Faculty of Environmental Sciences Programme of studies in the field of Environmental Engineering Specialty: Process Engineering and Environmental Protection Valid for academic year 2019/2020 in the first year of studies Resolution No. 476 of the Faculty Council of 12 April 2019 1 year 4907-SMU-

4907-SMU-PEEPB KRK

Educational profile: general academic Form of studies: full time Educational form/level of studies: **second grade** Qualifications obtained: second grade field: engineering and technical sciences discipline: environmental engineering, mining and energy

Νc	Year of studies: I, semester 1		١	Number of ECTS poi	nts	Number	Form of	Status				N	lumber of die	dactic hours				
INO.	Name of the module /			with direct	independent	of	crediting	of the course		including: organized classes					$\overline{}$			
	course	<u></u>		participation	student's	ECTS points	crediting	obligatory			_		classes					.92
	334.55	est		of an academic	work	for practical		or									e.	thesis
		Semester	total	teacher		classes		facultative	total	lectures	tion	atory	v	ning	uter	other*	practice	ter
		•,									recitation	aboratory	field	designing	computer		۵	Master
											2	<u>a</u>		ŏ	8			
	Content group		•		•				•				•					1
ı	General requirements																	1
1	English support 1849S2-ENSU	1	1,5	1,28	0,22	0	z/o	0	30		30					2		
	Writing scientific papers 1849S2-WSCP	1	2	1,28	0,72	0	z/o	0	30		30					2		
	English terminology in environmental sciences 1849S2-ETES	1	1,5	1,28	0,22	0	z/o	0	30		30					2		丄
4	Polish Language/German Language 1849S2-PLGL	1	1	0,88	0,12	0	z/o	0	20		20					2		丄
	Number of ECTS points/didactic hours (total)		6	4,72	1,28	0			110		110					8		丄
	Number of ECTS points/didactic hours (practical classes)		0			0												╄
	Number of ECTS points/didactic hours (facultative courses)		0			0												╄
	Basic			1.00	1 0 1	0.00			- 00									₩
1	Techniques of genetic engineering 1849S2-TGE	1	3	1,36	1,64	0,96	<u>e</u>	0	30	6	20	24				4		₩
2	Environmental statistics1849S2-ENS	_1_	2	1,28	0,72	0	z/o	0	30	6	30	0.4				2		+
\vdash	Number of ECTS points/didactic hours (total) Number of ECTS points/didactic hours (practical classes)		5 0.96	2,64	2,36	0,96 0,96			60	6	30	24				6		+
\vdash	Number of ECTS points/didactic nours (practical classes) Number of ECTS points/didactic hours (facultative courses)	-	0,96	1		0,96			-	1			-			 		+
ш	Subject area		U			U			l .				l .					+
1	•	1	2	1.36	1,64	1 1	е	0	30	5		25	1	1		4		+
	Analytical training -1849S2-ANT	+	2	1,36	0.72	1.2	z/o	0	30	-		30				2		+
	Water and wastewater treatment 1849S2-WWT	1	4	3.08	0.72	2.24	z/o	0	75		19	56				2		+
	Design of processes in environmental biotechnology 1849S1-DPEB	1	2	1.28	0.72	1.2	z/o	0	30			- 00		30		2		_
	Monitoring of aerobic stabilization of municipal solid waste 1849S2-MAS	1	1	0.68	0.32	0.6	z/o	0	15			15				2		1
6	Biotechnology in environmental protection 1849S2-BEP	1	3.5	1.96	1.54	1.36	e	0	45	11		34				4		
	Biological wastewater treatment 1849S2-BIWT	1	3,5	1,36	2.14	0.8	e	0	30	10				20		4		1
	Number of ECTS points/didactic hours (total)		19	11	8	8,4			255	26	19	160		50		20		1
	Number of ECTS points/didactic hours (practical classes)		8,4			8,4												
	Number of ECTS points/didactic hours (facultative courses)		0			0												
IV	Specialty area																	
1																		\mathbb{L}
	Number of ECTS points/didactic hours (total)																	┸
	Number of ECTS points/didactic hours (practical classes)																	Ь.
	Number of ECTS points/didactic hours (facultative courses)																	╄
٧	Specialisation																	₩
<u> </u>																		₩
\vdash	Number of ECTS points/didactic hours (total)									1								₩
\vdash	Number of ECTS points didactic hours (practical classes)			-														+
VI	Number of ECTS points/didactic hours (facultative courses) Other requirements		<u> </u>]				I .	I			<u> </u>					+
VI	Other requirements		ı	1				1	ı	1			r	1		ı		+
	Number of ECTS points/didactic hours (total)																	+
VII	Internship			1	<u> </u>													+
'' '				I	I				T	1			ī			1		+
\vdash	Number of ECTS points/didactic hours (total)			1						1								十
	Number of ECTS points/didactic hours (practical classes)			1														+
	Number of ECTS points/didactic hours (facultative courses)																	T
No.	of ECTS p./didactic hours in semester 1		30	18,36	11.64	9.36			425	32	159	184		50		34		t
_	of ECTS p./didactic hours in 1st year of studies			10,00	11,01	0,00			425	<u> </u>						<u> </u>		T
_	ber of ECTS points/didactic hours (total)		0			9,36												1

Year of studies: I, semester 2

No	rear or studies: I, semester 2		N	umber of ECTS poi	nts	Number	Form of	Status		Number of didactic hours							\neg	
1.10	Name of the module /		total	with direct	independent	of	crediting	of the course	total		including: organized classes			other*		-		
	course	<u>-</u>	total	participation	student's	ECTS points	orodining	obligatory	totai	lectures	classes					. <u>ss</u>		
	334.00	est		of an academic	work	for practical		or					1				8	hes
		Semester		teacher	WOIK	classes		facultative			ecitation	laboratory	70	designing	computer		oractice	Master thesis
		0,		todorici		Cidosco		racultative			cita 1	ora	field	sigr	mbr		ā	Лаs
											ē	ap		de	8			-
\vdash	Content group												1					-
Т	General requirements																	
1	Technical english 1849S2-TECHE	2	2	1.28	0.72	0	z/o	0	30		30					2		
2	Ethical responsibility 1849S2-ETR	2	2	1.28	0.72	Ŏ	z/o	0	30		30					2		
	Public relations 1849S2-PUBR	2	2	1.28	0.72	Ŏ	z/o	0	30		30					2		
	Number of ECTS points/didactic hours (total)		6	3.84	2.16	Õ		Ŭ	90		90					6		
	Number of ECTS points/didactic hours (practical classes)		3	0,0.	_,	Õ										Ť		
	Number of ECTS points/didactic hours (facultative courses)		0			Ö												
Ш	Basic			·														$\overline{}$
1	Chemical engineering 1849S2-CHEME	2	2	1.36	0.64	0	е	0	30		30					4		
2	Technical chemistry 1849S2-TECH	2	2	1.36	0.64	Ö	e	0	30	10	20					4		
	Number of ECTS points/didactic hours (total)		4	2,72	1,28	Ö			60	10	50					8		
	Number of ECTS points/didactic hours (practical classes)		2	,	, -	Ō												
	Number of ECTS points/didactic hours (facultative courses)		0			Ö										Ì		
III	Subject area		-			-										•		
_1	Safety engineering 1849S2-SAFE	2	2	1,36	0,64	0	е	0	30	15	15					4		
2	Water processing 1849S2-WATP	2	2	1,36	0,64	Ö	e	0	30	15	15					4		
	Number of ECTS points/didactic hours (total)		4	2,72	1,28	0			60	30	30					8		
	Number of ECTS points/didactic hours (practical classes)		2			0												
	Number of ECTS points/didactic hours (facultative courses)		0			0												
	Specialty area																	
	Dimention fermenters 1849S2-DIF	2	4	1,28	2,72	1,2	z/o	0	30			30				2		
2	Flow simulation 1849S2-FLS	2	3	1,28	1,72	1,2	z/o	0	30			30				2		
3	Thermochemical conversion process 1849S2-TCP	2	4	2,48	1,52	1,8	z/o	0	60	15		45				2		
4	Technical school: renewable energy conversion 1849S2-TSREC	2	4	2,48	1,52	1,8	z/o	0	60	15		45				2		
5	Intercultural competences 1849S2-INTC	2	1	1,00	0	0	z/bo	0	30		30					2		
	Number of ECTS points/didactic hours (total)		16	8,52	7,48	6			210	30	30	150				10		
	Number of ECTS points/didactic hours (practical classes)					6												
\perp	Number of ECTS points/didactic hours (facultative courses)		0			0												<u> </u>
٧	Specialisation																	
\perp																		
\vdash	Number of ECTS points/didactic hours (total)																	
\vdash	Number of ECTS points/didactic hours (practical classes)																	
<u> </u>	Number of ECTS points/didactic hours (facultative courses)																	Щ
VI	Other requirements		•	,	•													
<u> </u>																		ш
L	Number of ECTS points/didactic hours (total)																	ш
	Internship		00	47.0	40.0	45.00			400	70	00	450				00		oxdot
	of ECTS p./didactic hours in semester 2		30	17,8	12,2	15,36			420	70	90	150				32		\vdash
	of ECTS p./didactic hours in 1st year of studies		60						845	102	249	334				66		\vdash
	nber of ECTS points/didactic hours (total)					6												lacksquare
_	nber of ECTS points/didactic hours (practical classes)		_			6												oxdot
Nu	ber of ECTS points/didactic hours (facultative courses)		U			0												

	Year of studies: II, semester 3																	
No.			N	umber of ECTS poi	nts	Number	Form of	Status		Number of didactic hours								
	Name of the module /		total	with direct	independent	of	crediting	of the course	total		including: organized classes		ses		other*			
	course	žē.		participation	student's	ECTS points		obligatory		lectures			classes				•	thesis
		Semester		of an academic	work	for practical		or			_	>		Ð	7		actice	ŧ
		S		teacher		classes		facultative			recitation	laboratory	field	designing	puter		prac	Master
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											_	<u></u>		Ü	Ü			
	Content group																	
ı	General requirements																	
1																		
	Number of ECTS points/didactic hours (total)																	
	Number of ECTS points/didactic hours (practical classes)																	
	Number of ECTS points/didactic hours (facultative courses)																	
II	Basic																	
1																		
	Number of ECTS points/didactic hours (total)																	
	Number of ECTS points/didactic hours (practical classes)																	
	Number of ECTS points/didactic hours (facultative courses)																	
III	Subject area																	
1																		
	Number of ECTS points/didactic hours (total)																	
	Number of ECTS points/didactic hours (practical classes)																	
	Number of ECTS points/didactic hours (facultative courses)																	
IV	Specialty area																	
1																		
	Number of ECTS points/didactic hours (total)																	
	Number of ECTS points/didactic hours (practical classes)																	
	Number of ECTS points/didactic hours (facultative courses)																	
	Specialisation																	
1	Master thesis/professional practice***	3	30	18	12	0	е	f									600	200
	Number of ECTS points/didactic hours (total)		30	18	12	0											600	200
	Number of ECTS points/didactic hours (practical classes)		30			0												
	Number of ECTS points/didactic hours (facultative courses)					0												
VI	Other requirements																	
1																		
	Number of ECTS points/didactic hours (total)																	
VII	Internship																	
	No. of ECTS p./didactic hours in semester 3		30	18	12				600									
	No. of ECTS p./didactic hours in 2nd year of studies								1445	102	249	334				66		
Nun	ber of ECTS points/didactic hours (total)					0												
Nun	Number of ECTS points/didactic hours (practical classes)					0												
Nun	ber of ECTS points/didactic hours (facultative courses)		0			0												

Total programme of studies - sum of hours and ECTS points

	Total programme of studies - sum of hours and ECTS points	programme of studies - sum of hours and ECTS points																
No			N	umber of ECTS poi	nts	Number	Form of	Status			Number of didactic hours							
	Name of the module /		total	with direct	independent	of	crediting	of the course	total		including: organized classes				other*			
	course	ester		participation	student's	ECTS points		obligatory		lectures		classes					.82	
				of an academic	work	for practical		or			on	Ŋ		ıg	J.		practice	흎
		Sen		teacher		classes		facultative			atio	atory	field	signing	mputei		pra	ster
											ecit	abor	ji ji	desi	E O			ž
L											-	<u></u>		0	Ŭ			
L	Number of ECTS points / didactic hours in the study programme	х	90	54,16	35,84	15,36	х	х	845	102	249	310				42		
L	including in total - content group:																	
1	General requirements																	
L	Number of ECTS points/didactic hours (total)	х	12	8,56	3,44	0	х	х	200		200							
L	Number of ECTS points/didactic hours (practical classes)	х	3				х	х										
	Number of ECTS points/didactic hours (facultative courses)	х	0	0	0		х	х										
II	Basic																	
	Number of ECTS points/didactic hours (total)	х	9	5,36	3,64	0,96	х	х	120	16						14		
	Number of ECTS points/didactic hours (practical classes)	х	2,96				x	x										
	Number of ECTS points/didactic hours (facultative courses)	Х					х	X										
Ш	Subject area																	
	Number of ECTS points/didactic hours (total)	Х	23	13,72	9,28	8,4	х	X	315	56	49	160				28		
	Number of ECTS points/didactic hours (practical classes)	Х	10,4				х	X										
	Number of ECTS points/didactic hours (facultative courses)	Х					Х	X										
IV	Specialty area																	
	Number of ECTS points/didactic hours (total)	Х	16	8,52	7,48	6	х	X	210	30		150						
	Number of ECTS points/didactic hours (practical classes)	Х	0				х	X										
	Number of ECTS points/didactic hours (facultative courses)	Х					х	X										
٧	Specialisation																	
	Number of ECTS points/didactic hours (total)	Х	30	18	12	0	х	X									600	200
	Number of ECTS points/didactic hours (practical classes)	х	30				х	X										
	Number of ECTS points/didactic hours (facultative courses)	х		18	12		х	х									600	200
VI	Other requirements																	
	Number of ECTS points/didactic hours (total)																	
			90	54,16	35,84	15,36			845	102	249	310				42	600	200

I EC	CTS points:	ECTS	points:	Hours			
Su	ummary quantity indicators	Number	%	Number	%		
ind	cluding, classes:						
To	otal - programm of studies		90	100	2250	100	
1 red	quiring direct participation of an academic teacher		54,16	60,18	1645	73,11	
2 in	the scope of basic sciences		12	13,3	200	8,9	
3 of	practical nature (laboratory, field, computer)		15,36	17,1	510	22,7	
4 al	Il-university or realized in other field of studies		0	0	0	0	
5 op	otional courses - at least 30 % ECTS points		30	33,3	800	35,6	
6 pra	ractice		30	33,3	600	26,7	
7 su	ibjects in the humanities or social sciences		0	0,0	0	0,0	

II	Percentage share of ECTS points								
	for each of the educational discipline	%							
	in the total number of ECTS points								
Educational discipline									
1	environmental engineering, mining and energy	100%							
		100%							