## Recomended pass through the study plan

## Name of the pass: Master Part-Time PL from 2023/24

Faculty/Institute/Others:

Department:

Pass through the study plan: Master Part-Time PL from 2023/24 Branch of study guranteed by the department: Welcome page

Guarantor of the study branch:

Program of study: Air Traffic Control and Management

Type of study: Follow-up master combined

Note on the pass:

Coding of roles of courses and groups of courses:

P - compulsory courses of the program, PO - compulsory courses of the branch, Z - compulsory courses, S - compulsory elective courses, PV - compulsory elective courses, F - elective specialized courses, V - elective courses, T - physical training courses

Coding of ways of completion of courses (KZ/Z/ZK) and coding of semesters (Z/L):

KZ - graded assesment, Z - assesment, ZK - examination, L - summer semester, Z - winter semester

#### Number of semester: 1

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 Michal Matowicki, Evženie Uglickich, Pavla Pecherková Pavla Pecherková	Z,ZK	4	2P+2C+12B	B Z	Z
21BILD	Safety Engineering in Aviation Natalia Guskova, Kate ina Grötschelová Kate ina Grötschelová	Z,ZK	4	2P+2C+12B	B Z	Z
21CNSS	CNS Systems Stanislav Pleninger Stanislav Pleninger	Z,ZK	5	3P+2C+16B	B Z	Z
15J2A1	Language - English 1 Jitka He manová, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta Musilová, Jan Feit, Eva Rezlerová Lenka Monková (Gar.)	Z	2	0P+2C+10B	s z	Z
21LETS	Airport Petr Líka, Jakub Kraus, Sébastien Lán, Petr Had, Ji í Volt, Slobodan Stoji Slobodan Stoji	Z,ZK	4	1P+2C+12B	B Z	Z
11MMJ	Mathematical Models and their Applications  Michal Matowicki, Evženie Uglickich, Pavla Pecherková, Ivan Nagy, Natálie Blahitka Pavla Pecherková Evženie Uglickich (Gar.)	Z,ZK	4	2P+2C+12B	B Z	Z
21PEKL	Principles and Models in Air Transport Economics Peter Vittek Peter Vittek	Z,ZK	5	4P+2C+16B	B Z	Z
X2-NX-PL-22/23	Projekty Mgr. PL od 2022/23 11XN1,12XN1, (see the list of groups below)	Min. cours. 4 Max. cours. 4	Min/Max 8/8			ZP

#### Number of semester: 2

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	Z,ZK	5	3P+2C+16E	L L	Z
15JBA2	Language - English 2 Lenka Monková (Gar.)	Z	2	0P+2C+10E	B L	Z
21MULD	Managerial Challenges in Air Transport Peter Vittek	Z,ZK	5	3P+2C+14E	B L	Z
21PAM1	Programming and Modelling 1 Vladimír Socha	KZ	5	2P+4C+16E	B L	Z
21PLET	Airport Operations Slobodan Stoji	Z,ZK	5	2P+2C+12E	B L	ZP
21SPOL	Aircraft Technology Reliability	Z,ZK	4	2P+1C+12E	B L	Z
X2-NX-PL-22/23	Projekty Mgr. PL od 2022/23 11XN1,12XN1, (see the list of groups below)	Min. cours. 4 Max. cours.	Min/Max 8/8			ZP

		4				
Y2-NK-PL-23/24	PVP-B Mgr. kombinovaný PL od 2023/24 21Y2BS,21Y2CR, (see the list of groups below)	Min. cours. 4 Max. cours. 4	Min/Max 8/8		PV	

## Number of semester: 3

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
15JBA3	Language - English 3  Jitka He manová, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta  Musilová, Jan Feit, Eva Rezlerová, Marek Tome ek Lenka Monková (Gar.)	Z	2	0P+2C+10B	Z	Z
21LIA1	Aviation Engineering English 1  Jitka He manová, Dana Boušová Jitka He manová	Z	3	0P+2C+8B	Z	Z
11MMOA	Mathematical methods for data analysis Evženie Uglickich, Pavla Pecherková Pavla Pecherková Evženie Uglickich (Gar.)	Z,ZK	4	2P+2C+12B	Z	Z
21NSR	Navigation and Flight Control Systems  Jakub Trýb, Jakub Hospodka Jakub Hospodka	Z,ZK	5	3P+2C+14B	Z	Z
21PAM2	Programming and Modelling 2 Lenka Hanáková, Vladimír Socha Vladimír Socha	KZ	5	2P+4C+16B	Z	Z
21PLDC	Air Carrier Operations Miloš Strouhal Miloš Strouhal	Z,ZK	5	3P+2C+16B	Z	ZP
21XNL1	Thesis seminar 1 Lenka Hanáková, Vladimír Socha Vladimír Socha	Z	2	0P+1C+4B	Z	Z
X2-NX-PL-22/23	Projekty Mgr. PL od 2022/23 11XN1,12XN1, (see the list of groups below)	Min. cours. 4 Max. cours. 4	Min/Max 8/8			ZP
Y2-NK-PL-23/24	PVP-B Mgr. kombinovaný PL od 2023/24 21Y2BS,21Y2CR, (see the list of groups below)	Min. cours. 4 Max. cours. 4	Min/Max 8/8			PV

#### Number of semester: 4

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
21ELEG	European Aviation Legislation	ZK	3	2P+0C+8E	B L	Z
15JBA4	Language - English 4  Jitka He manová, Peter Morpuss, Markéta Vojanová, Marie Michlová, Markéta  Musilová, Jan Feit, Eva Rezlerová, Lenka Monková, Dana Boušová,  Lenka Monková (Gar.)	ZK	2	0P+2C+10E	S L	Z
21KST	Space Technology  Jakub Hospodka	ZK	3	2P+0C+10E	B L	Z
21LIA2	Aviation Engineering English 2	KZ	3	0P+2C+8E	B L	Z
21LPZP	Air Traffic and the Environment	ZK	3	3P+0C+8E	B L	Z
21NTLE	New Trends in Aviation Technologies Peter Vittek	KZ	3	3P+0C+8E	B L	Z
14PROM	Process Modeling	KZ	2	2P+0C+8E	B L	Z
21XNL2	Thesis Seminar 2 Vladimír Socha	Z	2	0P+2C+6E	B L	ZP
21SYMS	System Thinking Jakub Kraus	ZK	3	2P+0C+8E	B L	Z
X2-NX-PL-22/23	Projekty Mgr. PL od 2022/23 11XN1,12XN1, (see the list of groups below)	Min. cours. 4 Max. cours. 4	Min/Max 8/8			ZP
Y2-NK-PL-23/24	PVP-B Mgr. kombinovaný PL od 2023/24 21Y2BS,21Y2CR, (see the list of groups below)	Min. cours.	Min/Max 8/8			PV

Max. co	urs.		
4			

# List of groups of courses of this pass with the complete content of members of individual groups

Kód		Name of the group group (for specifica	of courses a tion see here	nd codes of members of this or below the list of courses)	Con	pletion	Credit	s Scope	Semester	Role	
X2-NX-F	PL-22/23		jekty Mgr. Pl		Min	. cours. 4 . cours.	<b>Min/Ma</b> 8/8			ZP	
11XN1	Master Pro	ioct 1	12XN1	Master Project 1		4 14XN1		Master Proied	<u> </u> + 1		
15XN1	Master Pro	· · · ·	16XN1	Master Project 1		17XN1		Master Projec			
18XN1	Master Pro	,	20XN1	Master Project 1		21XN1		Master Projec			
22XN1	Master Pro	•	23XN1	Master Project 1		11XN2		Master Projec			
12XN2	Master Pro	<u>*                                    </u>	14XN2	Master Project 2		15XN2		Master Projec			
16XN2	Master Pro	<u>,                                      </u>	17XN2	Master Project 2		18XN2		Master Projec			
20XN2	Master Pro	•	21XN2	Master Project 2		22XN2		Master Project 2			
23XN2	Master Pro	<u> </u>	11XN3L	Master Project 3 for study progr		12XN3L			t 3 for study pr	oar	
4XN3L		ect 3 for study progr	15XN3L	Master Project 3 for study progr		16XN3L			t 3 for study pr	,, ,	
7XN3L		eject 3 for study progr	18XN3L	Master Project 3 for study progr		20XN3L		Master Project 3 for study pro			
21XN3L	Master Pro	pject 3 for study progr	22XN3L	Master Project 3 for study progr		23XN3L		Master Projec	t 3		
1XN4L	Master Pro	pject 4 for study progr	12XN4L	Master Project 4 for study progr		14XN4L		Master Projec	t 4 for study pr	ogr	
5XN4L	Master Pro	eject 4 for study progr	16XN4L	Master Project 4 for study progr		17XN4L		Master Projec	t 4 for study pr	ogr	
8XN4L	Master Pro	pject 4 for study progr	20XN4L	Master Project 4 for study progr		21XN4L		Master Projec	t 4 for study pr	ogr	
22XN4L	Master Pro	eject 4 for study progr	23XN4L	Master Project 4				<u> </u>			
				-	Min	cours.					
Y2-NK-F	PL-23/24 PVP-B Mgr. kombinovaný PL od 2023/24		Mark	4	Min/Ma	ıx		PV			
					IVIAX	. cours.	0/0				
	1					4	<u> </u>				
1Y2BS		l aircraft systems 2	21Y2CR	CRM		21Y2FM			pany Financial		
1Y2MQ	Quality Ma		21Y2MK	Marketing of Air Transport		22Y2MN			Procedures of	Aircra	
1Y2MC		ems Modelling	21Y2PP	Law and Operation in Air Transpo .		21Y2UL		Aircraft Maintenance			
4Y2UI	Artificial In	telligence									

# List of courses of this pass:

Code	Name of the course	Completion	Credits
11APAS	Applied Statistics	Z,ZK	4
Descriptive statistic	s, data preprocessing, discretize continuous data. Hypothesis testing - continuous and discrete variables. Regression and correlation a	nalysis. Multivarial	ole methods
<ul> <li>multiple regress</li> </ul>	ion analysis, logistic regression analysis, ROC curve, MANOVA, PCA, Factor analysis. Power analysis, preparation, processing and	evaluation of hte ex	periment.
11MMJ	Mathematical Models and their Applications	Z,ZK	4
System. Regression	on, discrete and logistic models. Bayesian estimation of model parameters. Parameter estimation of normal regression, discrete and	logistic models. Cla	assification
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.	gression and discr	ete models.
11MMOA	Mathematical methods for data analysis	Z,ZK	4
Stocastic	modelling, estimation, prediction, filtration, control, methods of data analysis - k-means, DBSCAN, naive Bayes, decision trees, support of the control of t	port vector machin	e.
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
14PROM	Process Modeling	KZ	2
Definition of the pro	cess, role, KPI's, areas of interest. Process Map, definition, purpose, clear examples and demonstrations, recommendations and stan	dards, SIPOC. Pro	cess model,

definition, purpose, procedures and tools, static and dynamic models. BPMN language, syntax and semantics, process flows. Implementation of practical examples, As-Is, To-Be, optimization and evaluation.

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
	tory of artificial intelligence, knowledge, its representation including frames, state space search, constraints, genetic algorithms, made		_
15J2A1	Language - English 1	Z	2
	resentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work		_
15JBA2	Language - English 2	Z	2
h Pr	resentation Skills - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work	engagement.	
15JBA3 Presentation Skills	Language - English 3 s - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Op FCE, CAE.	Z tional courses for d	2 certificates
15JBA4 Presentation Skills	Language - English 4 s - expert technical discourse and style; Analysis of expert texts and their production; Preparation for overseas work engagement.Op FCE, CAE.	ZK tional courses for o	2 certificates
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
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 3 for study programme PL	Z	2
20XN1	Master Project 1  Master Project 1	Z	2
20XN2	Master Project 2	Z	2
20XN3L	Master Project 2  Master Project 3 for study programme PL	Z	2
20XN4L	Master Project 3 for study programme PL	Z	2
	, , , ,	Z,ZK	5
21AFM	Air Traffic Management m and its functional blocks. View of ATM data (technical architecture and configuration, transmission systems and networks). Data expense of the configuration is a configuration of the configuration of the configuration is a configuration of the configuration		_
1	systems and technical supervision. ATM simulation. ATM conceptions and strategies for next years. EUROCONTROL - CFMU. FAB. A		_
21BILD	Safety Engineering in Aviation	Z,ZK	4
	sed on understanding the issue of safety, learning how to assess new systems in terms of safety and acquiring principles of safety ma		nts 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 ful	I technical informations about CNS (communication, navigation, surveilance) systems used in aviation. Systems are presented in pers	spective of future de	evelopment.
	European Aviation Legislation subject "European Aviation Legislation" is the legal regulation of air operation, the system and structure of the national and European the Czech national environment and their impact on national regulation with a focus on requirements and criteria of individual regula transportation.		-
21KST	Space Technology	ZK	3
	sic characteristics. Fundamentals of astrophysics. Kepler's laws. Solar system. Earth's and its atmosphere and outer space. Space to their structure and operational characteristics. Space crafts and satellites, space flight. Orbital mechanics. Application of space tech and communication. Space exploration and piloted space flights and missions.	-	
21LETS	Airport	Z,ZK	4
I -	ning new airports and developing existing ones. Connection of the airport to the surrounding infrastructure. Airport economics. Detailus. Certification of airside movement areas and procedures according to EASA CS-ADR-DSN. Development planning - design, prepa Environmental aspects of airport operations.		-
	Aviation Engineering English 1  arious types of the language exercises and are focused on the following topics - EUR-Lex and European Legislation, ICAO Annexes iation Authorities, Accident investigation, Aircraft Airworthiness, Aircraft documentations and manuals, Medical certification, Emerger		
21LIA2	Aviation Engineering English 2 e various types of the language exercises and are focused on the following topics - Aviation associations, ISAGO and IGOM, EURO International, International Air Transport Association, Airport Engineering, Airline business, Future development in civil aviati	KZ CONTROL, Airport	3
21LPZP The course is ab	Air Traffic and the Environment  out ecology, sustainable development, ecological stability, environmental protection and environmental legislation. It also focuses on environment, current issues, threats and solutions.	ZK	3 ect to the

21MULD	Managerial Challenges in Air Transport	Z,ZK	5
	ains a list of basic managerial tasks in aviation. The basic managerial tasks are quality assurance and operational safety, marketing o	•	١ ١
implementation,	airline network management, fleet management and revenue management. The core disciplines also include project management, co	ost management a	nd project
OANCD	resource planning and management.	7 71/	
21NSR	Navigation and Flight Control Systems  Navigation. Radionavigation. Satellite navigation. Flight management system. Autopilot. FMC. Practical execution of flight.	Z,ZK	5
21NTLE	New Trends in Aviation Technologies	KZ	3
	des an introduction to all the technologies that are currently important to aviation, such as new aircraft design concepts, new types of		_
	course also covers new types of urban mobility, virtual reality systems, biomechanical analysis. ATM technologies are another compor		
	at smart airports, the use of blockchain, and airport simulations.		
21PAM1	Programming and Modelling 1	KZ	5
_	s, their generation. Real signals, sampling theorem, aliasing. Signal filtering. Fourier transform (FT), discrete Fourier transform (DFT),		
Spectrum estim	ation, spectral power density. Image - basic processing methods, 2D Fourier transform, noise filtering, edge detection, linear and non	-linear methods, bi	rightness
04 DAMO	transforms, geometric transforms, image compression.	1/7	
21PAM2	Programming and Modelling 2 tistics, classical statistical analysis. Statistical hypothesis testing. Analysis of variance (ANOVA), one-factor, two-factor ANOVA. Non-p	KZ	5 Linear
•	lation, correlation coefficient. Non-linear regression models, procedure for regression analysis of a non-linear model. Basics of machi		
	nearest neighbour method. SVM classifiers. Decision trees.	g	
21PEKL	Principles and Models in Air Transport Economics	Z,ZK	5
The course contain	is the most important and typical models on which the economics of air transport is based. It covers the principles of regulation, airline		dels, 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 strategie	es and the econom	ic principles
	of safety and security.		
21PLDC	Air Carrier Operations	Z,ZK	5
	portance of air transport. Legislation. Airlines - structure, strategy. Performances in air transport. Cost structure. Fuel management. C		
(organization) and	d economics of aircraft operation. Ground handling and other services. Safety / Security / Quality and Compliance monitoring. Revenuand environment.	ie management. A	rtransport
21PLET	Airport Operations	Z,ZK	5
	nd modelling of airport processes in airside, landside and terminal buildings. Impact of infrastructure and equipment on airport capacit		
3, 1113	for increasing capacity. Operational analytics, capacity and traffic load forecasting. Purpose and development of an airport master	-	
21SPOL	Aircraft Technology Reliability	Z,ZK	4
	tuition of separate attributes of reliability (no failure, vitality, maintainability, and so on) and main criterions of safety of production and wor		
General legalities	are in the framework of tuition demonstrated on the example of calculation of reliability of integral characteristics of materials and the	y are practical illus	ration of its
- 101/110	security in The Czech Police Aviation Department.		
21SYMS	System Thinking	ZK	3
System, its struc	ture, algorithmization, complexity, emergence, mind setting, critical thinking, teamwork, feedback and communication, goal setting, u decision making under uncertainty.	ncertainties and ar	guments,
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 3 for study programme PL  Master Project 4 for study programme PL	Z	2
21XNL1	Thesis seminar 1	Z	2
	ntific publications, publications devoted to scientific writing, grey literature, difference between bachelor and master thesis. Time mana		
	tical typesetting, typography, paragraphing, transitions between paragraphs. LaTeX. Research, databases, critical work with text, digit		
<b>5</b> /	outline. Rhetorical exercises / presentation skills.	, 3	<i>'</i>
21XNL2	Thesis Seminar 2	Z	2
Selected chapter	s from the structure. PRISMA and meta-analysis methods. Citation, citation managers. English. Statistical inference. Presentation of r	esults. Graphic de	sign of the
work, own and ado	pted graphics. Ethical principles in scientific work, publishing process, journals (impacted, open access, predatory journals). Rhetorical	exercises / presen	tation skills.
	Specifics of state exams.		
21Y2BS	Unmanned aircraft systems 2	KZ	2
	nmanned aircraft development. Use of unmanned aircraft. Managerial activities related to the operation of unmanned aircraft. Flights be		
21Y2CR	CRM M. Analysis of air accidents. Human factor. Error. Historical development of CRM. Health and fitness. Stress and its effect on the hum.	KZ	2
	Information Processing. Situational Awareness. Workload Management. Decision Making. Communication. Leadership & Decision Making. Communication & Decision		
21Y2FM	Aviation Company Financial Management	KZ	2
	porate finance - financial statements, budget, forecast. Financial policy of the company. Financial resources - long-term financial resources.		
	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 desi	gned as a set of model tasks in the field of communication navigation and surveillance systems in aviation, addressed using mathema	tical approaches a	nd software
	tools. A large part is devoted to air targets tracking, measurement-to-track association, track filtering and multisensor tracking	_	
21Y2MK	Marketing of Air Transport	KZ	2
	course "Marketing in air transport" is the management of activities and processes using available marketing tools and processes for a		
and implementatio	n of sales of goods and services in the aviation industry. In addition to the theoretical foundations of marketing, the lectures present s and product analysis, creation of marketing strategies and planning.	ystems of market,	competition
21Y2MQ	Quality Management	KZ	2
	Quality Management inition. Pioneers in the field of quality. International quality organisations and quality promotion in the Czech Republic. Quality manage		
-	ems. Integrated management systems. Risk management in the context of the requirements of ISO standards. Sectoral quality management is the context of the requirements of the standards.	-	I
	quality management, excellence models and corporate social responsibility. Quality audits.		
21Y2PP	Law and Operation in Air Transport	KZ	2
-	iation law. International conventions on civil aviation. International organisations and including of the Czech Republic in these organis	_	
aviation. Execut	ion of state administration and state supervision in matters of civil aviation, in accordance with Act No. 49/1997 Col. Facilitation. Resp	onsibilities of air ca	arriers for
	passengers, luggage and cargo. The safe transport of dangerous goods.		

21Y2UL	Aircraft Maintenance	KZ	2					
Approved Maintena	Approved Maintenance Organisations (AMOs), Continuing Airworthiness Management Organisations (CAMOs), Maintenance Training Organisations (MTOs), technical documentation							
and additional ICA	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 knowle	edge of practical procedures in aircraft accident investigation. Equipment and organisation of the investigation team. Examples of airc	raft accident inves	tigations in					
the	Czech Republic and abroad and analysis of published final reports. Examples of the preparation of the final report of an air accident	t 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					

For updated information see <a href="http://bilakniha.cvut.cz/en/FF.html">http://bilakniha.cvut.cz/en/FF.html</a> Generated: day 2025-10-21, time 12:16.