Study plan

Name of study plan: Master Full-Time PL from 2025/26

Faculty/Institute/Others:
Department:
Branch of study guaranteed by the department: Welcome page
Garantor of the study branch:
Program of study: Air Traffic Control and Management
Type of study: Follow-up master full-time
Required credits: 70
Elective courses credits: 50
Sum of credits in the plan: 120
Note on the plan:

Name of the block: Compulsory courses
Minimal number of credits of the block: 54
The role of the block: Z

Code of the group: 1S-NP-PL-22/23
Name of the group: 1st Sem. Master Full-Time PL from 2022/23
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 7 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
11APAS	**Applied Statistics** *Evženie Uglickich, Pavla Pecherková* ***Pavla Pecherková***	Z,ZK	4	2P+2C+12B	Z	z
11MMJ	**Mathematical Models and their Applications** *Evženie Uglickich, Pavla Pecherková, Ivan Nagy, Michal Matowicki, Natálie Blahitka* ***Pavla Pecherková*** *Evženie Uglickich (Gar.)*	Z,ZK	4	2P+2C+12B	Z	z
21BILD	**Safety Engineering in Aviation** *Natalia Guskova, Kateřina Grötschelová, Andrej Lališ* ***Kateřina Grötschelová***	Z,ZK	4	2P+2C+12B	Z	z
21CNSS	**CNS Systems** *Stanislav Pleninger, Jakub Steiner* ***Stanislav Pleninger***	Z,ZK	5	3P+2C+16B	Z	z
21LETS	**Airport** *Jakub Kraus, Petr Líkař, Sébastien Lán, Petr Had, Jiří Volt, Slobodan Stojić* ***Slobodan Stojić***	Z,ZK	4	1P+2C+12B	Z	z
21PEKL	**Principles and Models in Air Transport Economics** *Peter Vittek* ***Peter Vittek***	Z,ZK	5	4P+2C+16B	Z	z
15J2A1	**Language - English 1** *Jitka Heřmanová, Dana Boušová, Lenka Monková, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta Musilová, Jan Feit, Eva Rezlerová*	Z	2	0P+2C+10B	Z	z

Characteristics of the courses of this group of Study Plan: Code=1S-NP-PL-22/23 Name=1st Sem. Master Full-Time PL from 2022/23

11APAS	Applied Statistics	Z,ZK	4
Descriptive statistics, data preprocessing, discretize continuous data. Hypothesis testing - continuous and discrete variables. Regression and correlation analysis. Multivariable methods - multiple regression analysis, logistic regression analysis, ROC curve, MANOVA, PCA, Factor analysis. Power analysis, preparation, processing and evaluation of hte experiment.			
11MMJ	Mathematical Models and their Applications	Z,ZK	4
System. Regression, discrete and logistic models. Bayesian estimation of model parameters. Parameter estimation of normal regression, discrete and logistic models. Classification with logistic model. One-step and multi-step prediction with regression and discrete models. State model. State estimation. Kalman filter. Control with regression and discrete models.			
21BILD	Safety Engineering in Aviation	Z,ZK	4
The course is focused on understanding the issue of safety, learning how to assess new systems in terms of safety and acquiring principles of safety management. Students will learn explaining accidents and incident causes and bridge their theoretical knowledge with practical problems of air transport.			
21CNSS	CNS Systems	Z,ZK	5
Course provides full technical informations about CNS (communication, navigation, surveilance) systems used in aviation. Systems are presented in perspective of future development.			
21LETS	Airport	Z,ZK	4
Methods of designing new airports and developing existing ones. Connection of the airport to the surrounding infrastructure. Airport economics. Detailed look at the development of movement areas. Certification of airside movement areas and procedures according to EASA CS-ADR-DSN. Development planning - design, preparation and regulatory basis. Environmental aspects of airport operations.			

21PEKL	Principles and Models in Air Transport Economics	Z,ZK	5
The course contains the most important and typical models on which the economics of air transport is based. It covers the principles of regulation, airline infrastructure models, market structure, analyses airline costs, and looks in detail at the low-cost and charter airline model. It also focuses on airline alliances, air cargo, airline strategies and the economic principles of safety and security.			
15J2A1	Language - English 1	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.			

Code of the group: 2S-NP-PL-22/23
Name of the group: 2nd Sem. Master Full-Time PL from 2022/23
Requirement credits in the group: In this group you have to gain 26 credits
Requirement courses in the group: In this group you have to complete 6 courses
Credits in the group: 26
Note on the group:

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors,* ***authors*** *and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
21AFM	**Air Traffic Management** *Jakub Kraus, Terézia Pilmannová, Martina Hlavatá* ***Jakub Kraus*** *Jakub Kraus (Gar.)*	Z,ZK	5	3P+2C+16B	L	z
21MULD	**Managerial Challenges in Air Transport** *Peter Vittek* ***Peter Vittek*** *Peter Vittek (Gar.)*	Z,ZK	5	3P+2C+14B	L	z
21PLET	**Airport Operations** *Sébastien Lán, Petr Had, Jiří Volt* ***Slobodan Stojić*** *Slobodan Stojić (Gar.)*	Z,ZK	5	2P+2C+12B	L	z
21SPOL	**Aircraft Technology Reliability** *Natalia Guskova, Kateřina Grötschelová, Oldřich Štumbauer, Kiyofolo Benjamin Ouattara Andrej Lališ (Gar.)*	Z,ZK	4	2P+1C+12B	L	z
21PAM1	**Programming and Modelling 1** *Vladimír Socha, Lenka Hanáková* ***Vladimír Socha*** *Vladimír Socha (Gar.)*	KZ	5	2P+4C+16B	L	z
15JBA2	**Language - English 2** *Jitka Heřmanová, Dana Boušová, Lenka Monková, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta Musilová, Jan Feit, Eva Rezlerová, ...*	Z	2	0P+2C+10B	L	z

Characteristics of the courses of this group of Study Plan: Code=2S-NP-PL-22/23 Name=2nd Sem. Master Full-Time PL from 2022/23

21AFM	Air Traffic Management	Z,ZK	5
Current ATM system and its functional blocks. View of ATM data (technical architecture and configuration, transmission systems and networks). Data exchange with neighboring ATM systems. Monitoring systems and technical supervision. ATM simulation. ATM conceptions and strategies for next years. EUROCONTROL - CFMU. FAB. ATS's - AOC's data applications.			
21MULD	Managerial Challenges in Air Transport	Z,ZK	5
The course contains a list of basic managerial tasks in aviation. The basic managerial tasks are quality assurance and operational safety, marketing operations, marketing context implementation, airline network management, fleet management and revenue management. The core disciplines also include project management, cost management and project resource planning and management.			
21PLET	Airport Operations	Z,ZK	5
Planning, design and modelling of airport processes in airside, landside and terminal buildings. Impact of infrastructure and equipment on airport capacity. Available tools and practices for increasing capacity. Operational analytics, capacity and traffic load forecasting. Purpose and development of an airport masterplan.			
21SPOL	Aircraft Technology Reliability	Z,ZK	4
Subject deals with tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production and working of aerospace engineering. General legalities are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials and they are practical illustration of its security in The Czech Police Aviation Department.			
21PAM1	Programming and Modelling 1	KZ	5
Harmonic signals, their generation. Real signals, sampling theorem, aliasing. Signal filtering. Fourier transform (FT), discrete Fourier transform (DFT), fast Fourier transform (FFT). Spectrum estimation, spectral power density. Image - basic processing methods, 2D Fourier transform, noise filtering, edge detection, linear and non-linear methods, brightness transforms, geometric transforms, image compression.			
15JBA2	Language - English 2	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.			

Name of the block: Semestrální projekt
Minimal number of credits of the block: 8
The role of the block: ZP

Code of the group: X2-NX-PL-22/23
Name of the group: Research Groups Master PL from 2022/23
Requirement credits in the group: In this group you have to gain 8 credits
Requirement courses in the group: In this group you have to complete 4 courses
Credits in the group: 8
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
11XN1	**Master Project 1** *Pavla Pecherková, Jana Kuklová* ***Jana Kuklová*** *Jana Kuklová (Gar.)*	Z	2	0P+2C+4B	Z	ZP
12XN1	**Master Project 1** *Daniel Chlebek, Jakub Zajíček, Zuzana Čarská, Dagmar Kočárková, Kristýna Neubergová, Martin Jacura, Jan Kruntorád, Ondřej Trešl, David Vodák, ...*	Z	2	0P+2C+4B	Z	ZP
14XN1	**Master Project 1**	Z	2	0P+2C+4B	Z	ZP
15XN1	**Master Project 1**	Z	2	0P+2C+4B	Z	ZP
16XN1	**Master Project 1** *Josef Mík, Přemysl Toman*	Z	2	0P+2C+4B	Z	ZP
17XN1	**Master Project 1** *Václav Baroch, Michal Drábek, Alexandra Dvořáčková, Veronika Faifrová, Eliška Glaserová, Rudolf Franz Heidu, Tomáš Horák, Vít Janoš, Milan Kříž, ...*	Z	2	0P+2C+4B	Z	ZP
18XN1	**Master Project 1** *Daniel Kytýř, Václav Rada, Nela Krčmářová*	Z	2	0P+2C+4B	Z	ZP
20XN1	**Master Project 1** *Milan Sliacky, Jiří Růžička*	Z	2	0P+2C+4B	Z	ZP
21XN1	**Master Project 1** *Natalia Guskova, Andrej Lališ, Stanislav Pleninger, Jakub Steiner, Jakub Kraus, Slobodan Stojić, Peter Vittek, Terézia Pilmannová, Vladimír Socha, ...*	Z	2	0P+2C+4B	Z	ZP
22XN1	**Master Project 1** *Michal Frydrýn, Karel Kocián, Luboš Nouzovský, Zdeněk Svatý, Jakub Nováček*	Z	2	0P+2C+4B	Z	ZP
23XN1	**Master Project 1**	Z	2	0P+2C+4B	Z	ZP
11XN2	**Master Project 2** *Pavla Pecherková, Jana Kuklová* ***Jana Kuklová*** *Jana Kuklová (Gar.)*	Z	2	0P+2C+8B	L	ZP
12XN2	**Master Project 2** *Daniel Chlebek, Jakub Zajíček, Zuzana Čarská, Dagmar Kočárková, Kristýna Neubergová, Martin Jacura, Jan Kruntorád, Ondřej Trešl, David Vodák, ...*	Z	2	0P+2C+8B	L	ZP
14XN2	**Master Project 2** *Vít Fábera, Tomáš Brandejský, Mária Jánešová, Jan Zelenka*	Z	2	0P+2C+8B	L	ZP
15XN2	**Master Project 2**	Z	2	0P+2C+8B	L	ZP
16XN2	**Master Project 2** *Josef Mík, Přemysl Toman*	Z	2	0P+2C+8B	L	ZP
17XN2	**Master Project 2** *Václav Baroch, Michal Drábek, Alexandra Dvořáčková, Veronika Faifrová, Rudolf Franz Heidu, Tomáš Horák, Vít Janoš, Milan Kříž, Olga Mertlová, ... Vít Janoš (Gar.)*	Z	2	0P+2C+8B	L	ZP
18XN2	**Master Project 2** *Nela Krčmářová, Petr Koudelka, Tomáš Fíla* ***Daniel Kytýř***	Z	2	0P+2C+8B	L	ZP
20XN2	**Master Project 2** *Milan Sliacky, Jiří Růžička, Patrik Horažďovský*	Z	2	0P+2C+8B	L	ZP
21XN2	**Master Project 2** *Natalia Guskova, Kateřina Grötschelová, Andrej Lališ, Jakub Steiner, Jakub Kraus, Slobodan Stojić, Peter Vittek, Terézia Pilmannová, Lenka Hanáková, ...*	Z	2	0P+2C+8B	L	ZP
22XN2	**Master Project 2** *Michal Frydrýn, Karel Kocián, Luboš Nouzovský, Zdeněk Svatý, Jakub Nováček*	Z	2	0P+2C+8B	L	ZP
23XN2	**Master Project 2**	Z	2	0P+2C+8B	L	ZP
11XN3L	**Master Project 3 for study programme PL** *Ivan Nagy, Michal Matowicki, Jana Kuklová, Bohumil Kovář, Ondřej Přibyl, Jan Přikryl* ***Jana Kuklová*** *Bohumil Kovář (Gar.)*	Z	2	0P+2C+8B	Z	ZP
12XN3L	**Master Project 3 for study programme PL**	Z	2	0P+2C+8B	Z	ZP
14XN3L	**Master Project 3 for study programme PL** *Vít Fábera Vít Fábera (Gar.)*	Z	2	0P+2C+8B	Z	ZP
15XN3L	**Master Project 3 for study programme PL**	Z	2	0P+2C+8B	Z	ZP
16XN3L	**Master Project 3 for study programme PL**	Z	2	0P+2C+8B	Z	ZP
17XN3L	**Master Project 3 for study programme PL**	Z	2	0P+2C+8B	Z	ZP
18XN3L	**Master Project 3 for study programme PL** *Nela Krčmářová*	Z	2	0P+2C+8B	Z	ZP
20XN3L	**Master Project 3 for study programme PL**	Z	2	0P+2C+8B	Z	ZP
21XN3L	**Master Project 3 for study programme PL** *Natalia Guskova, Kateřina Grötschelová, Andrej Lališ, Stanislav Pleninger, Jakub Steiner, Jakub Kraus, Slobodan Stojić, Peter Vittek, Terézia Pilmannová, ...*	Z	2	0P+2C+8B	Z	ZP
22XN3L	**Master Project 3 for study programme PL**	Z	2	0P+2C+8B	Z	ZP
23XN3L	**Master Project 3**	Z	2	0P+2C+8B	Z	ZP
11XN4L	**Master Project 4 for study programme PL** ***Jana Kuklová***	Z	2	0P+5C+8B	L	ZP
12XN4L	**Master Project 4 for study programme PL**	Z	2	0P+5C+8B	L	ZP

14XN4L	**Master Project 4 for study programme PL** *Vít Fábera, Tomáš Brandejský, Mária Jánešová, Jan Zelenka*	Z	2	0P+5C+8B	L	ZP
15XN4L	**Master Project 4 for study programme PL**	Z	2	0P+5C+8B	L	ZP
16XN4L	**Master Project 4 for study programme PL**	Z	2	0P+5C+8B	L	ZP
17XN4L	**Master Project 4 for study programme PL**	Z	2	0P+5C+8B	L	ZP
18XN4L	**Master Project 4 for study programme PL** *Nela Krčmářová*	Z	2	0P+5C+8B	L	ZP
20XN4L	**Master Project 4 for study programme PL**	Z	2	0P+5C+8B	L	ZP
21XN4L	**Master Project 4 for study programme PL** *Natalia Guskova, Kateřina Grötschelová, Andrej Lališ, Stanislav Pleninger, Jakub Steiner, Jakub Kraus, Petr Had, Jiří Volt, Slobodan Stojić, ...*	Z	2	0P+5C+8B	L	ZP
22XN4L	**Master Project 4 for study programme PL**	Z	2	0P+5C+8B	L	ZP
23XN4L	**Master Project 4**	Z	2	0P+5C+8B	L	ZP

Characteristics of the courses of this group of Study Plan: Code=X2-NX-PL-22/23 Name=Research Groups Master PL from 2022/23

11XN1	Master Project 1	Z	2
12XN1	Master Project 1	Z	2
14XN1	Master Project 1	Z	2
15XN1	Master Project 1	Z	2
16XN1	Master Project 1	Z	2
17XN1	Master Project 1	Z	2
18XN1	Master Project 1	Z	2
20XN1	Master Project 1	Z	2
21XN1	Master Project 1	Z	2
22XN1	Master Project 1	Z	2
23XN1	Master Project 1	Z	2
11XN2	Master Project 2	Z	2
12XN2	Master Project 2	Z	2
14XN2	Master Project 2	Z	2
15XN2	Master Project 2	Z	2
16XN2	Master Project 2	Z	2
17XN2	Master Project 2	Z	2
18XN2	Master Project 2	Z	2
20XN2	Master Project 2	Z	2
21XN2	Master Project 2	Z	2
22XN2	Master Project 2	Z	2
23XN2	Master Project 2	Z	2
11XN3L	Master Project 3 for study programme PL	Z	2
12XN3L	Master Project 3 for study programme PL	Z	2
14XN3L	Master Project 3 for study programme PL	Z	2
15XN3L	Master Project 3 for study programme PL	Z	2
16XN3L	Master Project 3 for study programme PL	Z	2
17XN3L	Master Project 3 for study programme PL	Z	2
18XN3L	Master Project 3 for study programme PL	Z	2
20XN3L	Master Project 3 for study programme PL	Z	2
21XN3L	Master Project 3 for study programme PL	Z	2
22XN3L	Master Project 3 for study programme PL	Z	2
23XN3L	Master Project 3	Z	2
11XN4L	Master Project 4 for study programme PL	Z	2
12XN4L	Master Project 4 for study programme PL	Z	2
14XN4L	Master Project 4 for study programme PL	Z	2
15XN4L	Master Project 4 for study programme PL	Z	2
16XN4L	Master Project 4 for study programme PL	Z	2
17XN4L	Master Project 4 for study programme PL	Z	2
18XN4L	Master Project 4 for study programme PL	Z	2
20XN4L	Master Project 4 for study programme PL	Z	2
21XN4L	Master Project 4 for study programme PL	Z	2
22XN4L	Master Project 4 for study programme PL	Z	2
23XN4L	Master Project 4	Z	2

Name of the block: Compulsory elective courses
Minimal number of credits of the block: 8
The role of the block: PV

Code of the group: Y2-NP-PL-24/25
Name of the group: Comp. Sel. Courses Master Full-Time PL from 2024/25
Requirement credits in the group: In this group you have to gain 8 credits
Requirement courses in the group: In this group you have to complete 4 courses
Credits in the group: 8
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
00Y2XN	**Active participation in a scientific project, workshop, short-term trip abroad** *Patrik Horažďovský Patrik Horažďovský (Gar.)*	KZ	2	2P+0C		PV
21Y2BS	**Unmanned aircraft systems 2** *Tomáš Tlučhoř, Michal Černý* ***Jakub Kraus***	KZ	2	2P+0C+8B	Z	PV
21Y2CR	**CRM** *Ladislav Capoušek*	KZ	2	2P+0C+8B	L	PV
21Y2FM	**Aviation Company Financial Management** *Radoslav Zozuľák* ***Radoslav Zozuľák***	KZ	2	2P+0C+8B	Z	PV
21Y2MQ	**Quality Management** *Luboš Socha*	KZ	2	2P+0C+8B	L	PV
21Y2MK	**Marketing of Air Transport** *Peter Vittek* ***Peter Vittek***	KZ	2	2P+0C+8B	Z	PV
22Y2MN	**Methods and Procedures of Aircraft Accident Investigation** *Michal Frydrýn, Karel Mündel Karel Mündel (Gar.)*	KZ	2	2P+0C	L	PV
21Y2MC	**CNS Systems Modelling** *Stanislav Pleninger* ***Stanislav Pleninger***	KZ	2	2P+0C+8B	Z	PV
21Y2MG	**Military Aerospace Technologies: Applications and Global Dynamics**	KZ	2	2P+0C	Z	PV
21Y2PP	**Law and Operation in Air Transport** *Radoslav Zozuľák*	KZ	2	2P+0C+8B	L	PV
21Y2UL	**Aircraft Maintenance** *Kateřina Stuchlíková*	KZ	2	2P+0C+8B	L	PV
14Y2UI	**Artificial Intelligence**	KZ	2	2P+0C+8B	Z,L	PV
15Y2ZA	**Basic Principles of English Academic Writing and Abstract in English** *Dana Boušová*	KZ	2	2P+0C	Z	PV

Characteristics of the courses of this group of Study Plan: Code=Y2-NP-PL-24/25 Name=Comp. Sel. Courses Master Full-Time PL from 2024/25

00Y2XN	Active participation in a scientific project, workshop, short-term trip abroad	KZ	2
21Y2BS	Unmanned aircraft systems 2	KZ	2
Modern trends in unmanned aircraft development. Use of unmanned aircraft. Managerial activities related to the operation of unmanned aircraft. Flights beyond the applicable legislation.			
21Y2CR	CRM	KZ	2
Introduction to CRM. Analysis of air accidents. Human factor. Error. Historical development of CRM. Health and fitness. Stress and its effect on the human body. Fatigue Sleep & Vigilance. Information Processing. Situational Awareness. Workload Management. Decision Making. Communication. Leadership & Team Behaviour. Automation.			
21Y2FM	Aviation Company Financial Management	KZ	2
Theories of corporate finance - financial statements, budget, forecast. Financial policy of the company. Financial resources - long-term financial resources, depreciation, retained earnings, shares, bonds, loans, leasing, capital. Financial and economic analysis of the company - structure and content.			
21Y2MQ	Quality Management	KZ	2
History, basic definition. Pioneers in the field of quality. International quality organisations and quality promotion in the Czech Republic. Quality management system. Environmental management systems. Integrated management systems. Risk management in the context of the requirements of ISO standards. Sectoral quality management systems. Comprehensive quality management, excellence models and corporate social responsibility. Quality audits.			
21Y2MK	Marketing of Air Transport	KZ	2
The content of the course "Marketing in air transport" is the management of activities and processes using available marketing tools and processes for analysis, strategy development and implementation of sales of goods and services in the aviation industry. In addition to the theoretical foundations of marketing, the lectures present systems of market, competition and product analysis, creation of marketing strategies and planning.			
22Y2MN	Methods and Procedures of Aircraft Accident Investigation	KZ	2
Expanding knowledge of practical procedures in aircraft accident investigation. Equipment and organisation of the investigation team. Examples of aircraft accident investigations in the Czech Republic and abroad and analysis of published final reports. Examples of the preparation of the final report of an air accident investigation.			
21Y2MC	CNS Systems Modelling	KZ	2
The course is designed as a set of model tasks in the field of communication navigation and surveillance systems in aviation, addressed using mathematical approaches and software tools. A large part is devoted to air targets tracking, measurement-to-track association, track filtering and multisensor tracking.			
21Y2MG	Military Aerospace Technologies: Applications and Global Dynamics	KZ	2
21Y2PP	Law and Operation in Air Transport	KZ	2
Development of aviation law. International conventions on civil aviation. International organisations and including of the Czech Republic in these organisations. EU legislation and civil aviation. Execution of state administration and state supervision in matters of civil aviation, in accordance with Act No. 49/1997 Col. Facilitation. Responsibilities of air carriers for passengers, luggage and cargo. The safe transport of dangerous goods.			
21Y2UL	Aircraft Maintenance	KZ	2
Approved Maintenance Organisations (AMOs), Continuing Airworthiness Management Organisations (CAMOs), Maintenance Training Organisations (MTOs), technical documentation and additional ICA (Instructions for Continued Airworthiness) instructions, aircraft release to service procedure, maintenance programmes and scheduling, modifications and general repair methods, aircraft centre of gravity and weights, human factors in aircraft maintenance.			

14Y2UI	Artificial Intelligence	KZ	2
History of artificial intelligence, knowledge, its representation including frames, state space search, constraints, genetic algorithms, machine learning.			
15Y2ZA	Basic Principles of English Academic Writing and Abstract in English	KZ	2
Theory, creating a phrasal bank according to students' specialisations, rhetorical analysis or texts/abstracts, drafting an abstract, providing effective feedback.			

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-NP-PL
Name of the group: Master Full-Time PL 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
15JCZ1	**Czech Language for Foreign Students 1** *Irena Veselková*	Z	0	0P+2C	Z	v
15JCZ2	**Czech Language for Foreign Students 2** *Irena Veselková*	Z	0	0P+2C	L	v
15JCZ3	**Czech Language for Foreign Students 3** *Irena Veselková*	Z		0P+2C	Z	v
15JCZ4	**Czech Language for Foreign Students 4** *Irena Veselková*	Z		0P+2C	L	v

Characteristics of the courses of this group of Study Plan: Code=VP-NP-PL Name=Master Full-Time PL voluntary

15JCZ1	Czech Language for Foreign Students 1	Z	0
Basic structures of Czech language, common communication situations, study, work, leisure time activities, introduction of myself, phonetics of Czech language, writing skills.			
15JCZ2	Czech Language for Foreign Students 2	Z	0
Basic structures of Czech language, common communication situations, study, work, leisure time activities, introduction of myself, phonetics of Czech language, writing skills.			
15JCZ3	Czech Language for Foreign Students 3	Z	
Language structures with regard to the group level. Listening and oral fluency drill. Basic terminology.			
15JCZ4	Czech Language for Foreign Students 4	Z	
Language structures with regard to the group level. Listening and oral fluency drill. Basic terminology.			

List of courses of this pass:

Code	Name of the course	Completion	Credits
00Y2XN	Active participation in a scientific project, workshop, short-term trip abroad	KZ	2
11APAS	Applied Statistics	Z,ZK	4
Descriptive statistics, data preprocessing, discretize continuous data. Hypothesis testing - continuous and discrete variables. Regression and correlation analysis. Multivariable methods - multiple regression analysis, logistic regression analysis, ROC curve, MANOVA, PCA, Factor analysis. Power analysis, preparation, processing and evaluation of hte experiment.			
11MMJ	Mathematical Models and their Applications	Z,ZK	4
System. Regression, discrete and logistic models. Bayesian estimation of model parameters. Parameter estimation of normal regression, discrete and logistic models. Classification with logistic model. One-step and multi-step prediction with regression and discrete models. State model. State estimation. Kalman filter. Control with regression and discrete models.			
11XN1	Master Project 1	Z	2
11XN2	Master Project 2	Z	2
11XN3L	Master Project 3 for study programme PL	Z	2
11XN4L	Master Project 4 for study programme PL	Z	2
12XN1	Master Project 1	Z	2
12XN2	Master Project 2	Z	2
12XN3L	Master Project 3 for study programme PL	Z	2
12XN4L	Master Project 4 for study programme PL	Z	2
14XN1	Master Project 1	Z	2
14XN2	Master Project 2	Z	2
14XN3L	Master Project 3 for study programme PL	Z	2
14XN4L	Master Project 4 for study programme PL	Z	2

14Y2UI	Artificial Intelligence	KZ	2
History of artificial intelligence, knowledge, its representation including frames, state space search, constraints, genetic algorithms, machine learning.			
15J2A1	Language - English 1	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.			
15JBA2	Language - English 2	Z	2
Presentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.			
15JCZ1	Czech Language for Foreign Students 1	Z	0
Basic structures of Czech language, common communication situations, study, work, leisure time activities, introduction of myself, phonetics of Czech language, writing skills.			
15JCZ2	Czech Language for Foreign Students 2	Z	0
Basic structures of Czech language, common communication situations, study, work, leisure time activities, introduction of myself, phonetics of Czech language, writing skills.			
15JCZ3	Czech Language for Foreign Students 3	Z	
Language structures with regard to the group level. Listening and oral fluency drill. Basic terminology.			
15JCZ4	Czech Language for Foreign Students 4	Z	
Language structures with regard to the group level. Listening and oral fluency drill. Basic terminology.			
15XN1	Master Project 1	Z	2
15XN2	Master Project 2	Z	2
15XN3L	Master Project 3 for study programme PL	Z	2
15XN4L	Master Project 4 for study programme PL	Z	2
15Y2ZA	Basic Principles of English Academic Writing and Abstract in English	KZ	2
Theory, creating a phrasal bank according to students' specialisations, rhetorical analysis or texts/abstracts, drafting an abstract, providing effective feedback.			
16XN1	Master Project 1	Z	2
16XN2	Master Project 2	Z	2
16XN3L	Master Project 3 for study programme PL	Z	2
16XN4L	Master Project 4 for study programme PL	Z	2
17XN1	Master Project 1	Z	2
17XN2	Master Project 2	Z	2
17XN3L	Master Project 3 for study programme PL	Z	2
17XN4L	Master Project 4 for study programme PL	Z	2
18XN1	Master Project 1	Z	2
18XN2	Master Project 2	Z	2
18XN3L	Master Project 3 for study programme PL	Z	2
18XN4L	Master Project 4 for study programme PL	Z	2
20XN1	Master Project 1	Z	2
20XN2	Master Project 2	Z	2
20XN3L	Master Project 3 for study programme PL	Z	2
20XN4L	Master Project 4 for study programme PL	Z	2
21AFM	Air Traffic Management	Z,ZK	5
Current ATM system and its functional blocks. View of ATM data (technical architecture and configuration, transmission systems and networks). Data exchange with neighboring ATM systems. Monitoring systems and technical supervision. ATM simulation. ATM conceptions and strategies for next years. EUROCONTROL - CFMU. FAB. ATS's - AOC's data applications.			
21BILD	Safety Engineering in Aviation	Z,ZK	4
The course is focused on understanding the issue of safety, learning how to assess new systems in terms of safety and acquiring principles of safety management. Students will learn explaining accidents and incident causes and bridge their theoretical knowledge with practical problems of air transport.			
21CNSS	CNS Systems	Z,ZK	5
Course provides full technical informations about CNS (communication, navigation, surveilance) systems used in aviation. Systems are presented in perspective of future development.			
21LETS	Airport	Z,ZK	4
Methods of designing new airports and developing existing ones. Connection of the airport to the surrounding infrastructure. Airport economics. Detailed look at the development of movement areas. Certification of airside movement areas and procedures according to EASA CS-ADR-DSN. Development planning - design, preparation and regulatory basis. Environmental aspects of airport operations.			
21MULD	Managerial Challenges in Air Transport	Z,ZK	5
The course contains a list of basic managerial tasks in aviation. The basic managerial tasks are quality assurance and operational safety, marketing operations, marketing context implementation, airline network management, fleet management and revenue management. The core disciplines also include project management, cost management and project resource planning and management.			
21PAM1	Programming and Modelling 1	KZ	5
Harmonic signals, their generation. Real signals, sampling theorem, aliasing. Signal filtering. Fourier transform (FT), discrete Fourier transform (DFT), fast Fourier transform (FFT). Spectrum estimation, spectral power density. Image - basic processing methods, 2D Fourier transform, noise filtering, edge detection, linear and non-linear methods, brightness transforms, geometric transforms, image compression.			
21PEKL	Principles and Models in Air Transport Economics	Z,ZK	5
The course contains the most important and typical models on which the economics of air transport is based. It covers the principles of regulation, airline infrastructure models, market structure, analyses airline costs, and looks in detail at the low-cost and charter airline model. It also focuses on airline alliances, air cargo, airline strategies and the economic principles of safety and security.			
21PLET	Airport Operations	Z,ZK	5
Planning, design and modelling of airport processes in airside, landside and terminal buildings. Impact of infrastructure and equipment on airport capacity. Available tools and practices for increasing capacity. Operational analytics, capacity and traffic load forecasting. Purpose and development of an airport masterplan.			
21SPOL	Aircraft Technology Reliability	Z,ZK	4
Subject deals with tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production and working of aerospace engineering. General legalities are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials and they are practical illustration of its security in The Czech Police Aviation Department.			
21XN1	Master Project 1	Z	2

21XN2	Master Project 2	Z	2
21XN3L	Master Project 3 for study programme PL	Z	2
21XN4L	Master Project 4 for study programme PL	Z	2
21Y2BS	Unmanned aircraft systems 2	KZ	2
Modern trends in unmanned aircraft development. Use of unmanned aircraft. Managerial activities related to the operation of unmanned aircraft. Flights beyond the applicable legislation.			
21Y2CR	CRM	KZ	2
Introduction to CRM. Analysis of air accidents. Human factor. Error. Historical development of CRM. Health and fitness. Stress and its effect on the human body. Fatigue Sleep & Vigilance. Information Processing. Situational Awareness. Workload Management. Decision Making. Communication. Leadership & Team Behaviour. Automation.			
21Y2FM	Aviation Company Financial Management	KZ	2
Theories of corporate finance - financial statements, budget, forecast. Financial policy of the company. Financial resources - long-term financial resources, depreciation, retained earnings, shares, bonds, loans, leasing, capital. Financial and economic analysis of the company - structure and content.			
21Y2MC	CNS Systems Modelling	KZ	2
The course is designed as a set of model tasks in the field of communication navigation and surveillance systems in aviation, addressed using mathematical approaches and software tools. A large part is devoted to air targets tracking, measurement-to-track association, track filtering and multisensor tracking.			
21Y2MG	Military Aerospace Technologies: Applications and Global Dynamics	KZ	2
21Y2MK	Marketing of Air Transport	KZ	2
The content of the course "Marketing in air transport" is the management of activities and processes using available marketing tools and processes for analysis, strategy development and implementation of sales of goods and services in the aviation industry. In addition to the theoretical foundations of marketing, the lectures present systems of market, competition and product analysis, creation of marketing strategies and planning.			
21Y2MQ	Quality Management	KZ	2
History, basic definition. Pioneers in the field of quality. International quality organisations and quality promotion in the Czech Republic. Quality management system. Environmental management systems. Integrated management systems. Risk management in the context of the requirements of ISO standards. Sectoral quality management systems. Comprehensive quality management, excellence models and corporate social responsibility. Quality audits.			
21Y2PP	Law and Operation in Air Transport	KZ	2
Development of aviation law. International conventions on civil aviation. International organisations and including of the Czech Republic in these organisations. EU legislation and civil aviation. Execution of state administration and state supervision in matters of civil aviation, in accordance with Act No. 49/1997 Col. Facilitation. Responsibilities of air carriers for passengers, luggage and cargo. The safe transport of dangerous goods.			
21Y2UL	Aircraft Maintenance	KZ	2
Approved Maintenance Organisations (AMOs), Continuing Airworthiness Management Organisations (CAMOs), Maintenance Training Organisations (MTOs), technical documentation and additional ICA (Instructions for Continued Airworthiness) instructions, aircraft release to service procedure, maintenance programmes and scheduling, modifications and general repair methods, aircraft centre of gravity and weights, human factors in aircraft maintenance.			
22XN1	Master Project 1	Z	2
22XN2	Master Project 2	Z	2
22XN3L	Master Project 3 for study programme PL	Z	2
22XN4L	Master Project 4 for study programme PL	Z	2
22Y2MN	Methods and Procedures of Aircraft Accident Investigation	KZ	2
Expanding knowledge of practical procedures in aircraft accident investigation. Equipment and organisation of the investigation team. Examples of aircraft accident investigations in the Czech Republic and abroad and analysis of published final reports. Examples of the preparation of the final report of an air accident investigation.			
23XN1	Master Project 1	Z	2
23XN2	Master Project 2	Z	2
23XN3L	Master Project 3	Z	2
23XN4L	Master Project 4	Z	2

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