Study plan

Name of study plan: Bachelor PIL (CS) 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: 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 T asák, 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 Magdalena Hykšová, Lucie Kárná, Pavel Provinský, Martina Be vá ová Magdalena Hykšová Martina 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

| 440414 | | 7.714 | | | | | | | |
|--|---|----------------------|-----------------|--|--|--|--|--|--|
| 11CAL1 | Calculus 1 | Z,ZK | / | | | | | | |
| 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, impre | | | | | | | | | |
| 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 | 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 22PMJ-E 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 24Computers, 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 oriente programming IFR Communication KZ 2 20 Entitions, Terms, Abbreviations, Q-codes, Transport message categories, Transmission technique, Transmission of letters, numbers, time and symbols, Standard words and phrator IFR flights, Radar procedural phraseology, Standard words and phrator IFR flights, Radar procedural phraseology, Standard phraseology a | 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 KZ 2 2 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 IFRX Flight Training 3 22 Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21 SBU1 Bachelor Thesis Seminar 1 3 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 - English 4 Z,ZK 3 | 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, by citation, 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 4 EVEX 3 EVEX 3 EVEX 4 EVEX 4 EVEX 3 EVEX 4 EVEX 3 EVEX 4 EVEX 3 EVEX 4 EVEX 4 EVEX 4 EVEX 4 EVEX 4 EVEX 3 EVEX 4 EVEX | 21PML-E | Flight Planning and Monitoring | Z,ZK | 3 |
| Compass, gyroscopic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, warning systems (TCAS, GPWS), AF autopilot, flight director, autothrust), FMS, flight envelope protection, communication systems, flight computers. 4AP | -light planning for \ | FR flights for small, single- and multi-engine aeroplanes | , , | |
| 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, abstradata types (set, tupple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, instroduction into object oriented brogramming 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 of IFR flights, Radar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and emergency situations. IFR Communication KZ 2 Despensing of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge Bachelor Thesis Seminar 1 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, Forcite). Analyzing the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis methodology. In SJZ4A Foreign Language - English 4 | 21PRJ2 | Instrumentation 2 | ZK | 3 |
| Algorithm and Programming Computers, data representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching and sorting algorithms, abstrate lata 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 21 IFR C IFR Communication KZ 2 Definitions, Terms, Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time and symbols, Standard words and phrate 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 Desepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21 SBU1 Bachelor Thesis Seminar 1 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, Proceedings). The state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis methodology. ISJZ4A Foreign Language - English 4 Z,ZK 3 | Compass, gyroscop | ic instruments (turn indicator, attitude indicator, directional gyro), inertial instruments, recording and monitoring systems, w | arning systems (TCAS, C | SPWS), AFC |
| 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 programming 21IFRC IFR Communication | autopilot, flight dire | ctor, autothrust), FMS, flight envelope protection, communication systems, flight computers. | | |
| data 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 21 IFRC IFR Communication 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. 21 LPX3 Flight Training 3 Despening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21 SBU1 Bachelor Thesis Seminar 1 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, he 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. 15 JZ4A Foreign Language - English 4 Z,ZK 3 | I4AP | Algorithm and Programming | KZ | 4 |
| Particular of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21 SBU1 Bachelor Thesis Seminar 1 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, recitable of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis methodology. 21 SJZ4A Foreign Language - English 4 KZ 2 2 Despending of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge Z 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, recite). Analyzing the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis methodology. | Computers, data re | oresentation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, sear | ching and sorting algorith | nms, abstrac |
| 21IFRC IFR Communication 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. 21LPX3 Flight Training 3 Deseponing of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21SBU1 Bachelor Thesis Seminar 1 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, Procite). Analyzing the state of the art (standards of research writing). Defining the limitations of the state of the art. Introduction to the thesis methodology. 15JZ4A Foreign Language - English 4 Z,ZK 3 | data types (set, tup | ple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with f | iles, instroduction into ob | ject oriente |
| Definitions, Terms, Abbreviations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time and symbols, Standard words and phrastor IFR flights, Radar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and emergency situations. 21LPX3 Flight Training 3 KZ 2 Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21SBU1 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, how 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. 15JZ4A Foreign Language - English 4 Z,ZK 3 | orogramming | | | |
| for IFR flights, Radar procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and emergency situations. 21LPX3 Flight Training 3 KZ 2 Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21SBU1 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, how 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. 15JZ4A Foreign Language - English 4 Z,ZK 3 | 21IFRC | IFR Communication | KZ | 2 |
| Pilight Training 3 Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21SBU1 Bachelor Thesis Seminar 1 Bypes of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, how 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. 15JZ4A Foreign Language - English 4 Z,ZK 3 | Definitions, Terms, | observiations, Q-codes, Transport message categories, Transmission technique,, Transmission of letters, numbers, time and | I symbols, Standard word | ls and phras |
| Deepening of theoretical knowledge and practical examination of progress in professional competence in pilot skills and knowledge 21SBU1 Bachelor Thesis Seminar 1 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. 15JZ4A Foreign Language - English 4 Z,ZK 3 | or IFR flights, Rada | r procedural phraseology, Standard phraseology and Morse code, Practical IFR radiotelephony procedures in normal and e | emergency situations. | |
| PATION Bachelor Thesis Seminar 1 Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, how 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. 15JZ4A Foreign Language - English 4 Z,ZK 3 | 21LPX3 | Flight Training 3 | KZ | 2 |
| Types of thesis (review, applied research, basic research, thesis dealing with design proposals). Working with citation sources (citation sources, citation databases, citation styles, ho 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. 15JZ4A Foreign Language - English 4 Z,ZK 3 | Deepening of theor | tical knowledge and practical examination of progress in professional competence in pilot skills and knowledge | | |
| o 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. 15JZ4A Foreign Language - English 4 Z,ZK 3 | 21SBL11 | Bachelor Thesis Seminar 1 | Z | |
| 15JZ4A Foreign Language - English 4 Z,ZK 3 | 10001 | Bacifoldi Tricold Collinia T | | 1 |
| | | | , 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 Miroslav Malina | ZK | 3 | 3P+0C | Z | Z |
| 21LILE | Human Factors in Aviation Lenka Hanáková, 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, the | issue of EC regulat | ions 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 | r transport and tran | sportation. |
| 21LILE | Human Factors in Aviation | KZ | 3 |
| Human factors in a | viation. Breathing, atmosphere. Heart and circulation. Radiation. Human sensory organs, nervous system. Vision, hearing, illusic | ons. Health and hyg | iene, 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 | stratosphere, mour | ıtain areas, |
| reducing visibility p | henomena. 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 balance | ce 2. fuel planning, PDP, RIF,RCF 3. ATC FPL 4. Preflight procedure and briefing-NOTAM + weather(METAR,SIGMET) 5. Jeppe | sen charts 6. VFR | flight 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- C |)FP 12. ETOPS a N | IAT HLA 13. |
| PET, PSR, PNR 14 | I. 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 & a | amp; lateral stability | , control pitch |
| (longitudinal), yaw | (directional) & amp; roll (lateral), roll/yaw interaction, trimming, speed of sound, Mach number, compressibility, shock waves, critic | cal Mach number, a | 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 | · ' | |
| 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 mat | erials and methods | , approach to |
| obtaining results, p | resentation and discussion of results, formulation of thesis conclusions. Basics of LaTeX, working with LaTeX and Word template | e. | |

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 |
| | | • • • | |
| 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 |
| 21PKL2-E earning objectives nergy management perations, operations | 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, Ulan manuals, MEL procedures and deviations, flight time limitation | ZK | haracteristics |
| 21PKL2-E earning objectives energy managemer eperations, operations | 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, Ul | ZK ircraft and jet aircraft cl PRT, volcanic ash, colo | haracteristics d weather |
| 21PKL2-E earning objectives energy managemer eperations, operatio 21PRY2-E light documentatio | 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 |
| 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 |
| 21PKL2-E earning objectives earning objectives energy managemen perations, operatio 21PRY2-E light documentatio ontamination 21KSA | 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, Ulan 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 | ZK ircraft and jet aircraft cl PRT, volcanic ash, colo ZK uations and procedure | haracteristics d weather 3 s, Runway |
| 21PKL2-E earning objectives energy managemer operations, operatio 21PRY2-E light documentatio contamination 21KSA Communication. Ma | 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, Upon 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 KSA Assessment | ZK ircraft and jet aircraft cl PRT, volcanic ash, colo ZK uations and procedure | haracteristics d weather 3 s, Runway |
| 21PKL2-E earning objectives energy managemer operations, operatio 21PRY2-E light documentatio contamination 21KSA Communication. Ma | 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, Un 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 in the interval of the second of the | ZK ircraft and jet aircraft cl PRT, volcanic ash, colo ZK uations and procedure | haracteristics d weather 3 s, Runway |
| 21PKL2-E earning objectives energy managemer perations, operatio 21PRY2-E light documentatio ontamination 21KSA communication. Ma reventation and receptations | Advanced Flying 2 are based on requirements laid down in Commission Regulation (EU) No 1178/2011, subjects 081 and 100. Multi engine ai nt, stabilized approach and landing errors, jet - performance - engine out flight, jet - handling - engine out flight go around, Ulan 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 in the interval of flight path. Automation of flight. Leadership and teamwork. Problem solving. Decision making. Situation awarned covery training. Mental math. | ZK ircraft and jet aircraft cl PRT, volcanic ash, colo ZK uations and procedure KZ ess. Workload manage | haracteristics d weather 3 s, Runway 2 ment. Upset |
| earning objectives nergy managemer perations, operations, operatio | Advanced Flying 2 The rare 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, Ulan manuals, MEL procedures and deviations, flight time limitation Operational Procedures 2 In and manuals, Icing and protection of the aircraft against icing, noise abatement procedures, Abnormal and emergency site in the interval of flight path. Automation of flight. Leadership and teamwork. Problem solving. Decision making. Situation awarned covery training. Mental math. Flight Training 5 | ZK ircraft and jet aircraft cl PRT, volcanic ash, colo ZK uations and procedure KZ ess. Workload manage | haracteristics d weather 3 s, Runway 2 ment. Upset |
| 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

| (CS) HOIII 2023/20 | | | | |
|--------------------|------------------|---|---|--|
| 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,L | 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,Z | 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,Z | PV |
| 18Y1MT | Engineering Materials Petr Koudelka (Gar.) | KZ | 2 | 2P+0C | L,Z | 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 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-BP-PIL-CS-25/26 Name=Comp. Sel. Courses Bachelor Full-Time PII (CS) from 2025/26

| PIL (CS) from 2025/26 | | |
|--|-----------------------|--------------------|
| 15Y1EH 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 | . Little Entente, its | s principles and |
| goals. Europe after Hitler'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-German relationship - a driving power of starting European integration. | | |
| 15Y1HE 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 | e factors on healtl | 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 the field of transportation; relevant legislature. | | |
| 15Y1ZV East-West dichotomy: Prelude to the Cold War | KZ | 2 |
| Historical prologue, evolution of the "West" and "East" from the 1500s. Focus on the history in the period between 1850 nad 1950. Milestones and con | tinuity of the interr | national relations |
| in the end of 19th century and the beginning of the 20th century. Revolutions, the causes and consequences. Scientific and technological progress, to | 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 of experimental mechanics. Sensors for mechanical testing. Overview of experimental methods. Destructive and non-destructi | ve testing of mate | rials. Design of |
| experimental procedures 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 focused on the problem-solving during bachelor's thesis preparation and it is based on students' requests. Individual exercises | ses will be prepar | ed according to |
| particular examples, based 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 comprehensive view of the commercial, operational and transportation activities of air transport companies. It focuses on the organization | 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 tra | ensportation proce | sses. It provides |

| Tour de les estel le estel ett. | Work Safety and Health Protection in Transportation | KZ | 2 |
|--|---|--|--|
| rundamentai legisiativ | e, definition of terms, risks and possible health damage, working conditions and health protection with focus on transportation | on. Health protectio | n programmes, |
| health insurance of ho | me and foreign business trips, statistics, working practice. | | |
| 15Y1HL | History of Civil Aviation | KZ | 2 |
| Beginnings of flying, d | evelopment of aircrafts lighter than air. Beginnings of aircrafts heavier than air. Czechoslovak aviation pioneers. Developmen | t of airports in the (| Zech Republic. |
| World airports. Famou | s aviators. Helicopters. CSA airplanes. Development of aircrafts in Czechoslovakia between the years 1945-1989. Classic er | a of aviation. Golde | en era of civil |
| aviation. Modern era o | f civil aviation. Airline companies. Supersonic flying. | | |
| 17Y1LL | Logistics of Passenger and Freight Air Transport | KZ | 2 |
| Logistics airline passe | nger and cargo. Aircraft and airport terminals for passenger and cargo transport. Airlines in terms of logistics systems. Aeria | I transport process | passengers and |
| air cargo. Information s | systems in air transport. Global distribution systems. | | |
| 18Y1MT | Engineering Materials | KZ | 2 |
| Systematic overview o | f main classes of materials used in technical design. In addition to main classes of materials, i. e. metals, ceramics, polymen | s and composites, | attention is paid |
| to biological materials | and to biomimetics. Integral approach to material selection process is also demonstrated based on so called Ashby's selecti | on charts. | |
| 18Y1PD | Computer Simulations in Transportation | KZ | 2 |
| Principles and overvie | v of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model develo | opment and adapta | tion of geometry |
| from other CAE syster | ns. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary conditior | ns and application o | of the load. Basic |
| tasks of structural and | modal analysis. Introduction to complex nonlinear problems. | | |
| 18Y1PS | Computer Simulations in Mechanics | KZ | 2 |
| | w of tools for stress analysis of structures. Numerical methods in mechanics, finite element method. Geometric model develo | opment and adapta | tion of aeometry |
| • | ns. Assignment of material properties. The types of elements and their use. Discretization of solid model. Boundary condition | | |
| | | | |
| tasks of structural and | modal analysis. Introduction to complex nonlinear problems. | | |
| | modal analysis. Introduction to complex nonlinear problems. Aviation safety and security | KZ | 2 |
| 21Y1BC | | 1 | |
| 21Y1BC | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and security development in aviation. | 1 | |
| 21Y1BC History of safety and s 21Y1BS | Aviation safety and security | KZ | 2 |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation De | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division | KZ | 2 |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation De procedures. Practical f | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. | KZ Operational risks | 2 |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation De procedures. Practical f 21Y1RZ | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management | KZ . Operational risks | 2 and operational |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation De procedures. Practical f 21Y1RZ The position of human | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. | KZ Operational risks KZ KZ Operational risks | 2 and operational 2 de external |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation Deprocedures. Practical f 21Y1RZ The position of human environment of human | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management resources in the organization and related disciplines file. Substance, importance and challenges of human resources mana | KZ Operational risks KZ KZ Operational risks | 2 and operational 2 dd external |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation Deprocedures. Practical f 21Y1RZ The position of human environment of human dismissal and redunda | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management resources in the organization and related disciplines file. Substance, importance and challenges of human resources mana resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation ar incies of employees. Education of employees. Planning career management. | KZ Operational risks KZ KZ Operational risks | 2 and operational 2 dd external |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation Deprocedures. Practical f 21Y1RZ The position of human environment of human dismissal and redundar 21Y1AM | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management resources in the organization and related disciplines file. Substance, importance and challenges of human resources mana resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation are | KZ Operational risks KZ KZ Gement. Internal are remuneration of state KZ | 2 and operational 2 ad external staff. Positioning |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation Deprocedures. Practical f 21Y1RZ The position of human environment of human dismissal and redundar 21Y1AM Definition and basic ov | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management resources in the organization and related disciplines file. Substance, importance and challenges of human resources mana resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation ar incies of employees. Education of employees. Planning career management. Aeronautical Information Management (AIM) | KZ Operational risks KZ REPRESENTED SET OF SET O | 2 and operational 2 ad external staff. Positioning 2 VFR Manual of |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation Deprocedures. Practical f 21Y1RZ The position of human environment of human dismissal and redundar 21Y1AM Definition and basic over the Czech Rep. AIRAC | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and s Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management resources in the organization and related disciplines file. Substance, importance and challenges of human resources mana resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation are incies of employees. Education of employees. Planning career management. Aeronautical Information Management (AIM) verview of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronautical Information Management) | KZ Operational risks KZ REPRESENTED SET OF SET O | 2 and operational 2 ad external staff. Positioning 2 VFR Manual of |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation Deprocedures. Practical f 21Y1RZ The position of human environment of human dismissal and redunda 21Y1AM Definition and basic over the Czech Rep. AIRAC (Quality Mng. System) | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and so Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management resources in the organization and related disciplines file. Substance, importance and challenges of human resources mana resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation are incies of employees. Education of employees. Planning career management. Aeronautical Information Management (AIM) rerview of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronautic System. NOTAM messages.PIB (Pre-flight Informtion Bulletin). AIC (Aeoronautical Inf. Circulars). Aeronautical Charts. EAD. ADQ (Aeronautical Data Quality). AIXM (Aeronautical Inf. Exchnage Format). | KZ gement. Internal ar and remuneration of second Inf. Publication). (Europena AIS Da | 2 and operational 2 ad external staff. Positioning 2 VFR Manual of |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation Deprocedures. Practical f 21Y1RZ The position of human environment of human dismissal and redunda 21Y1AM Definition and basic over the Czech Rep. AIRAC (Quality Mng. System) | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and so Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management resources in the organization and related disciplines file. Substance, importance and challenges of human resources mana resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation and related of employees. Planning career management. Aeronautical Information Management (AIM) rerview of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronautic System. NOTAM messages.PIB (Pre-flight Informtion Bulletin). AIC (Aeoronautical Inf. Circulars). Aeronautical Charts. EAD ADQ (Aeronautical Data Quality). AIXM (Aeronautical Inf. Exchnage Format). Active participation in a scientific project, workshop, short-term trip abroad | KZ gement. Internal ar nd remuneration of second Inf. Publication). (Europena AIS Da | 2 and operational 2 ad external staff. Positioning 2 VFR Manual of atabase). QMS |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation Deprocedures. Practical f 21Y1RZ The position of human environment of human dismissal and redunda 21Y1AM Definition and basic over the Czech Rep. AIRAC (Quality Mng. System) 00Y1XB 21Y1PC | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and so Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management resources in the organization and related disciplines file. Substance, importance and challenges of human resources mana resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation and related of employees. Planning career management. Aeronautical Information Management (AIM) rerview of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronautical System. NOTAM messages.PIB (Pre-flight Informtion Bulletin). AIC (Aeoronautical Inf. Circulars). Aeronautical Charts. EAD ADQ (Aeronautical Data Quality). AIXM (Aeronautical Inf. Exchnage Format). Active participation in a scientific project, workshop, short-term trip abroad ATC Procedures and Activities | KZ gement. Internal ar nd remuneration of second Inf. Publication). (Europena AIS Da | 2 and operational 2 ad external staff. Positioning 2 VFR Manual of tabase). QMS |
| 21Y1BC History of safety and s 21Y1BS Unmanned Aviation Deprocedures. Practical f 21Y1RZ The position of human environment of human dismissal and redunda 21Y1AM Definition and basic over the Czech Rep. AIRAC (Quality Mng. System) 00Y1XB 21Y1PC Air traffic control proces | Aviation safety and security ecurity development in aviation. Modern tools for safety and security management. Research and development of safe and so Unmanned aircraft systems 1 evelopment. Aircraft design. Legislation in force in the Czech Republic. Planning and execution of the flight. Airspace division lights. Human Resources Management resources in the organization and related disciplines file. Substance, importance and challenges of human resources mana resource management. Human resource planning. Search, recruitment and selection of employees. Motivation, evaluation and related of employees. Planning career management. Aeronautical Information Management (AIM) rerview of AIS and AIM. Transition from AIS to AIM. Regulatory base. Provision of AIS/AIM in the Czech Rep. AIP (Aeronautic System. NOTAM messages.PIB (Pre-flight Informtion Bulletin). AIC (Aeoronautical Inf. Circulars). Aeronautical Charts. EAD ADQ (Aeronautical Data Quality). AIXM (Aeronautical Inf. Exchnage Format). Active participation in a scientific project, workshop, short-term trip abroad | KZ gement. Internal ar nd remuneration of second Inf. Publication). (Europena AIS Date KZ | 2 and operational 2 ad external staff. Positioning 2 VFR Manual of tabase). QMS |

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 | ectric 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 integral 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 elect | 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 o acceleration of a particle moving on a curved path. | | _ |
| 11LA | Linear Algebra | Z,ZK | 3 |
| | 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. | r solvability. Deteri | |
| 11MSP | Modeling of Systems and Processes | Z,ZK | 4 |
| System and subsy | stem, external and internal system description, continuous and discrete system, mathematics as a tool, examples of formulation of differently and non-stationary system, causality. Convolutional integral. Laplace and Z transformations. Transfer function Discretization of continuous systems. System interconnection. | ntial and differentia | |
| 11SCFZ | Seminar of Physics Solving problems on kinematics, particle dynamics, dynamics of particle systems and rigid body. Continuum mechanics, thermody | Z namics. | 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 Paramet Regression and correlation analysis | Z,ZK ric 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 |
| | · | Z | |
| 12X32P | Project 2 PIL-CS | | 2 |
| 12X33 | Project 3 | Z | 2 |
| = | Algorithm and Programming representation, algorithms (conditions, loops), high level programming languages, introduction to Python language, lists, searching an upple, dictionary), regular expressions, libraries to process date and time, set arrays, functions and procedures, working with files, inst programming | | |
| 14X31 | Project 1 | Z | 2 |
| 14X32P | Project 2 PIL-CS | Z | 2 |
| 14X33 | Project 3 | Z | 2 |
| 15JP1A | Foreign Language - English for PIL 1 | <u></u> | 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 struct Topics related to air transport and occupation of pilot and air staff. | tic 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 | | |
| - | d fluency of spoken language. Aviation phraseology in combination with general English. Revision and improvement of grammar struct Topics related to air transport and occupation of pilot and air staff. | · · · · · · · · · · · · · · · · · · · | |
| | Topics related to all transport and occupation of pilot and all stant. | | |
| 15JZ3A | Foreign Language - English 3 | Z | 3 |
| 15JZ3A Grammar structu | Foreign Language - English 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 ar | fields of study pilo | t. Focus o |
| 15JZ3A Grammar structur mprovement in pe | Foreign Language - English 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 are and their features; terminology. | fields of study pilo d written form. Teo | t. Focus or chnical text |
| 15JZ3A Grammar structui mprovement in pe 15JZ4A Grammar structur | Foreign Language - English 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 are and their features; terminology. Foreign Language - English 4 e 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 are | fields of study pilo d written form. Teo Z,ZK fields of study - pilo | t. Focus or chnical text 3 ot. Focus o |
| 15JZ3A Grammar structul mprovement in pe 15JZ4A Grammar structur mprovement in pe | Foreign Language - English 3 re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's exceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral are and their features; terminology. Foreign Language - English 4 re and stylistics. Conversational and specialised topics selected according to the language group level and with regard to the Faculty's exceptive and communicative skills; widening the vocabulary. Basic kinds of compositions. Presentations of own findings in both oral are and their features; terminology. | fields of study pilo id written form. Ted Z,ZK rields of study - pilo id written form. Ted | t. Focus or chnical text 3 ot. Focus of chnical text |
| 15JZ3A Grammar structul mprovement in pe 15JZ4A Grammar structur mprovement in pe 15X31 | Foreign Language - English 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 are and their features; terminology. Foreign Language - English 4 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 are and their features; terminology. Project 1 | fields of study pilot dwritten form. Ted Z,ZK fields of study - pilot dwritten form. Ted | t. Focus or chnical text 3 bt. Focus or chnical text |
| 15JZ3A Grammar structur mprovement in pe 15JZ4A Grammar structur mprovement in pe 15X31 15X32P | Foreign Language - English 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 are and their features; terminology. Foreign Language - English 4 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 are and their features; terminology. Project 1 Project 2 PIL-CS | fields of study pilot d written form. Ted Z,ZK fields of study - pilot d written form. Ted | t. Focus or chnical text 3 ot. Focus ochnical text |
| 15JZ3A Grammar structur mprovement in pe 15JZ4A Grammar structur mprovement in pe 15X31 15X32P 15X33 | Foreign Language - English 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 are and their features; terminology. Foreign Language - English 4 e 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 are and their features; terminology. Project 1 Project 2 PIL-CS Project 3 | fields of study pilot d written form. Ted Z,ZK fields of study - pilot d written form. Ted Z Z Z | t. Focus or chnical text 3 ot. Focus ochnical text 2 2 2 |
| 15JZ3A Grammar structur mprovement in per 15JZ4A Grammar structur mprovement in per 15X31 15X32P 15X33 15Y1BO | Foreign Language - English 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 are and their features; terminology. Foreign Language - English 4 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 are and their features; terminology. Project 1 Project 2 PIL-CS | fields of study pilot d written form. Ted Z,ZK fields of study - pilot d written form. Ted Z Z Z KZ | st. Focus of chnical texts 3 of Focus of chnical texts 2 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 |
| Principles and over from other CAE sys 20X31 | 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. Project 1 | nt and adaptation of the | of geometry load. Basic |
| Principles and over from other CAE sys 20X31 20X32P 20X33 21AFL1-E | 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. Project 1 Project 2 PIL-CS Project 3 Advanced Flying 1 | nt and adaptation of the dapplication of the d | of geometry load. Basic |
| Principles and over from other CAE sys 20X31 20X32P 20X33 21AFL1-E This course suppl | 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. 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 or the structural methods in mechanics, finite element method. Geometric model development strength. | nt and adaptation of the dapplication of the d | of geometry load. Basic 2 2 2 3 seedures for |
| Principles and over from other CAE sys 20X31 20X32P 20X33 21AFL1-E This course suppl | 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. 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 | nt and adaptation of the dapplication of the d | of geometry load. Basic 2 2 2 3 seedures for |
| Principles and over from other CAE sys 20X31 20X32P 20X33 21AFL1-E This course supplinstrument depart | 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. 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 briefings, phraseology differences, lost communication procedures, CFIT prevention, decompresion | and adaptation of the displication of the disp | of geometry load. Basic 2 2 2 3 seedures for g, effective |
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| Principles and over from other CAE system of the | 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. 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 briefings, 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. | and adaptation of the dispolication of the dispolic | of geometry load. Basic 2 2 2 3 seedures for g, effective |
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| Principles and over from other CAE system of the | 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. 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 briefings, 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. | ant and adaptation of the dispolication of the disp | of geometry load. Basic 2 2 2 3 sedures for g, effective 2 wind drift; 3 3 |
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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 | ' nind 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, that to in a migrapianining soliwary 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 Z | 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 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 & 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 |

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