerequisites for ensuring safe, efficient and economical air transport.		
21LCM	Aircraft Engines	Z,ZK	3
ircraft piston engin	ne, theoretical background, operational characteristics and construction schemes. Propellers, operational characterictics. Tur	bine engine, theoretica	al background
nermal cycles, cons	struction schemes, operational characteristics. Turbojet and turbofan engines, basic construction modules, and their operation	onal characteristics. En	igine control.
21LEIS	Aerodromes	Z,ZK	3
asic definitions. Ap	oplicability. Airport design. Reference code. Declared distances of runways (RWY). Taxiways and aprons. Clearway. Stopway.	. Markings of movemer	nt areas.
larkings. Signs. Ma	arkers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting sy	stems. Visual approact	h slope indica
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ystems. Runway lig	ghts. Taxiway lights. Visual aids for denoting obstacles.		
		ZK	2
21PKL2-E	ghts. Taxiway lights. Visual aids for denoting obstacles.	ZK	_
21PKL2-E earning objectives	ghts. Taxiway lights. Visual aids for denoting obstacles. Advanced Flying 2	ZK	haracteristics
21PKL2-E earning objectives nergy managemer	ghts. Taxiway lights. Visual aids for denoting obstacles. Advanced Flying 2 are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine ai	ZK	haracteristics
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21PKL2-E earning objectives earning objectives earning objectives energy managemer eperations, operatio 21PRY2-E elight documentatio ontamination	ghts. Taxiway lights. Visual aids for denoting obstacles. Advanced Flying 2 are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine aint, stabilized approach and landing errors, jet - performance - engine out flight, jet - handling - engine out flight go around, Union manuals, MEL procedures and deviations, flight time limitation Operational Procedures 2	ZK ircraft and jet aircraft cl PRT, volcanic ash, colo	haracteristics d weather
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21PKL2-E earning objectives energy managemer perations, operatio 21PRY2-E dight documentatio ontamination 21KSA communication. Ma reventation and rec 21LPX5 Deepening of theore	Advanced Flying 2 are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine air at, stabilized approach and landing errors, jet - performance - engine out flight, jet - handling - engine out flight go around, Un manuals, MEL procedures and deviations, flight time limitation Operational Procedures 2 and manuals, Icing and protection of the aircraft against icing, noise abatement procedures, Abnormal and emergency site in the stability of flight path. Automation of flight. Leadership and teamwork. Problem solving. Decision making. Situation awarned covery training. Mental math. Flight Training 5 etical knowledge and practical examination of progress in professional competence in pilot skills and knowledge	ZK ricraft and jet aircraft cl PRT, volcanic ash, colo ZK ZK ricraft cl uations and procedure KZ ricraft cl ess. Workload manage KZ KZ KZ KZ KZ KZ KZ K	haracteristics of weather 3 s, Runway 2 ment. Upset 2
21PKL2-E earning objectives earning objectives energy managemer perations, operatio 21PRY2-E dight documentatio entamination 21KSA communication. Ma reventation and rec 21LPX5 deepening of theore 21LVIP	Advanced Flying 2 are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine air are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine air are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine air are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine air ant, stabilized approach and landing errors, jet - performance - engine out flight, jet - handling - engine out flight go around, Ultion manuals, MEL procedures and deviations, flight time limitation Operational Procedures 2 on and manuals, Icing and protection of the aircraft against icing, noise abatement procedures, Abnormal and emergency site anagement of flight path. Automation of flight. Leadership and teamwork. Problem solving. Decision making. Situation awarne covery training. Mental math. Flight Training 5 etical knowledge and practical examination of progress in professional competence in pilot skills and knowledge MCC - Multicrew Cooperation	ZK ricraft and jet aircraft cl PRT, volcanic ash, colo ZK ZK ricraft cl uations and procedure KZ ricraft cl ess. Workload manage KZ KZ KZ KZ KZ KZ KZ K	haracteristics of weather 3 s, Runway 2 ment. Upset 2
21PKL2-E earning objectives energy managemer experations, operation 21PRY2-E flight documentation entamination 21KSA communication. Ma ereventation and receptation 21LPX5 Deepening of theore 21LVIP	Advanced Flying 2 are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine air the stabilized approach and landing errors, jet - performance - engine out flight, jet - handling - engine out flight go around, Union manuals, MEL procedures and deviations, flight time limitation Operational Procedures 2 and manuals, Icing and protection of the aircraft against icing, noise abatement procedures, Abnormal and emergency site anagement of flight path. Automation of flight. Leadership and teamwork. Problem solving. Decision making. Situation awarned covery training. Mental math. Flight Training 5 etical knowledge and practical examination of progress in professional competence in pilot skills and knowledge MCC - Multicrew Cooperation is in relation to human factor. MCC - basic principles, phases and methods within the area of air transport. CRM - leadership, s	ZK ricraft and jet aircraft cl PRT, volcanic ash, colo ZK ZK ricraft cl uations and procedure KZ ricraft cl ess. Workload manage KZ KZ KZ KZ KZ KZ KZ K	haracteristics of weather 3 ss, Runway 2 ment. Upset

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-CS-25/26

Name of the group: Research Groups Bachelor Full-Time PIL (CS) from 2025/26

Requirement credits in the group: In this group you have to gain 6 credits

evaluation of hypothesis tests. Preparation of the presentation, principles of presentation of the thesis.

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	Project 1	Z	2	0P+1C	L	ZP
12X31	Project 1	Z	2	0P+1C	L	ZP
14X31	Project 1	Z	2	0P+1C	L	ZP
15X31	Project 1	Z	2	0P+1C	L	ZP
16X31	Project 1	Z	2	0P+1C	L	ZP
17X31	Project 1	Z	2	0P+1C	L	ZP
18X31	Project 1	Z	2	0P+1C	L	ZP
20X31	Project 1	Z	2	0P+1C	L	ZP

21X31	Project 1	Z	2	0P+1C	L	ZP
22X31	Project 1	Z	2	0P+1C	L	ZP
11X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
12X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
14X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
15X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
16X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
17X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
18X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
20X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
21X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
22X32P	Project 2 PIL-CS	Z	2	0P+1C	Z	ZP
11X33	Project 3	Z	2	0P+1C	L	ZP
12X33	Project 3	Z	2	0P+1C	L	ZP
14X33	Project 3	Z	2	0P+1C	L	ZP
15X33	Project 3	Z	2	0P+1C	L	ZP
16X33	Project 3	Z	2	0P+1C	L	ZP
17X33	Project 3	Z	2	0P+1C	L	ZP
18X33	Project 3	Z	2	0P+1C	L	ZP
20X33	Project 3	Z	2	0P+1C	L	ZP
21X33	Project 3	Z	2	0P+1C	L	ZP
22X33	Project 3	Z	2	0P+1C	L	ZP

Characteristics of the courses of this group of Study Plan: Code=X1-BP-PIL-CS-25/26 Name=Research Groups Bachelor Full-Time PIL (CS) from 2025/26

(00) 110111 202	25/20		
11X31	Project 1	Z	2
12X31	Project 1	Z	2
14X31	Project 1	Z	2
15X31	Project 1	Z	2
16X31	Project 1	Z	2
17X31	Project 1	Z	2
18X31	Project 1	Z	2
20X31	Project 1	Z	2
21X31	Project 1	Z	2
22X31	Project 1	Z	2
11X32P	Project 2 PIL-CS	Z	2
12X32P	Project 2 PIL-CS	Z	2
14X32P	Project 2 PIL-CS	Z	2
15X32P	Project 2 PIL-CS	Z	2
16X32P	Project 2 PIL-CS	Z	2
17X32P	Project 2 PIL-CS	Z	2
18X32P	Project 2 PIL-CS	Z	2
20X32P	Project 2 PIL-CS	Z	2
21X32P	Project 2 PIL-CS	Z	2
22X32P	Project 2 PIL-CS	Z	2
11X33	Project 3	Z	2
12X33	Project 3	Z	2
14X33	Project 3	Z	2
15X33	Project 3	Z	2
16X33	Project 3	Z	2
17X33	Project 3	Z	2
18X33	Project 3	Z	2
20X33	Project 3	Z	2
21X33	Project 3	Z	2
22X33	Project 3	Z	2

Name of the block: Compulsory elective courses Minimal number of credits of the block: 4

The role of the block: PV

Code of the group: Y1-BP-PIL-CS-25/26

Name of the group: Comp. Sel. Courses Bachelor Full-Time PIL (CS) from 2025/26

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:

a basic view of the economic aspects of air transport.

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	European Integration within Historical Context Jan Feit Jan Feit (Gar.)	KZ	2	2P+0C	Z	PV
15Y1HE	Work Hygiene and Ergonomics in Traffic Petr Musil Petr Musil (Gar.)	KZ	2	2P+0C	Z	PV
15Y1ZV	East-West dichotomy: Prelude to the Cold War Marie Michlová Marie Michlová (Gar.)	KZ	2	2P+0C	Z	PV
18Y1EM	Experimental Methods in Mechanics Daniel Kytý Daniel Kytý Daniel Kytý (Gar.)	KZ	2	2P+0C	Z	PV
21Y1MP	Matlab for project-oriented study Lenka Hanáková, Vladimír Socha Lenka Hanáková Vladimír Socha (Gar.)	KZ	2	2P+0C	Z	PV
21Y1OH	Airline Business and Operations Ladislav Capoušek, Peter Vittek, Peter Olexa Peter Olexa Peter Vittek (Gar.)	KZ	2	2P+0C	Z	PV
15Y1BO	Work Safety and Health Protection in Transportation	KZ	2	2P+0C	L	PV
15Y1HL	History of Civil Aviation	KZ	2	2P+0C	L	PV
17Y1LL	Logistics of Passenger and Freight Air Transport	KZ	2	2P+0C	L	PV
18Y1MT	Engineering Materials Petr Koudelka (Gar.)	KZ	2	2P+0C	L	PV
18Y1PD	Computer Simulations in Transportation Petr Koudelka (Gar.)	KZ	2	2P+0C	L	PV
18Y1PS	Computer Simulations in Mechanics	KZ	2	2P+0C	L	PV
21Y1BC	Aviation safety and security Andrej Lališ	KZ	2	2P+0C	L	PV
21Y1BS	Unmanned aircraft systems 1	KZ	2	2P+0C	L	PV
21Y1RZ	Human Resources Management	KZ	2	2P+0C	L	PV
21Y1AM	Aeronautical Information Management (AIM) Radek Hoda Radek Hoda (Gar.)	KZ	2	2P+0C	Z	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
21Y1PC	ATC Procedures and Activities Stanislav Pleninger, Terézia Pilmannová Terézia Pilmannová Stanislav Pleninger (Gar.)	KZ	2	2P+0C	Z	PV

Characteristics of the courses of this group of Study Plan: Code=Y1-RP-PII -CS-25/26 Name=Comp. Sel. Courses Bachelor Full-Time

PIL (CS) from 202	Trie courses of this group of Study Plan: Code=11-BP-PIL-CS-25/26 Name=Comp. Sel. Cot 5/26	irses Bachei	or Full-Time
15Y1EH	European Integration within Historical Context	KZ	2
Versailles system, forma	ation of new states. Europe and the powers, League of Nations. European policy in the 1920s. Fascism, nacism, communism	. 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 and	d its consequence	s for Europe.
New quality of French-C	German relationship - a driving power of starting European integration.		
15Y1HE	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 these	e factors on healt	n of workers.
Creation and protection	of working conditions that do not damage public health. Mutual links: man-machine-environment. Adaptation of technology to	o possibilities and	skills of a man.
Practical examples from	n the field of transportation; relevant legislature.		
15Y1ZV	East-West dichotomy: Prelude to the Cold War	KZ	2
Historical prologue, evo	lution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and con	tinuity of the interr	national relations
in the end of 19th centu	rry and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, t	the causes and co	onsequences.
Economic and financial	history. Social changes. Discussions on texts, sources.		
18Y1EM	Experimental Methods in Mechanics	KZ	2
The purpose and role o	f experimental mechanics. Sensors for mechanical testing. Overview of experimental methods. Destructive and non-destructi	ve testing of mate	rials. Design of
experimental procedure	es and sample preparation. Tensile and bending tests. Electrical resistance strain gages. Optical based strain measurement. F	atigue and lifetim	e prediction.
Instrumented hardness	testing. Introduction to electron microscopy. Errors in measurement.		
21Y1MP	Matlab for project-oriented study	KZ	2
The subject's syllabus is	s focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercis	ses will be prepar	ed according to
particular examples, ba	sed on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improvem	ent of students' N	/latlab skills.
21Y1OH	Airline Business and Operations	KZ	2
The course provides a c	omprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses on the orga	anizational structu	re of companies,

various aspects of their strategy, economic and operational indicators. It introduces students in detail to operational processes and the essentials of transportation processes. It provides

15Y1BO	Work Safety and Health Protection in Transportation	KZ	2
	definition of terms, risks and possible health damage, working conditions and health protection with focus on transportati	ı	
nealth insurance of hom	e and foreign business trips, statistics, working practice.	•	-
15Y1HL	History of Civil Aviation	KZ	2
، Beginnings of flying, de	elopment of aircrafts lighter than air. Beginnings of aircrafts heavier than air. Czechoslovak aviation pioneers. Developmer	nt of airports in the (Zech Republic.
Norld airports. Famous	aviators. Helicopters. CSA airplanes. Development of aircrafts in Czechoslovakia between the years 1945-1989. Classic el	ra of aviation. Golde	n era of civil
aviation. Modern era of	ivil aviation. Airline companies. Supersonic flying.		
17Y1LL	Logistics of Passenger and Freight Air Transport	KZ	2
ogistics airline passen	er and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aeria	al transport process	passengers and
air cargo. Information sy	stems in air transport. Global distribution systems.		
18Y1MT	Engineering Materials	KZ	2
Systematic overview of	nain classes of materials used in technical design. In addition to main classes of materials, i. e. metals, ceramics, polymen	rs and composites,	attention is paid
o biological materials a	nd to biomimetics. Integral approach to material selection process is also demonstrated based on so called Ashby's select	ion charts.	
18Y1PD	Computer Simulations in Transportation	KZ	2
rinciples and overview	of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model devel	opment and adapta	tion of geometry
rom other CAE systems	. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary condition	ns and application o	of the load. Basic
asks of structural and m	odal analysis. Introduction to complex nonlinear problems.		
18Y1PS	Computer Simulations in Mechanics	KZ	2
	of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model devel	opment and adapta	tion of geometry
·	. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary condition		
asks of structural and n	odal analysis. Introduction to complex nonlinear problems.		
21Y1BC	Aviation safety and security	KZ	2
listory of safety and se	curity development in aviation. Modern tools for safety and security management. Research and development of safe and	secure systems.	
21Y1BS	Unmanned aircraft systems 1	KZ	2
Jnmanned Aviation Dev	elopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division	n. Operational risks	and operational
procedures. Practical flig	hts.	•	
21Y1RZ	Human Resources Management	KZ	2
	esources in the organization and related disciplines file. Substance, importance and challenges of human resources mana		id external
	esource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation a	•	
dismissal and redundan	cies of employees. Education of employees. Planning career management.		· ·
21Y1AM	Aeronautical Information Management (AIM)	KZ	2
Definition and basic ove	view of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronaut	ical Inf. Publication).	VFR Manual of
he Czech Rep. AIRAC	system. NOTAM messages.PIB (Pre-flight Informtion Bulletin). AIC (Aeoronautical Inf. Circulars). Aeronautical Charts. EAL) (Europena AIS Da	tabase). QMS
Quality Mng. System). /	DQ (Aeronautical Data Quality). AIXM (Aeronautical Inf. Exchnage Format).	, .	,
	Active participation in a scientific project, workshop, short-term trip abroad	KZ	2
00Y1XB			
00Y1XB	ATC Procedures and Activities	K7	2
00Y1XB 21Y1PC	ATC Procedures and Activities ures, basics of communication and phraseology, aircraft identification, spacing and traffic coordination. In addition, the cou	KZ urse discusses air tra	2 affic control at

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-CS

Name of the group: Bachelor Full-Time PIL (CS) 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	Seminar of Electromagnetic Field and Optics Zuzana Malá	Z	0	0P+2C	L	V
11SCFZ	Seminar of Physics Old ich Hykš, Zuzana Malá, Tomáš Vít , Jana Kuklová Zuzana Malá Zuzana	Z	0	0P+2C	Z	V

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

	(,,,,,,,,,,				
11SEMO	Seminar of Electromagnetic Field and Optics	Z	0		
Solving problems on el	Solving problems on electric and magnetic field, electromagnetic field, optics and basics of solid-state physics.				
11SCFZ	Seminar of Physics	Z	0		
Solving problems on kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermodynamics.					

List of courses of this pass:

Code	Name of the course	Completion	Credits
00Y1XB	Active participation in a scientific project, workshop, short-term trip abroad	KZ	2
11CAL1	Calculus 1	Z,ZK	7
	numbers and its limit. Basic properties of mappings. Function of one real variable, its limit and derivative. Indefinite integral, Newton integ Riemann integral. First-order differential equations, linear differential equations.		al, imprope
11CAL2	Calculus 2 ar differential equations and their systems, differential calculus of functions of several real variables. Riemann integral in Rn. Line and	Z,ZK surface integrals.	5
11EMO	Electromagnetic Field and Optics Electric field. Electric current. Magnetic field. Electromagnetic field. Optics. Basics of solid-state physics.	Z,ZK	4
11FYZ	Physics Kinematics, dynamics, Newton's laws, force fields, mechanics of continuum, thermodynamics, introduction to electrostatics and elec	Z,ZK	5
11GIE	Geometry	KZ	3
	etry 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.	I	
11LA	Linear Algebra	Z,ZK	3
	ear combinations, linear independence, dimension, basis, coordinates). Matrices and operations. Systems of linear equations and the their applications. Scalar product. Similarity of matrices (eigenvalues and eigenvectors). Quadratic forms and their classificat	ir solvability. Deteri	minants ar
11MSP	Modeling of Systems and Processes	Z,ZK	4
System and subsy	rstem, external and internal system description, continuous and discrete system, mathematics as a tool, examples of formulation of different inlinear system, stationary and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transfer function Discretization of continuous systems. System interconnection.	ential and differentia	
11SCFZ	Seminar of Physics Solving problems on kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermody	Z ynamics.	0
11SEMO	Seminar of Electromagnetic Field and Optics Solving problems on electric and magnetic field, electromagnetic field, optics and basics of solid-state physics.	Z	0
11STAT Basics of probab	Statistics Statistics Statistics Population and sample, limit theorem Point estimate, construction and properties Interval estimates Parame Regression and correlation analysis	Z,ZK tric tests Nonparan	4 netric tests
11X31	Project 1	Z	2
11X32P	Project 2 PIL-CS	Z	2
11X33	Project 3	Z	2
12X31	Project 1	Z	2
12X31P	Project 1 Project 2 PIL-CS	Z	2
12X32F	Project 3	Z	2
14AP	Algorithm and Programming	KZ	4
Computers, data	representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching ar upple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, insequences programming	nd sorting algorithm	ns, abstrac
14X31	Project 1	Z	2
14X32P	Project 2 PIL-CS	Z	2
14X33	Project 3	Z	2
15JP1A	Foreign Language - English for PIL 1	Z	2
Improvement of I	anguage skills within spoken and written form of the language with the focus on aviation English. Practice of comprehension of auther d fluency of spoken language. Aviation phraseology in combination with general English. Revision and improvement of grammar struc Topics related to air transport and occupation of pilot and air staff.	ntic materials. Impr	ovement o
15JP2A	Foreign Language - English for PIL 2	KZ	3
	anguage skills within spoken and written form of the language with the focus on aviation English. Practice of comprehension of auther		I
-	d fluency of spoken language. Aviation phraseology in combination with general English. Revision and improvement of grammar struc Topics related to air transport and occupation of pilot and air staff.		
15JZ3A	Foreign Language - English 3	Z	3
	re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral and their features; tormingleny.		
	and their features; terminology. Foreign Language - English 4	Z,ZK	3
15JZ4A	e and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's	fields of study - pile	ot. Focus o
	erceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral and their features; terminology.	nd written form. Ted	
Grammar structur mprovement in pe	and their features; terminology.		1
Grammar structur mprovement in pe 15X31	and their features; terminology. Project 1	Z	2
Grammar structur mprovement in pe 15X31 15X32P	and their features; terminology. Project 1 Project 2 PIL-CS	Z Z	2 2
Grammar structur mprovement in pe 15X31 15X32P 15X33	and their features; terminology. Project 1 Project 2 PIL-CS Project 3	Z Z Z	2 2 2
Grammar structur mprovement in pe 15X31 15X32P 15X33 15Y1BO	and their features; terminology. Project 1 Project 2 PIL-CS	Z Z Z KZ	2 2 2 2

15Y1EH	European Integration within Historical Context	KZ	2
•	formation of new states. Europe and the powers, League of Nations. European policy in the 1920s. Fascism, nacism, communism. Lit		
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 to	or Europe.
15Y1HE	New quality of French-German relationship - a driving power of starting European integration. Work Hygiene and Ergonomics in Traffic	KZ	2
	of occupational hygiene and ergonomics, and their application in transport. Working environment factors, and the influence of these f		
•	ction of working conditions that do not damage public health. Mutual links: man-machine-environment. Adaptation of technology to po		
	Practical examples from the field of transportation; relevant legislature.		
15Y1HL	History of Civil Aviation	KZ	2
	g, development of aircrafts lighter than air. Beginnings of aircrafts heavier than air. Czechoslovak aviation pioneers. Development of air	•	
World airports. Fa	amous aviators. Helicopters. CSA airplanes. Development of aircrafts in Czechoslovakia between the years 1945-1989. Classic era of	aviation. Golden e	era of civil
45)/47)/	aviation. Modern era of civil aviation. Airline companies. Supersonic flying.	1/7	
15Y1ZV	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 continuity	KZ	2
	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.		
16X31	Project 1	Z	2
16X32P	Project 2 PIL-CS	Z	2
16X33	Project 3	Z	2
17X31	Project 1	Z	2
17X32P	Project 2 PIL-CS	Z	2
17X33	Project 3	Z	2
17Y1LL	Logistics of Passenger and Freight Air Transport	KZ	2
Logistics airline pa	ssenger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aerial trans	sport process pass	engers and
	air cargo. Information systems in air transport. Global distribution systems.		
18X31	Project 1	Z	2
18X32P	Project 2 PIL-CS	Z	2
18X33	Project 3	Z	2
18Y1EM	Experimental Methods in Mechanics	KZ	2
	ole of experimental mechanics. Sensors for mechanical testing. Overview of experimental methods. Destructive and non-destructive t	-	- 1
experimental pro	cedures and sample preparation. Tensile and bending tests. Electrical resistance strain gages. Optical based strain measurement. Fat Instrumented hardness testing. Introduction to electron microscopy. Errors in measurement.	ligue and illetime p	rediction.
18Y1MT	Engineering Materials	KZ	2
-	ew of main classes of materials used in technical design. In addition to main classes of materials, i. e. metals, ceramics, polymers and	ı	
to biol	ogical materials and to biomimetics. Integral approach to material selection process is also demonstrated based on so called Ashby's	selection charts.	
18Y1PD	Computer Simulations in Transportation	KZ	2
•	view of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model development	· · · · · · · · · · · · · · · · · · ·	
from other CAE sys	stems. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary conditions and tasks of structural and modal analysis. Introduction to complex nonlinear problems.	application of the	load. Basic
18V1PS		K7	2
18Y1PS Principles and over	Computer Simulations in Mechanics	KZ	2 of geometry
Principles and over		nt and adaptation o	of geometry
Principles and over	Computer Simulations in Mechanics view of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model development	nt and adaptation o	of geometry
Principles and over	Computer Simulations in Mechanics view of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model development stems. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary conditions and	nt and adaptation o	of geometry
Principles and over from other CAE sys	Computer Simulations in Mechanics view of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model development stems. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary conditions and tasks of structural and modal analysis. Introduction to complex nonlinear problems.	nt and adaptation of the	of geometry load. Basic
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Principles and over from other CAE system other CAE syste	Computer Simulations in Mechanics view of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model developmer stems. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary conditions and tasks of structural and modal analysis. Introduction to complex nonlinear problems. Project 1 Project 2 PIL-CS Project 3 Advanced Flying 1 ements Learning objectives laid down in Commission Regulation (EU) No 1178/2011. Instrument flying introduction, threat and error rures, enroute flight, holdings and arrivals, instrument approaches, performance based navigation, weather consideration, flight plann brieflings, phraseology differences, lost communication procedures, CFIT prevention, decompresion Navigation Calculations s; times - UTC, Zulu, LT; positioning; sunrise and sunset, distance calculation; projection; maps and symbols; declination; speed; wind VFR route selection; position plotting. Air Transport Economy Weight and Balance of Aircraft s and balance, basic aircraft masses, weighing and maximum aircrafts masses, overloading of aircraft, standard weights of passenger, bat ft, flight documentation - loadsheet, trimsheet, securing of load, determination of centre of gravity, influence of centre of gravity positic IFR Communication 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 Communication and Surveillance Systems in Aviation aints students with communication and surveillance systems both from the perspective of the air segment (aircraft systems) and fron infrastructure (ground systems), which together create the necessary prerequisites for ensuring safe, efficient and economical air transmission and from the perspective of the air segment (aircraft systems) and from infrastructure (ground syst	at and adaptation of application of the dapplication of the dappli	of geometry load. Basic 2 2 2 3 sedures for one of the feeting of
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21LAP2	Aviation English for Professional Pilot 2	Z,ZK	3
Exercises focuse	d on repetition and smoother communication within VFR and IFR communication, communication with technical staff at the airport, a distribution airlines.	luent conversation	within the
21LCM	Aircraft Engines	Z,ZK	3
•	gine, theoretical background, operational characteristics and construction schemes. Propellers, operational characterictics. Turbine en onstruction schemes, operational characteristics. Turbojet and turbofan engines, basic construction modules, and their operational ch	•	
21LDA1	Aircraft 1	Z,ZK	3
Aircraft structural a	'n ind conceptual design types - definitions and basic knowledge of the problem. Development of requirements, aircraft definitions and ca Systems of primary and secondary airframe structure. Airframe and propulsion unit. Lectures are devoted to aeroplane topic		ft loadings.
21LDA2	Aircraft 2	Z,ZK	4
	consibility, responsibilities of operator and professional supervising. Legislation in area of airworthiness. International and national stan structures. Aeroelasticity. Inherent and operational reliability of aircraft structure. Fatigue strength. Aircraft structure lifetime presur	dards. Static solidit	y of aircraft
21LEIS	Aerodromes	Z,ZK	3
	ns. Applicability. Airport design. Reference code. Declared distances of runways (RWY). Taxiways and aprons. Clearway. Stopway. Mar larkers. Visual aids for denoting obstacles. Obstacle restriction, removal. Visual aids for navigation, lights, approach lighting systems. V systems. Runway lights. Taxiway lights. Visual aids for denoting obstacles.	-	
21LEY1	Air Law 1	ZK	3
	pc 7300; ICAO Doc 7500 and 9626; International Organizations: ICAO, IATA, EASA, EUROCONTROL; airworthiness; ICAO Annexes; 965/2012.		
21LEY2	Air Law 2	ZK	3
	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	Human Factors in Aviation	KZ	3
Human factors in	aviation. Breathing, atmosphere. Heart and circulation. Radiation. Human sensory organs, nervous system. Vision, hearing, illusions. wakefulness and sleep. Information processing, human error. Cockpit management. Behaviour and workload. Automation. Core com		e, fatigue,
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	Flight Training 1	KZ	2
Practical exercis	ses for improvement of theoretical knowledge in a range of at least PPL(A) of the objects 010 - 090 in accordance with Part FCL. The	oasics of flight cont	trol, dual
exercises, solo fl	ights and navigation flights. This course is intended only for long-term student, who are in integrated pilots training and study all cours (Professional Pilot) in all three years.	es related to Study	field PIL
21LPX2	Flight Training 2	KZ	2
	es for improvement of theoretical knowledge in a range MEP land and IFR from the relevant subjects in accordance with Part FCL. The		
dual exercises, er	nergency procedures, descents and navigation flights. This course is intended only for long-term student, who are in integrated pilots	raining and study a	all courses
041 BV0	related to Study field PIL (Professional Pilot) in all three years.	1/7	
21LPX3	Flight Training 3 Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge.	KZ edge	2
21LPX4	Flight Training 4	KZ	2
	Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge	edge	
21LPX5	Flight Training 5	KZ	2
0411//ID	Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge.		
21LVIP Flight safety analys	MCC - Multicrew Cooperation sis in relation to human factor. MCC - basic principles, phases and methods within the area of air transport. CRM - leadership, situations process, communication, effect of stress to the multi-crew performance, standard operational procedures, automation.	KZ al awareness, decis	2 ion making
21MEE1	Meteorology 1	Z,ZK	3
	and vertical structure of the atmosphere. QNH, QFE, QFF, QNE, density and height measurements. Wind, moisture and adiabatic pro		
	cloud, fog, haze. Precipitation. Types of air masses, atmospheric fronts. Distribution of pressure, cyclones, anticyclones, non-frontal	cyclone.	
21MET2	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	General Navigation	ZK	5
	de and longitude. Reference systems. Circles on the Earth and distance. Calculations. Time. Magnetism and sirections. Wind and Spe		١,
Calculations: navig	pation computer conversions, TAS, rates. Calculations: 1 in 60 and navigation computer track and GS. Projections. Charts. VFR naviga use. Navigation display. Navigation in remote and oceanic areas.	tion. Nav Log prepa	aration and
21PKL2-E	Advanced Flying 2	ZK	2
	es are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine aircraft a		
	ement, stabilized approach and landing errors, jet - performance - engine out flight, jet - handling - engine out flight go around, UPRT, operations, operation manuals, MEL procedures and deviations, flight time limitation	-	
21PML-E	Flight Planning and Monitoring Flight planning for VFR flights for small, single- and multi-engine aeroplanes	Z,ZK	3
21PPY1-E	Operational Procedures 1	Z,ZK	3
-	Annex 6, PART-OPS, Air operator, Aircraft operation, Operating procedures, Airplane equipment, Flight management, Airspa		-
21PRJ2	Instrumentation 2	ZK	3
	pic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning sy		
	(autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers.		
21PRKP-E	Practical Flight Planning	Z,ZK	4
	nce 2. fuel planning, PDP, RIF,RCF 3. ATC FPL 4. Preflight procedure and briefing-NOTAM + weather(METAR,SIGMET) 5. Jeppesen ght planning- ICAO mapa, softwary 8. IFR flight planning- theory 9. PBN- RNAV, RNP 10. IFR flight planning- softwary 11. MRJT- OFP	_	
and only 1. VI IX III	graphianing is to mapa, contrary or in a migrapianining arcory or i bit interv, and i to in a migrapianining contwary 11. Wild if Of F	O. O a NAI	
	PET, PSR, PNR 14. practical VFR a IFR flight planning		

21PRY2-E	Operational Procedures 2	ZK	3
Flight document	ation and manuals, Icing and protection of the aircraft against icing, noise abatement procedures, Abnormal and emergency situation contamination	s and procedures,	Runway
21PUP1	Instrumentation 1	ZK	3
	on principles of instrumentation, electronic displays, basics of measurement - sensitivity and errors, engine instrumentation (pressure	1	
quantity and fuel flow measurement, torque and EPR measurement), indication in other aircraft systems (position, fire and icing indication, vibration monitoring, pressurisation system			
monitoring, aerometric instruments (sensors, altimeter, air speed indicator, VSI, ADC).			
21RNV	Radionavigation	Z,ZK	4
	nder (VDF), ADF, VOR and Doppler VOR, DME, ILS, MLS, ground ATC radar, weather Radar, SSR and transponder. Radar utilization	•	0
Area navigation (RNAV) - general philosophy, gauges and equipment, indication and sensors for RNAV, VOR/DME (RNAV). Autopilot and flight director. Satellite navigation, systems			
21SBU1	and backups. Bachelor Thesis Seminar 1	Z	1
	Bachelor Thesis Seminal I view, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation of	_	styles how
	e). Analyzing the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thes		otyloo, now
21SBU2	Bachelor Thesis Seminar 2	Z	1
	nesis writing (introduction, analysis of the current state, specification of the problem, objectives and hypotheses). Definition of materia	ls and methods, ap	oproach to
ok	staining results, presentation and discussion of results, formulation of thesis conclusions. Basics of LaTeX, working with LaTeX and W	ord template.	
21SBU3	Bachelor Thesis Seminar 3	Z	1
Formal and grap	hic design of the thesis. Data collection and presentation, basic statistical reasoning, validation of results and designs. Achieving the	objectives of the th	nesis and
evaluation of hypothesis tests. Preparation of the presentation, principles of presentation of the thesis.			
21VFRC	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
041/EDT	situations.	7 71/	
21VFRT	Theory for VFR Training based on PPL(A) theory requirements according to Part-FCL. Lectures cover topics that are necessary to commence the practical pa	Z,ZK	6
	t, airframe and powerplant, aircraft systems, instrumentation, mass and balance, performance, air law and ATC procedures, meteorol		
po.p.oo og	navigation, radionavigation, VFR communication, flight planning and monitoring and human factor.	ogy, operanoria. pr	,
21VL-E	Aircraft Performance	Z,ZK	4
	raft performance, basic characteristic speeds, runway characteristics, single and multiengine aircraft performance class B, aircraft per		take off and
	landing performance, after take off and missed approach climb, noise abatement procedures, range of aircraft, drift down, MEL, E	TOPS.	
21X31	Project 1	Z	2
21X32P	Project 2 PIL-CS	Z	2
21X33	Project 3	Z	2
21Y1AM	Aeronautical Information Management (AIM)	KZ	2
Definition and basic overview of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronautical Inf. Publication). VFR Manual of			
the Czech Rep. AIRAC System. NOTAM messages.PIB (Pre-flight Informtion Bulletin). AIC (Aeronautical Inf. Circulars). Aeronautical Charts. EAD (Europena AIS Database). QMS			
21Y1BC	(Quality Mng. System). ADQ (Aeronautical Data Quality). AIXM (Aeronautical Inf. Exchnage Format).	KZ	2
_	Aviation safety and security f safety and security development in aviation. Modern tools for safety and security management. Research and development of safe a	1	
21Y1BS	Unmanned aircraft systems 1	KZ	2
_	n Development. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division. Ope	1	I
	procedures. Practical flights.		
21Y1MP	Matlab for project-oriented study	KZ	2
	bus is focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercises	will be prepared a	ccording to
particular examp	les, based on actual students' needs and suggestions. The subject will have a flexible form, which is expected to bring an improveme	nt of students' Mat	lab skills.
21Y1OH	Airline Business and Operations	KZ	2
•	s a comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses on the organization of the companies		
various aspects of	their strategy, economic and operational indicators. It introduces students in detail to operational processes and the essentials of transport	ortation processes	s. It provides
247400	a basic view of the economic aspects of air transport.	V7	
21Y1PC	ATC Procedures and Activities procedures, basics of communication and phraseology, aircraft identification, spacing and traffic coordination. In addition, the course of	KZ	2 control at
the airports and low visibility operational procedures. Students will during the course learn basic safety management applications applied across the infrastructure.			
21Y1RZ	Human Resources Management	KZ	2
	human resources in the organization and related disciplines file. Substance, importance and challenges of human resources manage	I	
	nan resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation and ren		I
	dismissal and redundancies of employees. Education of employees. Planning career management.		
21ZYT1	Principles of Flight 1		2
-	· •	Z,ZK	3
attack, reactions of 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, devices for			
	relation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and prowing 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	essures around wir	ng, angle of
047\/T0	relation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and prowing 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 lift and drag increase.	essures around wir drag, interference,	ng, angle of devices for
21ZYT2	relation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and prowing 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 lift and drag increase. Principles of Flight 2	essures around wir drag, interference, Z,ZK	ng, angle of devices for
Static & amp; dyna	relation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and prowing 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 lift and drag increase. Principles of Flight 2 amic longitudinal stability, neutral point, location of centre of gravity, static directional & amp; lateral stability, dynamic directional & amp	essures around wird drag, interference, Z,ZK ; lateral stability, co	ng, angle of devices for 3 ontrol pitch
Static & amp; dyna	relation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and prowing 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 lift and drag increase. Principles of Flight 2	essures around wird drag, interference, Z,ZK ; lateral stability, co	ng, angle of devices for 3 ontrol pitch
Static & amp; dyna	relation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and providing 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 lift and drag increase. Principles of Flight 2 amic longitudinal stability, neutral point, location of centre of gravity, static directional & Description of the stability, dynamic directional & Description of Stability, roll (lateral), roll/yaw interaction, trimming, speed of sound, Mach number, compressibility, shock waves, critical	essures around wird drag, interference, Z,ZK ; lateral stability, co	ng, angle of devices for 3 ontrol pitch
Static & dyna (longitudinal), ya	relation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and proving 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 lift and drag increase. Principles of Flight 2 amic longitudinal stability, neutral point, location of centre of gravity, static directional & Description of the principles of sound, Mach number, compressibility, shock waves, critical heating, operating limitations, manoeuvring envelope, gust-load diagram.	essures around wirdrag, interference, Z,ZK ; lateral stability, common mach number, aen	ng, angle of devices for 3 ontrol pitch odynamic
Static & amp; dyna (longitudinal), ya 22X31	relation between drag and speed, streamline, boundary layer, formula of continuity, formula of Bernoulli, lift and drag, air flow and proving 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 lift and drag increase. Principles of Flight 2 amic longitudinal stability, neutral point, location of centre of gravity, static directional & principles amp; lateral stability, dynamic directional & principles amp; roll (lateral), roll/yaw interaction, trimming, speed of sound, Mach number, compressibility, shock waves, critical heating, operating limitations, manoeuvring envelope, gust-load diagram. Project 1	essures around wir drag, interference, Z,ZK ; lateral stability, co Mach number, aen	ng, angle of devices for 3 ontrol pitch odynamic 2

For updated information see http://bilakniha.cvut.cz/en/FF.html Generated: day 2025-09-28, time 23:34.