		STUDY MODULE [DESCRIPTION FORM				
Name of the module/subject				Code			
	•	d Lean Management	Profile of study	10101011610107435 Year /Semester			
Field of study			(general academic, practical))			
Civil Engineering First-cycle Studies Elective path/specialty			(brak) Subject offered in:	3 / 6 Course (compulsory, elective)			
-			Polish	elective			
Cycle of	study:		Form of study (full-time,part-time)				
	First-cyc	le studies	full-time				
No. of h	ours			No. of credits			
Lectur	e: 30 Classes	s: 15 Laboratory: ·	Project/seminars:	15 5			
Status o	f the course in the study	program (Basic, major, other)	(university-wide, from another	field)			
		(brak)	(brak)				
Education	on areas and fields of sci	ence and art		ECTS distribution (number and %)			
Resp	onsible for subje	ect / lecturer:	Responsible for subje	ct / lecturer:			
mgr	inż. Sebastian Dubas		mgr inż. Piotr Nowotarski				
	il: sebastian.dubas@	put.poznan.pl	email: piotr.nowotarski@put.poznan.pl				
	616652830		tel. 616652190				
	ulty of Civil and Enviro Piotrowo 5 60-965 Poz		Wydział Budownictwa i Inżynierii Środowiska ul. Piotrowo 5				
Prere	quisites in term	s of knowledge, skills a	nd social competencies	:			
1	Knowledge	Basic knowledge on mathemat	cs and economics.				
2	Skills	solving problems, use of gathe	red knowledge, systematic work	ς.			
3	Social competencies	work in groups, creativity.					
Assu	mptions and obj	ectives of the course:					
		arising students with basic aspec arn about forms of conducting b					
	- On lean management part students learn about: Lean Management; 6 Sigma; Fathers of Lean Management; Why do companies use the tools of Lean Six Sigma; Why quality is important; General rules for implementing the LM.						
	Study outco	mes and reference to the	e educational results for	r a field of study			
Know	/ledge:						
		a temat prowadzenia działalnośc	ci gospodarczej w budownictwie	- [K_W16]			
Skills							
	1 78 1	olan i plan finansowy przedsięwz	ięcia - [-]				
	Il competencies:						
 potrafi pracować samodzielnie i współpracować w zespole nad wyznaczonym zadaniem [K_K01] ma świadomość konieczności podnoszenia kompetencji zawodowych i osobistych [K_K06] 							
2. ma s	swiadomosc konieczni	ości podnoszenia kompetencji za	awodowych i osobistych [K_K	טט			
		Assessment metho	ods of study outcomes				

Written exam from lectures consisting of 4 to 8 open questions. Exam takes place on last classes of the semester.
 written final test in moodle system consisting of 4 to 10 open and closed questions. Final test takes place on last classes of the semester.

- project course is passed on basis of correctly done project, according to regular consultations, and defending project within due date before last classes of the semester.

Course description

- During lectures discussed problems are:

1. forms of business activity, commercial companies, law and tax aspects of companies, basic terminology on economics and law.

2. taxes in business activity - VAT, lump sum, tax card.

3. finances of companies, bill of gains and losses, costs of commercial activity, planing finances depreciation, leasing, discounting monetary value over time.

4. Lean Management; 6 Sigma; Fathers of Lean Management; Why do companies use the tools of Lean Six Sigma; Why quality is important; General rules for implementing the LM; Value stream; 8 Muda; Types Muda; Mura; Muri; Sea of inventory; DMAIC cycle; Card Project; Voice of the customer; SIPOC; Brainstorm; 5Whys; Pareto chart; Ishikawa diagram

Basic bibliography:

1. Przedsiębiorczość dla ambitnych ? Jerzy Cieślik

2. Własna firma ? Iwona Bogaczyk i inni

3. Wybrane zagadnienia finansów przedsiębiorstw ? Jolanta Iwin-Garzyńska, Adam Adamczyk

4. The Machine That Changed the World by James P. Womack, Daniel T. Jones, and Daniel Roos, Free Press, ISBN-13: 978-0-7432-9979-4

Additional bibliography:

Result of average student's workload

Activity	Time (working hours)	
1. Participation in classes Lecture + Excercise + Projects		60
2. Learning to exam	25	
3. Learning to final test	15	
4. Preparation of business plan	50	
Student's wo	orkload	
Source of workload	hours	ECTS
Total workload	150	5
Contact hours	60	3
Practical activities	50	2