The name of the course/models GEOTECHNICS ARCHITECTURE ARCHITECTURE ARCHITECTURE Cases ACU 1.5 008 Vear term UV5 Course (core, elective) Course (core,	COURSE DESCRIPTION CARD							
Main field of study         ARCHITECTURE         Educational profile (general general general general general scademic Lunguage of course: Unguage of course:         Vestr term:           Specialization         all specializations         Polish         Course (core, eluctive)           Lever of qualification:         form of studies (guereral scademic Lunguage of course:         Course (core, eluctive)         Course (core, eluctive)           Lever of qualification:         form of studies (guereral scademic Lunguage of course:         Course (core, eluctive)         Course studies (guereral scademic Lunguage of course:         Course (core, eluctive)           Course studies for the studies program (basic, directional, other)         general academic, trom a different major)         Supplementary         -           Lecturer responsible for the course :         Lecturer:         drin. Micczysław Kania genut.poznan.pl         Faculty of Civil and Environmental Engineering u. Piotrowo 5, 60-965 Poznan tel. 61 665 2 128           Prerequisites defined in terms of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the freely use in the field of Architecture and Urban Planning, especially concerns the Kells obtained during first-cycle studies from courses: Mathematics, Machanics, General engineering, Building constructions, geology and physiography.           2         Skills:         Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the Kells obtain th	The name of the course/module GEOTECHNICS					Code A_U_1.5_008		
Specialization         all specializations         Language of course: Poilsh         Course (cre.veloce) core           Hours         Lectures:         15         Classes:         1         Values (cre.veloce)         Number of points           Level of gualification:         Form of studies (ut-lime studies)part-time studies)part-time studies         Educational area(s)         ECTS distribution (number and %)           I         Full-time studies) (ut-lime studies)port-time studies)port-time studies         Technical Sciences         2         100%           Course status in the studies program (basic, directional, other)         (general academic, from a different major)         .           Lecturer responsible for the course :         Lecturer: drinz, Micczysław Kania e-mail: micczysław Kani e-mail: micczysław Kania e-mail: micczysław Kania e-mail: micczy	Main field of study ARCHITECTURE				Educational profile (general academic, practical)	Year/ term III/5		
Hours         15         Classes         15         Laboratory         0         Projects / seminars         0         Number of points           Level of qualification:         Form of studies (full-line studies) subjects         Form of studies (full-line studies) subjects         Educational area(s)         ECT3 distribution (number and %)           I         Full-time studies (full-line studies) supplementary         Technical Sciences         2         100%           Course status in the studies (poyram (basis, directional, other) Supplementary         (general academic, from a different major)           Lecturer responsible for the course :         Lecturer: dr Inž. Mieczysław Kania e-mail: mieczysław Kania e-mail: mieczysław Kania (general academic, from a different major)           Prerequisites defined in terms of knowledge, skills, social competences:           1         Knowle ge:         Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planing, especially concerns the freely use the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           2         Skills:         Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planing, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           3         Social Stresponsibl	Specialization all specializations				Language of course: Polish	Course (core, elective) CORE		
Lectures:       15       Classes       15       Laboratory       0       Projects / seminars       0       2 ECTS         Level of qualification:       Form of studies (Mi-lime studies)port-time studies)       Educational area(s)       Correct settimation (number and %)         I       Full-time studies       Technical Sciences       2       100%         Course status in the studies program (basic, directional, other)       (general academic, from a different major)       -         Lecturer responsible for the course :       Lecturer:       dr inż. Mieczysław Kania e-mail: mieczysław Kania@put poznan, pl Faculty of Civil and Environmental Engineering ul. Piotrowo 5, 60-965 Poznan       -         1       Knowle dge:       Full scope of knowledge, skills, social competences:         1       Knowleg ob throwledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.         2       Skills:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering. Building constructions, geology and physiography.         3       Social       Student: • car cooperate in a team during realization of given task; • is responsible for the reliabili	Hours	-				Number of points		
Level of qualification:         Form of studies (full-time studies)part-time studies)         Educational area(s)         ECTS distribution (number and %)           I         Full-time studies         Technical Sciences         2         100%           Course status in the studies program (basic, directional, other)         (general academic, from a different major)         1           Lecturer responsible for the course :         Lecturer:         dr inž. Mieczyslaw Kania         dr inž. Mieczyslaw Kania           e-mail: mieczyslaw, kania@put.poznan.pl         Faculty of CVII and Environmental Engineering U. Piotrowo 5, 60-965 Poznan         e-mail: mieczyslaw, kania@put.poznan.pl           Faculty of CVII and Environmental Engineering U. Piotrowo 5, 60-965 Poznan         u. Piotrowo 5, 60-965 Poznan         u. Piotrowo 5, 60-965 Poznan           1         Knowledge:         Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           2         Skills:         Student:         • can cooperate in a team during realization of given task; • is responsible for the reliability of results his/her own works; • can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.           0         Optication of building facilities, including the effective cooperation with building constructor and investor in	Lectures:	15 Class	ses <b>15</b> Labo : cla	oratory <b>0</b> asses:	Projects / seminars 0	2 ECTS		
I         Full-time studies         Technical Sciences         2         100%           Course status in the studies' program (basic, directional, other)         (general academic, from a different major)         -           Lecturer responsible for the course :         Lecturer:         -         -           dr inž. Mieczysław Kania@put.poznan.pl         e-mail: mieczysław Kania@put.poznan.pl         Faculty of Civil and Environmental Engineering         -           ul. Piotrowo 5, 60-965 Poznań         ul. Piotrowo 5, 60-965 Poznań         ul. Piotrowo 5, 60-965 Poznań         -           1         Knowle         Full scope of knowledge covered by the program preceding first-cycle studies in the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           2         Skills:         Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           2         Skills:         Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           3         Social         Student:         • can coo	Level of qualification:	Form of studies Educational an (full-time studies)			rea(s)	ECTS distribution (number and %)		
Course status in the studies' program (basic, directional, other)       (general academic, from a different major)         Supplementary       -         Lecturer responsible for the course :       Lecturer:         dr inż. Mieczysław Kania @put.poznan.pl       dr inż. Mieczysław Kania         Faculty of Civil and Environmental Engineering       ul. Piotrowo 5, 60-965 Poznań         ul. Piotrowo 5, 60-965 Poznań       ul. Piotrowo 5, 60-965 Poznań         tel. 61 665 2 128       Full scope of knowledge, skills, social competences:         1       Knowledge         gen:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the freely use the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engimeering, Building constructions, geology and physiography.         2       Skills:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engimeering, Building constructions, geology and physiography.         3       Social       Student:       • can independently obtain and develop the knowledge in the scope of:       • can independently obtain and develop the knowledge in the scope of:       • can independently obtain and develop the knowledge in the scope of:       • can independently obtain and develop the knowledge in the scope of:       • can indepe	I	Full-ti	ime studies	Technical	Sciences	2 100%		
Lecturer responsible for the course :         Lecturer:           dr inż. Mieczysław Kania e-mail: mieczysław kania@put.poznan.pl         dr inż. Mieczysław Kania@put.poznan.pl           Faculty of Civil and Environmental Engineering ul. Piotrowo 5, 60-965 Poznań         e-mail: mieczysław kania@put.poznan.pl           Faculty of Civil and Environmental Engineering ul. Piotrowo 5, 60-965 Poznań         ul. Piotrowo 5, 60-965 Poznań           tel. 61 665 2 128         full scope of knowledge, skills, social competences:           1         Knowle dge:         Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the freely use the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           2         Skills:         Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           3         Social gROUSE!         Student: • can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.           Objective of the course:         Objective of the course:           Objective of the course:         Objective field of achitecture and link the engineering-geological conditions and geotechnical conditions,           • pogramming the geotechnical	Course status ir	n the studies' pro Supp	ogram (basic, direction) Dementary	al, other)	(general academic, from a dif	ferent major)		
dr inż. Mieczysław Kania       dr inż. Mieczysław Kania         e-mail: mieczysław, kania@put.poznan.pl       e-mail: mieczysław, kania@put.poznan.pl         Faculty of Civil and Environmental Engineering       ul. Piotrowo 5, 60-965 Poznań         ul. Piotrowo 5, 60-965 Poznań       ul. Piotrowo 5, 60-965 Poznań         tel. 61 665 2 128       Full scope of knowledge, skills, social competences:         1       Knowle         ge:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the freely use the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.         2       Skills:         3       Social groupset         Student:       • can cooperate in a team during realization of given task;         • is responsible for the reliability of results his/her own works;       • can cooperate in a team during realization of given task;         • is responsible for the reliability of results his/her own works;       • can cooperate in a team during realization of subilding constructor and investor in the scope of:         0 optimal location of building facilities, including the effective cooperation with building constructor and investor in the scope of:       • optimal location of valied de on geneering geology, geotechnics and foundation works.         • optimal location of relations between soil-water environment and natural environment and st	Lecturer re	sponsible	for the course	:	Lecturer:			
e-mail: mieczysław.kania@put.poznan.pl       e-mail: mieczysław.kania@put.poznan.pl         Faculty of Civil and Environmental Engineering       u. Piotrowo 5, 60-965 Poznań         ul. Piotrowo 5, 60-965 Poznań       ul. Piotrowo 5, 60-965 Poznań         tel. 61 665 2 128       Full scope of knowledge, skills, social competences:         1       Knowle       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the freely use the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.         2       Skills:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.         3       Social       Student:         • can cooperate in a team during realization of given task;       • is responsible for the reliability of results his/her own works;         • can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.       • optimal location of building facilities, including the effective cooperation with building constructor and investor in the scope of.         • optimal location of relations between soil-water environment and natural environment and structure of building and its foundation.       • tearning outcomes         Knowledg	dr inż. Miecz	ysław Kania	a		dr inż. Mieczysław Kania			
air. Holitowo 3, 60-903 F02Hair       uir. Holitowo 3, 60-903 F02Hair         tel. 61 665 2 128       tel. 61 665 2 128         Prerequisites defined in terms of knowledge, skills, social competences:         1       Knowle dge:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the freely use the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.         2       Skills:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.         3       Social engineering, Building constructions, geology and physiography.         3       Social concoperate in a team during realization of given task;         • is responsible for the reliability of results his/her own works;         • can cooperate in a team during realization of given task;         • is responsible for the reliability of results his/her own works;         • can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.         Obtaining the level of geotechnical knowledge, enabling the effective cooperation with building constructor and investor in the scope of:         • optimal location of building facilities, including the engineering-geolo	e-mail: mieczysław.kania@put.poznan.pl Faculty of Civil and Environmental Engineering Faculty of Civil and Environmental Engineering							
Prerequisites defined in terms of knowledge, skills, social competences:           1         Knowle ge:         Full scope of knowledge covered by the program preceding first-cycle studies in the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           2         Skills:         Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.           3         Social geneest         Student: • can cooperate in a team during realization of given task; • is responsible for the reliability of results his/her own works; • can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.           Objective of the course:         Obtaining the level of geotechnical knowledge, enabling the effective cooperation with building constructor and investor in the scope of: • optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions, • programming the geotechnical researches, geotechnical determinants and limitations for designing the buildings. • identification of relations between soil-water environment and natural environment and structure of building and its foundation. knows basic legal regulations related to engineering geology, geotechnics and foundation works. Knowledge:           W01         has knowledge of geotechnics and foundation engineering W01         AU1_W09            Skills:         U01 </td <td>tel. 61 665 2</td> <td>128</td> <td></td> <td></td> <td>tel. 61 665 2 128</td> <td>I</td>	tel. 61 665 2	128			tel. 61 665 2 128	I		
1       Knowle dge:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the freely use the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.         2       Skills:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.         3       Social generation       Student: • can cooperate in a team during realization of given task; • is responsible for the reliability of results his/her own works; • can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.         Objective of the course:       Obtaining the level of geotechnical knowledge, enabling the effective cooperation with building constructor and investor in the scope of:         • optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions,         • programming the geotechnical researches, geotechnical determinants and limitations for designing the building and its foundation.         knowledge       is foundation.         knowledge of geotechnics and foundation works.         Learning outcomes         Knowledge:         W01       has knowledge of geotechnics and foundation e	Prerequisit	es defined	in terms of know	owledge, s	kills, social competences:	:		
2       Skills:       Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.         3       Social Student: <ul> <li>can cooperate in a team during realization of given task;</li> <li>is responsible for the reliability of results his/her own works;</li> <li>can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.</li> </ul> Objective of the course:         Obtaining the level of geotechnical knowledge, enabling the effective cooperation with building constructor and investor in the scope of:         optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions,         programming the geotechnical researches, geotechnical determinants and limitations for designing the buildings,         identification of relations between soil-water environment and natural environment and structure of building and its foundation.         knows basic legal regulations related to engineering geology, geotechnics and foundation works.         Learning outcomes         Knowledge:         W01       has knowledge of geotechnics and foundation engineering       AU1_W09         Skills:         U01         can communicate using different IT tools in the professional environment AU1_U05	1	Knowle dge:	Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the freely use the knowledge obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography					
3       Social Student:       Student:       • can cooperate in a team during realization of given task;         • is responsible for the reliability of results his/her own works;       • can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.         Objective of the course:       Obtaining the level of geotechnical knowledge, enabling the effective cooperation with building constructor and investor in the scope of:         • optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions,         • programming the geotechnical researches, geotechnical determinants and limitations for designing the building and its foundation.         knows basic legal regulations related to engineering geology, geotechnics and foundation works.         Learning outcomes         Knowledge:         W01       has knowledge of geotechnics and foundation engineering       AU1_W09         Skills:         U01       can communicate using different IT tools in the professional environment and in other environments       AU1_U05	2	Skills:	Full scope of knowledge covered by the program preceding first-cycle studies in the field of Architecture and Urban Planning, especially concerns the skills obtained during first-cycle studies from courses: Mathematics, Mechanics, General engineering, Building constructions, geology and physiography.					
3       competent       • can cooperate in a team during realization of given task;         • is responsible for the reliability of results his/her own works;       • can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.         Objective of the course:       Obtaining the level of geotechnical knowledge, enabling the effective cooperation with building constructor and investor in the scope of:         • optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions,         • programming the geotechnical researches, geotechnical determinants and limitations for designing the buildings,         • identification of relations between soil-water environment and natural environment and structure of building and its foundation.         knows basic legal regulations related to engineering geology, geotechnics and foundation works.         Learning outcomes         Knowledge:         W01       has knowledge of geotechnics and foundation engineering         QU1       can communicate using different IT tools in the professional environment and in other environments	2	Social	Student:	-				
	3	compet	can coopera	ate in a team	during realization of given task	, ,		
• can independently obtain and develop the knowledge in the scope of modern methods, processes and technologies.         Objective of the course:         Obtaining the level of geotechnical knowledge, enabling the effective cooperation with building constructor and investor in the scope of:         • optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions,         • programming the geotechnical researches, geotechnical determinants and limitations for designing the building and its foundation.         • identification of relations between soil-water environment and natural environment and structure of building and its foundation.         knows basic legal regulations related to engineering geology, geotechnics and foundation works.         Learning outcomes         Knowledge:         W01       has knowledge of geotechnics and foundation engineering         AU1_W09         Skills:         U01       can communicate using different IT tools in the professional environment and in other environments		ences.	<ul> <li>is responsible for the reliability of results his/her own works;</li> </ul>					
Objective of the course:       Objective of the course:         Obtaining the level of geotechnical knowledge, enabling the effective cooperation with building constructor and investor in the scope of: <ul> <li>optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions,</li> <li>programming the geotechnical researches, geotechnical determinants and limitations for designing the buildings,</li> <li>identification of relations between soil-water environment and natural environment and structure of building and its foundation.</li> <li>knows basic legal regulations related to engineering geology, geotechnics and foundation works.</li> <li>Learning outcomes</li> </ul> <li>Knowledge:         <ul> <li>W01</li> <li>has knowledge of geotechnics and foundation engineering</li> <li>AU1_W09</li> <li>Skills:</li> <li>U01</li> <li>can communicate using different IT tools in the professional environment and in other environments</li> </ul> </li>			can independently obtain and develop the knowledge in the scope of modern     mathematical processing and tasks all prices					
Obtaining the level of geotechnical knowledge, enabling the effective cooperation with building constructor and investor in the scope of:         • optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions,         • programming the geotechnical researches, geotechnical determinants and limitations for designing the buildings,         • identification of relations between soil-water environment and natural environment and structure of building and its foundation.         knows basic legal regulations related to engineering geology, geotechnics and foundation works.         Learning outcomes         Knowledge:         W01       has knowledge of geotechnics and foundation engineering         AU1_W09         Skills:         U01       can communicate using different IT tools in the professional environment and in other environments	Objective of	the course:	methoas, pr	ocesses and	technologies.			
<ul> <li>optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions,</li> <li>programming the geotechnical researches, geotechnical determinants and limitations for designing the buildings,</li> <li>identification of relations between soil-water environment and natural environment and structure of building and its foundation.</li> <li>knows basic legal regulations related to engineering geology, geotechnics and foundation works.</li> <li>Learning outcomes</li> <li>Knowledge:</li> <li>W01 has knowledge of geotechnics and foundation engineering AU1_W09</li> <li>Skills:</li> <li>U01 can communicate using different IT tools in the professional environment AU1_U05</li> </ul>	Obtaining the investor in the	e level of geo e scope of:	technical knowled	lge, enabling	the effective cooperation with	building constructor and		
<ul> <li>programming the geotechnical researches, geotechnical determinants and limitations for designing the buildings,</li> <li>identification of relations between soil-water environment and natural environment and structure of building and its foundation.</li> <li>knows basic legal regulations related to engineering geology, geotechnics and foundation works.</li> <li>Learning outcomes</li> <li>Knowledge:</li> <li>W01 has knowledge of geotechnics and foundation engineering AU1_W09</li> <li>Skills:</li> <li>U01 can communicate using different IT tools in the professional environment AU1_U05</li> </ul>	<ul> <li>optimal location of building facilities, including the engineering-geological conditions and geotechnical conditions,</li> </ul>							
identification of relations between soil-water environment and natural environment and structure of building and its foundation.      knows basic legal regulations related to engineering geology, geotechnics and foundation works.      Learning outcomes  Knowledge:  W01 has knowledge of geotechnics and foundation engineering AU1_W09  Skills:  U01 can communicate using different IT tools in the professional environment AU1_U05	<ul> <li>programming the geotechnical researches, geotechnical determinants and limitations for designing the buildings,</li> </ul>							
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Knowledge:         W01       has knowledge of geotechnics and foundation engineering       AU1_W09         Skills:       U01       can communicate using different IT tools in the professional environment and in other environments       AU1_U05	knows basic legal regulations related to engineering geology, geotechnics and foundation works.							
W01       has knowledge of geotechnics and foundation engineering       AU1_W09         Skills:	Knowledge:							
Skills:       U01       can communicate using different IT tools in the professional environment and in other environments       AU1_U05	W01	has knowle	edge of geotechni	cs and found	ation engineering	AU1_W09		
U01 can communicate using different IT tools in the professional environment AU1_U05	Skills:	-						
	U01 can communicate using different IT tools in the professional environment AU1_U05							

U02	can draw and dimension the basic structural and construction elements in an architectural concept and in the building plans and designs	AU1_U10				
Social competences:						
K01	can work over a set task independently and can cooperate in a team, assuming a number of different roles therein; demonstrates responsibility in the work performance	AU1_K01				
K02	is aware of the importance of non-technical aspects and effects of engineering activities, in this impact upon the environment and liability for environment affecting decisions	AU1_K05				
	The evaluation methods:					
<ol> <li>Lectures</li> <li>Classes</li> <li>simple d</li> </ol>	<ul> <li>written exam</li> <li>written tests (2), implementation of design task concerning the geotechnical irect foundations.</li> </ul>	dimensioning of				
The credit co	ndition of course is obtain minimum 35 points on 60 possible with grade accord	ing to scale:				
	• $41 - 45$ grade 3 5					
	• 46 – 50 grade 4					
	• 51 – 55 grade 4,5					
	• 56 – 60 grade 5.					
Positive gra	de for module depends on achieved by student all learning outcomes spe	cified in the				
syllabus.	Course contents					
	Course contents					
I. Introduction	on to issues of course:					
<ul> <li>relation</li> </ul>	tions between geotechnics and urban planning and architecture, examples of plant	ractical applications				
of g	eotechnical knowledge;					
<ul> <li>sele</li> </ul>	cted issues of engineering geology of Tertiary and Quaternary in the area of Po	oland;				
• geo	technical norms and classification of building soils;					
	c physicochemical properties of soil-water environment;					
	s load-bearing capacity, miled-up sons, made grounds, dumping grounds, organi itectonically disturbed foundations, spatial, beterogeneity of the foundation	c sons,				
II. Mechanic	al properties of soils:					
<ul> <li>soils</li> </ul>	s compressibility;					
• she	ar strength of soils;					
<ul> <li>eart</li> </ul>	h pressure and foundation stability;					
• influ	ence of environmental factors on mechanical properties of soils.					
III. Bearing o	capacity, stability and deformability of ground base:					
• stre	ss state in the foundation, initial, additional stress and secondary stress;					
	include the shallow foundations from the condition of load bearing capacity:					
	<ul> <li>designing the shallow roundations from the condition of load-bearing capacity;</li> <li>calculation of projected buildings sedimentation;</li> </ul>					
<ul> <li>slop</li> </ul>	e stability, the impact of groundwater on building:					
<ul> <li>computer-aid methods in the analysis of geotechnical problems</li> </ul>						
IV. Foundation methods of buildings in different soil-water conditions:						
<ul> <li>structural solutions of shallow foundations;</li> </ul>						
• met	hods of deep foundation engineering;					
• four	ndations of monumental buildings and techniques of their reinforcement;					
• geo	technical problems of earth works, dewatering of excavations;					
	icition of the new materials in dectechnics – decountratics, formed polystyren	a karmasita tha				
foar	nglass granulate foamed concrete liquid consistency of cohesive soil steel fib	re for concrete				
rein	forcement, materials from recycling					
V. Destructive environmental interactions:						
<ul> <li>sources of vibrations in urbanized environment, determinants of vibrations propagation processes in foundation, assessment of vibrations harmfulness for buildings, protection of buildings against the effects of excessive vibrations propagating in the ground base</li> </ul>						
• eros	sion, infiltration, suffosion, disturbances in flow of groundwater:					
• the	spread of contaminations in soil-water environment. addressiveness in relative	to concrete.				
che	mical and biological corrosion of concrete and steel;	,				
• the	influence of natural environment and climatic factors on buildings founded in ex	pansive soils, threats				
of b	uilding facilities by roots of trees and shrubbery.					
VI. Geotechnical activities in different stages of investment realization:						

- determination of geotechnical categories of building facility and programming the geotechnical researches;
- research methods of ground base for the geotechnical designing;
- geotechnical inspection on the stage of facility realization and monitoring of building facility;

# legislations in geotechnics.

VII. Geotechnics in spatial planning:

- using the engineering-geological maps, ecophysiographic studies and geotechnical materials of archival in urban planning and for making location decisions;
- the role of historical and cartographic information in geotechnical assessment of territory;
- geotechnical problems of location of waste landfills, cemeteries, car roads etc.;
- making planning and design decisions including the geotechnical determinants, specialized systems of spatial information.

#### VIII. Disasters and damages of buildings of the geotechnical causes:

- mistakes on the stage of engineering-geological and geotechnical identification;
- design mistakes and execution mistakes;
- mistakes of exploitation and environmental causes;
- determination of causes of geotechnical failures;
- improving the conditions of foundation the existing buildings;
- examples of building failures and disasters of the geotechnical causes.

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- 16. Prawo budowlane (fragmenty), Prawo geologiczne (fragmenty),
- 17. Warunki techniczne jakim powinny odpowiadać ... (dla różnych rodzajów budownictwa)

### Books and scripts:

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- 4. Nowoczesne Budownictwo Inżynieryjne.
- 5. Drogownictwo.
- 6. Przegląd Komunikacyjny
- 7. Przegląd Budowlany

### The student workload

Form of activity	Hours	ECTS
Overall expenditure	55	2
Classes requiring an individual contact with teacher	39,5	1
Practical classes	22,5	-

## Balance the workload of the average student

Form of activity	Number of hours
participation in lectures	15 h
participation in classes/ laboratory classes (projects)	15 h
preparation for classes/ laboratory classes	15 x 0,5 h = 7,5 h
preparation to colloquium/review	-
participation in consultation related to realization of learning process	15 x 0,5 h = 7,5 h
preparation to the exam	8 h
attendance at exam	2 h

Overall expenditure of student:

2 ECTS credits

55 h

As part of this specified student workload

• activities that require direct participation of teachers:

15 h +15 h + 7,5 h + 2 h = 39,5 **h** 

1 ECTS credit