

FACULTY OF CIVIL ENGINEERING

SUBJECT CARD

Name in English:	Roads, streets and airports
Name in Polish:	Drogi, ulice i lotniska
Main field of study (if applicable):	Civil Engineering
Specialization (if applicable):	Civil Engineering
Level and form of studies:	1st / 2nd level*, full-time / part-time*
Kind of subject:	obligatory / optional / university-wide*
Subject code:	CEB004162
Group of courses:	YES / NO*

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)	30			30	
Number of hours of total student workload (CNPS)	60			60	
Form of crediting	Examination / crediting with grade *	Examination / crediting with grade *	Examination=/crediting with grade *	Examination / crediting with grade *	Examination=/crediting with grade *
For group of courses mark (X) final course					
Number of ECTS points	2			2	
including number of ECTS points for practical (P) classes				2,0	
including number of ECTS points for direct teacher-student contact (BK) classes	1,3			1,3	

*cross out if not applicable

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Student knows the basics of mathematical statistics
2. Student knows the basics of roads' and streets' design
3. Student knows the basics of roads' traffic signals design

SUBJECT OBJECTIVES

- C1. Familiarizing the students with methodology of traffic forecasting, crossings design (intersections and interchanges), advanced signaling, airports' elements
- C2. Education skills of: traffic forecasting, crossings design (intersections and interchanges), advanced signaling, airports' elements
- C3. Strengthening the ability to conduct research in the group

SUBJECT EDUCATIONAL EFFECTS	
Relating to knowledge:	
PEK_W01	Student knows how make traffic forecasting
PEK_W02	Student knows the rules of design the road's crossings (intersections and interchanges) and advanced signaling
PEK_W03	Student knows the rules of design the airports' elements
Relating to skills:	
PEK_U01	Student can forecast the traffic
PEK_U02	Student can design the road's crossings (intersections and interchanges) and advanced signaling
PEK_U03	Student can design the airports' elements
Relating to social competences:	
PEK_K01	Student can cooperate with the group in traffic analyses

PROGRAMME CONTENT		
Form of classes - lecture		Number of hours
Lec1	Classification. Basic terms and definitions	2
Lec2	Prognoses and modelling of traffic	2
Lec3	Road's design. Multicriteria analyses	2
Lec4	Intersections	2
Lec5	Interchanges	2
Lec6	Traffic engineering – fundamentals	2
Lec7	Control the traffic. Signal planning	2
Lec8	The capacity of roads and junctions	2
Lec9	Elements of airports. Field planning	2
Lec10	Number, length and directions of airport's runways	2
Lec11	Street design	2
Lec12	Planning of public transport	2
Lec13	Calmed traffic. Pedestrians and Cyclists	2
Lec14	Pavements, materials, keeping of roads	2
Lec15	Test	2
Total hours		30

Form of classes - class		Number of hours
Cl1		
...		
Total hours		

Form of classes - laboratory		Number of hours
Lab1		
...		
Total hours		

Form of classes - project		Number of hours
Proj1	Introduction	2
Proj2	Prognoses of traffic	2
Proj3	Routing calls from city to airport	2
Proj4	Choice of variant	2

Proj5	Location plan for the selected variant	2
Proj6	Intersection location plan	2
Proj7	Interchange location plan	2
Proj8	Signaling project - preliminary calculations	2
Proj9	Signaling project - accommodation	2
Proj10	Evaluation of traffic conditions for the intersection	2
Proj11	Complement existing work	2
Proj12	Calculate the length and direction of the runways at the airport	2
Proj13	Airfield location plan at the airport	2
Proj14	Project summary	2
Proj15	Mark	2
	Total hours	30

Form of classes - seminar		Number of hours
Sem1		
...		
	Total hours	

TEACHING TOOLS USED	
N1.	multimedia presentation
N2.	personal computer, interactive whiteboard (calculations, drawings, descriptions)

EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT		
Evaluation F – forming (during semester), P – concluding (at semester end)	Educational effect number	Way of evaluating educational effect achievement
F1 (project)	PEK_U01	report
F2 (project)	PEK_U02 PEK_K01	report
F3 (project)	PEK_U03	report
P (project) = F1 * 0,3 + F2 * 0,4 + F3 * 0,3		
P (lecture)	PEK_W01 PEK_W02 PEK_W03	test

PRIMARY AND SECONDARY LITERATURE	
<u>PRIMARY LITERATURE:</u>	
[1]	Robinson R., Road Engineering for Development, Taylor & Francis, 2004
[2]	Wells A.T., Young S., Airport Planning and Management, McGraw-Hill Professional, 2004
[3]	Roess R.P., Prassas E.S., McShane W.R., Traffic Engineering (3rd Edition), Prentice Hall, 2004
<u>SECONDARY LITERATURE:</u>	
[1]	Manual of Uniform Traffic Control Devices (MUTCD) 2003
[2]	Highway Capacity Manual (HCM) 2000
[3]	Chosen articles from „Journal of Transportation Engineering”

SUBJECT SUPERVISOR (NAME AND SURNAME, DIVISION, E-MAIL ADDRESS)

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MEMBERS OF THE EDUCATIONAL TEAM (NAME AND SURNAME, E-MAIL ADDRESS)

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MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT
Roads, streets and airports
AND EDUCATIONAAL EFFECTS FOR MAIN FIELD OF STUDY *Civil Engineering*
AND SPECIALIZATION **Civil Engineering**

Subject educational effect	Correlation between subject educational effect and educational effects defined for main field of study and specialization (if applicable)**	Subject objectives ***	Programme content ***	Teaching tool number ***
Knowledge				
PEK_W01	K2_W01, K2S_CEB_W20	C1	Lec1 – Lec3, Lec11 – Lec14	N1
PEK_W02	K2_W06, K2_W09, K2S_CEB_W20	C1	Lec4 – Lec8	N1
PEK_W03	K2_W06, K2_W09, K2S_CEB_W19	C1	Lec9 – Lec10	N1
Skills				
PEK_U01	K2_U01, K2_U16, K2S_CEB_U22	C2	Proj2 – Proj5	N1, N2
PEK_U02	K2_U08, K2_U12, K2S_CEB_U22	C2	Proj6 – Proj11	N1, N2
PEK_U03	K2_U08, K2_U12, K2S_CEB_U22	C2	Proj12 – Proj14	N1, N2
Social competences				
PEK_K01	K2_K01, K2_K02, K2_K03	C3	Proj6, Proj7	N2

** - enter symbols for main-field-of-study/specialization educational effects

*** - from table above