

Card of Course

Description of course	
Code of course	TR.SPoATE
Name of course	Selected problems of Air Traffic Engineering
Version of course	2024/2025
A. Place of the course in system of studies	
Level of education	Intermediate
Form and mode of studies	Project (with calculations)
Field of studies	Transport
Profile of studies	General academic profile
Specialisation	Main field
Place of teaching of course	Faculty of Transport
Place of realization of course	Department of Air Transport Engineering
Coordinator of course	Professor Anna Stelmach, Ph.D., D. Sc.
B. General characteristic of the course	
Block of courses	Main field
Group of courses	General
Level of course	Intermediate
Status of course	Faculty with limited choice
Language of course	English
Nominal semester	-
Academic year	2024/2025
Preliminary requirements	-
□ Limit of students	-
C. Effects of education and manner of teaching	
Purpose of course	To give the knowledge and basic skills to perform specific tasks in the field of techniques analysis and of air traffic control: measurements of traffic parameter, measurements of air traffic control parameters, sector capacity, control of the aircraft streams flow.
Effects of education	See Table 1.
Form of didactic studies and number of hours	
Lecture	
Exercise type of course	
Laboratory	
Project type of course	15
Contents of education	<ol style="list-style-type: none"> 1. Analysis of air traffic on a daily basis, weekly and monthly basis. 2. Determination of the load characteristics of air traffic control services. 3. Analysis of air traffic IFR / VFR on a weekly basis, in accordance to air carriers. 4. Analysis of the use of controlled domestic airports by air carriers on a weekly basis.
Methods of evaluation	Evaluation of done project exercises.
Methods of verification of effects of education	See Table 1.
Exam	No
Literature	[1] Airport Planning Manual (ICAO Doc 9184).

	[2] Aerodrome Design Manual (ICAO Doc 9157). [3] Airport Services Manual (ICAO Doc 9137). [4] Air Transport System, Mike Hirst, 2008. [5] Safety and Reliability of Complex Engineered Systems, 2015. [6] Journal of Air Traffic Management, 2018.
Website of the course	-
D. Student's activity	
Number of credits ECTS	3
Number of hours of student's job for achievement of education's effect (description):	35 hours – own work / studying of the literature, making project exercises; performance presentation or prepare the documentation project (calculations and drawings form) 15 h; 10 hours – consultation, defence and evaluation of project exercises.
Number of credits ECTS on the course with direct participation of academic teacher	1
Number of credits ECTS on practical activities on the course	2
E. Additional information	
Notes	
Date of last edition	September 21st, 2024

Table 1. General academic profile

Course's effects		Field effects	Area effect
Knowledge			
Effect:	Theoretical knowledge on air traffic engineering.	Tr1A_W08	T1A_W03
Code of effect:	W_01		
Verification:	Verification of the adequacy of completed project exercises.		
Effect:	Knowledge on modelling parameters of the air traffic processes. Knowledge on the requirements for the air traffic processes.	Tr1A_W09 Tr1A_W12	T1A_W07 T1A_W04
Code of effect:	W_02		
Verification:	Verification of the adequacy of completed project exercises.		
Skills			
Effect:	Determination of the load characteristics of air traffic control services using the number of aircraft operations per day of the week. Analysis of air traffic IFR / VFR on a weekly basis by carriers. Analysis of the use of domestic airports controlled by air carriers on a weekly basis.	Tr1A_U03 Tr1A_U20 Tr1A_U23	T1A_U02 T1A_U14 T1A_U16
Code of effect:	U_01		
Verification:	Assessment of the correct execution and results of completed project exercises, including calculations and analyses.		
Social competences			
Effect:	Is able to participate in the project team.	Tr1A_K03	T1A_K03
Code of effect:	K_01		

Verification:	Implementation of the project, individual and group consultation of the project, oral defense of the concepts used in the project.		
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