Zachodniopomorski Uniwersytet Technologiczny w Szczecinie

Field of study		Aquaculture and Fisheries					
Mode of study		stati					÷
	te's qualification	inżyr	inżynier				ŽiR
	, of science	-	cultural sciences				
Disciplii	nes of science			fisheries (100%)			
	ional profile		eral academic	(
Module	-	5					
Course		Bioc	hemistry				
Code	unic)ZIR/AQF/S1/				
	specialisation						
	-	Cent	rum Bioimmobil	lizacji i Innowacyjn	vch Materiałów		
Adminis	stering faculty		kowaniowych				
ECTS		4.0		ECTS (forms)	4.0		
Form of	f course credit	examination		Language	english		
Elective	25			Elective group			
Form of	finstruction	Cod	Semester	Hours	ECTS	Weight	Credit
laborato	ory course	L	2	30	2.0	0.50	credits
lecture	-	w	2	30	2.0	0.50	examination
Leadino	g teacher	Bartl	kowiak Artur (Ar				
	eachers				zielinska@zut.edu.p	1)	
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Zachodniopomorski Uniwersytet Technologiczny w Szczecinie

Faculty of Food Sciences and Fisheries

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Course co	ntent d	ivided into various forms of inst	truction					Nur	nber o	f hours	
T-W-3	Biological membranes and transport							2			
T-W-4	Muscle structure. Biochemistry of contraction. Protein folding								2		
T-W-5	Bioenergetics and metabolism. Principles of bioenergetics								3		
T-W-6	Glycolysis and the catabolism of hexoses. The citric acid cycle.								3		
T-W-7	Fatty acids metabolism. Amono acids oxidation and production of urea.								3		
T-W-8	Oxidat	ve phosphorylation and photophos	phorylation.						3		
T-W-9	Lipid biosynthesis. Carbohydrate biosynthesis								3		
T-W-10	Biosynthesis of amino acids, nucleotides and related molecules.								3		
T-W-11	DNA metabolism, RNA metabolism, protein metabolism.								2		
T-W-12	Integra	tion and hormonal regulation of ma	ammalian metabol	lism						2	
Student w	orkload	I - forms of activity						Nur	nber o	f hours	
A-L-1	Partici	pation in laboratory classes, perform	ning experiments						30		
A-L-2	Prepar	ng reports on experiments							10		
A-L-3		tions of saponification values, acid tration of the solution. Conversion					ntration		10		
A-L-4	learnin	g required theoretical basics (for te	ests)						10		
A-W-1		bation in lectures							30		
A-W-2	learnin	g of theoretical basis for exam								30	
Teaching	method	ls / tools									
M-1	convey	ring the information through the lea	ture								
М-2		ning experiments with students, pr	eparing reports of	experiments ((containing re	sults wi	th obse	rvations	, calcul	ations	
M-3		nclusions) ng the students to give verbal feed	hack (discussion)								
_											
		ods (F - progressive, P - final)									
S-1	F	attendance control									
S-2	F	continuous assessment									
S-3	F	written tests									
S-4	F	experiment reports									
S-5	Р	written examination		1	1	1	T		1	1	
	Designed learning outcomes designed for the fields of study						e content	Teaching methods	Evaluation methods		
Knowledg	е										
AQF_1A_B09_W01 Student has knowledge of : 1) the structure and properties of amino acids and proteins and their function; 2) the structure and mode of action of selected enzymes.		nd AQF_1A_W01	P6S_WG	P65_WG	C-1	T-W-1	T-W-2	M-1	S-5		
AQF_1A_B09_W02 Student has knowledge of : 1) Bioenergetics and metabolism: Glycolysis and the catabolism of hexoses, the citric acid cycle; 2) Fatty acids metabolism; 3) Oxidative phosphorylation and photophosphorylation; 4) Lipid biosynthesis. Carbohydrate biosynthesis; 5) Biosynthesis of amino acids, nucleotides and related molecules; 6) DNA metabolism, RNA metabolism, protein metabolism.			AQF_1A_W01	P65_WG	P6S_WG	C-1	T-W-3 T-W-4 T-W-5 T-W-6 T-W-7	T-W-8 T-W-9 T-W-10 T-W-11 T-W-12	M-1	S-5	
Skills										•	
AQF_1A_B09_U01 Student is able to choose the right methods and carry out experiments. Student is able to identify and carry out characteristic reactions of: 1) saccharides and polysaccharides; 2) saturated and unsaturated fats; 3) vitamins; 4) proteins; 5) selected enzymes (including reaction kinetics); 6) DNA and RNA			P65_UK P65_UO P65_UU P65_UW		C-1	T-L-1 T-L-2 T-L-3 T-L-4 T-L-5 T-L-6 T-L-7 T-L-8	T-L-9 T-L-10 T-L-11 T-L-12 T-L-13 T-L-14 T-L-15	M-2 M-3	S-1 S-2 S-3 S-4		
AQF_1A_B09_U02 Student can independently draw conclusions from the experiments and write the report			AQF_1A_U01 AQF_1A_U08	P6S_UW	P65_UW	C-1	T-L-1 T-L-2 T-L-3 T-L-4 T-L-5 T-L-7 T-L-7 T-L-8	T-L-9 T-L-10 T-L-11 T-L-12 T-L-13 T-L-14	M-2 M-3	S-1 S-2 S-3 S-4	
Social con	npeteno	ces									

Zachodniopomorski Uniwersytet Technologiczny w Szczecinie Faculty of Food Sciences and Fisheries

		Faculty OF Fo	bou Scien	ces anu	FISHERIE	5				
AQF_1A_B09_K01 Student is aware of the importance of behavior in a professional manner, compliance with the principles of ethics. Student is aware of the responsibility for own work and team work			AQF_1A_K01 AQF_1A_K02 AQF_1A_K03	P65_KK P65_KO P65_KR		C-1	T-L-1 T-L-2 T-L-3 T-L-4 T-L-5 T-L-6 T-L-7	T-L-8 T-L-9 T-L-10 T-L-11 T-L-12 T-L-13 T-L-14	M-2 M-3	S-1 S-2
Outcomes	Grade		Evaluation criterion							
Knowledge	-									
AQF 1A B09 W01	2,0									
	3,0	Student has knowledge of topics	conveved through	the lecture						
	3,5									
	4,0									
	4,5									
	5,0									
AQF_1A_B09_W02	2,0									
	3,0	Student has knowledge of topics of	conveyed through	the lecture						
	3,5									
	4,0									
	4,5									
	5,0									
Skills										
AQF_1A_B09_U01	2,0									
	3,0	Student is able to identify and car unsaturated fats; 3) vitamins; 4) p								
	3,5	to carry out experiments								
	4,0									
	4,5									
	5,0									
AQF_1A_B09_U02	2,0									
	3,0	Student is able to identify and car unsaturated fats; 3) vitamins; 4) p to carry out experiments								
	3,5									
	4,0									
	4,5									
	5,0									
Other social cor	npetenc	es								
AQF_1A_B09_K01	2,0									
	3,0	Student is aware of the importance			inner, complian	ce with	the prin	ciples of e	thics. St	udent is
		aware of the responsibility for ow	n work and team v	work						
	3,5									
	4,0 4,5									
	5,0									
Required readin		<u> </u>								
-	-	.L., Cox A.M., Principles of Bio	chemistry. Wort	h Publishers	lew York. 190)3. I				
		oet, Biochemistry, John Wiley &				-, "				
-		emistry, Wolters Kluwer, 2017	x JUIIS, ZUIU, 4							
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1. PIOL Edward Ba	alikowski,	BIOCHEMISTRYWOR	K B U U K, Medi	ical University	UI BIAIYSTOK,	Diarysto	эк, 201	<u>د</u>		