

Faculty of Chemical Technology and Engineering

Field of study							7				
Field of study		Chen	Chemical Engineering								
Mode of study		stationary Level first cycle					/T: I	Ch			
Graduate's qualification		inżynier Lever III'st cycle WTil						/ 111	un		
Area(s) of stud	dy	nauk	i techniczne								
Educational pi	rofile	gene	ral academic						_	-	
Module											
Course unit		Entre	epreneurship f	or Engineers							
Code		ChEn	ChEn_1A_S_C26a								
Field of specia	alisation										
Administering	faculty	Exter	nal Department							4	
ECTS		1,0		ECTS (forms)	1,0						
Form of course credit		credi	ts	Language english							
Electives		10		Elective group)						
Form of instru	ıction	Code	Semester	Hours		ECTS	We	eight		Credi	<u> </u>
lecture		W	7	15		1,0		,00		credit	
Leading teacher			Żebrowski Paweł (Pawel.Zebrowski@zut.edu.pl)								
Other teacher.		2001			ucuu.μι/						
Prerequisites W-1 Stu	ident knows tha	hasics	of high school mat	thematics							
	onomy	Dasics	- Ingri scriooi mai	thematics.							
	gineering										
	sics of Enterpren	eurshi	<u></u> р								
Module/course	e unit objective	es									
	<u>-</u>		ge related to the er	ntrepreneurship	for engineers.						
C-2 Dev	veloping student	's abili	ity to recognize the	e basic concepts	of entreprene	urship for eng	gineers.				
C-3 Imp	oroving student'	s awar	eness of the need	for continuous e	ducation and _l	orofessional d	evelopr	nent.			
Course conter	nt divided into	variou	ıs forms of instru	ıction					Num	ber of	hours
T-W-1 Enerpreneurship Basics. Startups formation. Key successes and failures of young companies. Technological companies. Procedures of forming company. Entrepreneurship Economy. Business models. Strategy, mission and vision. Finding partners and building competitive advantages. Intellectual Property Rights.								SS	15		
Student workl	tudent workload - forms of activity								Number of hours		
A-W-1 Clas	Classroom participation								15		
	Preparation to the lecture.								5		
A-W-3 Inde	Independent study of the subject matter of the classes								5		
											5
A-W-4 Par	ticipation in proj	ect cla	isses. 								
A-W-4 Par	hods / tools	ect cla	isses.								
A-W-4 Par Teaching meth M-1 Lec	hods / tools										
A-W-4 Par Teaching meth M-1 Lec Evaluation me	hods / tools cture ethods (F - prog	gressi									
A-W-4 Par Teaching meth M-1 Lec	hods / tools cture ethods (F - prog	gressi									
A-W-4 Par Teaching meth M-1 Lec Evaluation me S-1 F	hods / tools cture ethods (F - prog	gressi	ve, P - final)	Reference to the learning outcomes designed for the fields of study	Reference to the learning outcomes defined for the particular areas of education	Reference to learning outcomes leading to the degree of "inżynier"	Course objectives	Course co	ontent	Teaching methods	Evaluation methods
A-W-4 Par Teaching meth M-1 Lec Evaluation me S-1 F Des Knowledge	hods / tools ture ethods (F - prog	gressi	ve, P - final)	learning outcomes designed for the fields of	learning outcomes defined for the particular areas of	learning outcomes leading to the			ontent		
A-W-4 Par Teaching meth M-1 Lec Evaluation me S-1 F Des Knowledge ChEn_1A_C26a_Wo Student has theory entrepreneurship f	hods / tools ture ethods (F - programme) Written test signed learning	gressi	ve, P - final) omes	learning outcomes designed for the fields of	learning outcomes defined for the particular areas of	learning outcomes leading to the		Course co	ontent		
A-W-4 Par Teaching meth M-1 Lec Evaluation me S-1 F Des Knowledge ChEn_1A_C26a_W0 Student has theory entrepreneurship if Skills ChEn_1A_C26a_U0	hods / tools ture ethods (F - programme) Written test signed learning 01 y-based knowledge for engineers.	gressing outc	ve, P - final) omes the scope of	learning outcomes designed for the fields of study ChEn_1A_W16 ChEn_1A_W17	learning outcomes defined for the particular areas of education P6S_WG_TA11 P6S_WK_TA11 P6S_UU	learning outcomes leading to the degree of "inżynier" P65_WG_IA11	objectives		ontent	M-1	methods
A-W-4 Par Teaching meth M-1 Lec Evaluation me S-1 F Des Knowledge ChEn_1A_C26a_Wo Student has theory entrepreneurship if Skills ChEn_1A_C26a_U0 Student can use theory concepts of entrepreneurship	hods / tools ture ethods (F - programme) Written test signed learning 01 y-based knowledge for engineers.	gressing outc	omes the scope of recognize the basic	learning outcomes designed for the fields of study ChEn_1A_W16 ChEn_1A_W17	learning outcomes defined for the particular areas of education P6S_WG_TA11 P6S_WK_TA11	learning outcomes leading to the degree of "inżynier"	objectives	T-W-1	ontent	methods	S-1

ChEn_1A_C26a_K01 Student is aware of the need for continuous education and professional development in the field of entrepreneurship for engineers.	ChEn_1A_K02 ChEn_1A_K06	P6S_KO	C-3	T-W-1	M-1	S-1
Required reading						

- 1. Uchino Kenji, Entrepreneurship for engineers., CRC Press, 2009
- 2. Kenji Uchino,, Entrepreneurship for Engineers, 2011
- 3. Kohlert, Helmut; Fadai, Dawud; Sachs, Hans-Ulrich, Entrepreneurship for Engineers, OLDENBOURG WISSENSCHAFTSVERLAG, 2013

Supplementary reading

1. Alexander Osterwalder, Yves Pigneur, Business Model Generation, 2011