Zachodniopomorski Uniwersytet Technologiczny w Szczecinie

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Field of study			aculture and Fish		first such	_	
Mode of study			onary	Level	first cycle	WNo	7iR
	-	inżyr				11102	
		-	ultural sciences				
•			al science and f	isheries (100%)			
Educatio	onal profile	gene	eral academic				
Module							
Course unit		Fish biology and introduction to fish ecology					
Code		WNOZIR/AQF/S1/					
Field of :	specialisation						
<i>.</i> Administering faculty		Department of Commodity Science, Quality Assessment, Process Engineering and Human Nutrition					J
ECTS				ECTS (forms)			
Form of course credit		examination		Language	english	1	
Elective	S			Elective group		7	
	-	Cod	Semester	Hours	ECTS	Weight	Credit
project o		P	1	30	2.0	0.50	credits
lecture	course	W	1			0.50	examination
	toachar			30	2.0		examination
Other te		Czen			v.Czerniejewski@zut.	edu.pi)	
Prerequi W-1		<u> </u>		audrobiology fich on	natomy, hydrochemistry	,	
	course unit objective Fish biology and intr	roduct	tion to fish ecology	y is an introductory o	course designed to prov	vide an overview o	n the diversity of
C-1	Fish biology and intr fishes, namely on th anatomy, systemati lampreys, to jawed and teleosts. This su freshwaters of Amaz	roduct heir ec ics, be anima urvey zonia	cology and evolution ehavior, and trends als like cartilaginou will impart studen onto mangrove sw	onary relationships. s in diversity of extir us sharks and rays, a its with the basic rule vamps and coral ree	We'll discuss and condu act and extant fishes — and on to the most dive es governing where we fs in the Indo-Pacific, ar	uct hands-on exam from jawless fishe rse group of fishes find certain fishes nd focusing especia	hinations of the s like hagfish and s: the bony fishes , from the ally on the fishes of
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Zachodniopomorski Uniwersytet Technologiczny w Szczecinie

Faculty of Food Sciences and Fisheries

		racuity of r				3				
Student workloa	ad - form	s of activity						Nur	nber o	f hours
A-W-1 Lectu	Lectures					30				
A-W-2 Field	Field observations						30			
Teaching metho	ods / tool	s								
M-1 Lectu	ure, works	hops, work in laboratory								
Evaluation met	hods (F -	progressive, P - final)								
<i>S-1</i> F	Tests	progressive, r = initialy								
5-2 P		evaluation								
J-2 1	Indject					1	1		1	
Designed learning outcomes			Reference to the learning outcomes designed for the fields of study	Reference to Learning Outcomes for qualifications at PQF 6, 7 or 8	Reference to learning outcomes for qualifications at level 6 or 7 that enable acquiring engineering competences	Course objectives	Course	content	Teaching methods	Evaluation methods
Knowledge										
AQF_1A_C02_W01 Students have a knowledge about fish diets, condition, growth rate, fish population parameters			AQF_1A_W02 AQF_1A_W08	P6S_WG	P6S_WG	C-1	T-P-1 T-P-2 T-P-3 T-P-4 T-P-5	T-W-3 T-W-4 T-W-5 T-W-8	M-1	S-1 S-2
AQF_1A_C02_W02 Student have a knowledge about biodiversity, behaviour, fish migration, habitats of fish			AQF_1A_W02 AQF_1A_W05	P6S_WG	P6S_WG	C-1	T-P-6 T-W-1 T-W-2 T-W-5	T-W-6 T-W-7 T-W-9	M-1	S-1 S-2
Skills										
AQF_1A_C02_U01 Hhe ability to make artificial fish spawning, estimation of the condition, fertility, age and growth of fish			AQF_1A_U09 AQF_1A_U14 AQF_1A_U21	P65_UW	P6S_UW	C-1	T-P-1 T-P-2 T-P-3 T-P-4 T-P-5	T-W-3 T-W-4 T-W-6 T-W-8 T-W-9	M-1	S-1 S-2
Social compete	nces									
AQF_1A_C02_K01 the student is competent and able to work as a biologist and fish ecologist			AQF_1A_K01 AQF_1A_K02 AQF_1A_K03 AQF_1A_K04 AQF_1A_K05 AQF_1A_K06	P65_KK P65_KO P65_KR		C-1	T-P-1 T-P-2 T-P-3 T-P-4 T-P-5 T-P-6 T-W-1 T-W-2	T-W-3 T-W-4 T-W-5 T-W-6 T-W-7 T-W-8 T-W-9	M-1	S-1 S-2
AQF_1A_C02_K02 the student has the	ability to ap	oply knowledge in practice	AQF_1A_K01 AQF_1A_K03	P65_KK P65_KO P65_KR		C-1	T-P-1 T-P-2 T-P-3 T-P-4 T-P-5 T-P-6 T-W-1 T-W-2	T-W-3 T-W-4 T-W-5 T-W-6 T-W-7 T-W-8 T-W-9	M-1	S-1 S-2
Outcomes	Grade		E	valuation cr	iterion					
Knowledge										
AQF_1A_C02_W01	2,0	the student hasnot knowledge	at a basic level in th	ne field of fish b	iology and ecolo	ogy				
	3,0	the student has knowledge at a upper basic level in the field of fish biology and ecology								
	3,5									
	4,0	the student has knowledge at agood level in the field of fish biology and ecology								
	4,5 5,0									
AQF_1A_C02_W02	-	 5,0 the student has knowledge at a very good level in the field of fish biology and ecology 2,0 Students have not a knowledge of biology and ecology of fish (at the primary level) 								
	3,0									
	3,5									
	4,0 Students have a knowledge of biology and ecology of fish (at good level)									
	4,5 Students have a knowledge of biology and ecology of fish (upper than									
	5,0	Students have a knowledge of bi	iology and ecology	of fish (at very o	good level)					
Skills										
AQF_1A_C02_U01	2,0 the student has not knowledge at a basic level in the field of fish biology and ecology									
	3,0	_		ble to use it at a basic level in the field of fish biology and ecology						
	3,5	_	student has knowledge and is able to use it at a upper basic level in the field of fish biology and ecology student has knowledge and is able to use it at a good level in the field of fish biology and ecology							
				I is able to use it at a upper good level in the field of fish biology and ecology						
	5,0	_							,	
	5,0	the student has knowledge and i	is able to use it at a	very good leve	i in the field of f	isn biolo	gy and e	ecology		

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Other social con	npetences			
AQF_1A_C02_K01	2,0 the student is incompetent and able to work as a biologist and fish ecologist			
	3,0 the student is competent and able to work as a biologist and fish ecologist at basic level			
	3,5 the student is competent and able to work as a biologist and fish ecologist at upper than basic level			
	4,0 the student is competent and able to work as a biologist and fish ecologist at good level			
	4,5 the student is competent and able to work as a biologist and fish ecologist at upper than good level			
	5,0 the student is competent and able to work as a biologist and fish ecologist at bery good level			
AQF_1A_C02_K02	2,0 The student has not ability to apply knowledge in practice in basic level			
	3,0 The student has ability to apply knowledge in practice in basic level			
	3,5 The student has ability to apply knowledge in practice in upper than basic level			
	4,0 The student has ability to apply knowledge in practice in good level			
	4,5 The student has ability to apply knowledge in practice in upper than good level			
	5,0 The student has ability to apply knowledge in practice in very good level			
Required readin	g			
1. Hard J. B., Reyn	olds J. D., Handbook of fish biology and fisheries, Blackwell, 2002			
2. Bone Q., Moore	R. H., Biology of Fishes, Taylor and Francis, 2008			
3. Piska R. Sh., Fis	h Biology and Ecology Theory, 2011			
4. Jakobsen T., Fog	garty M., Megrey B., Moksness R., Fish reproduction biology, Wiley-Blackwell, 2009			
Supplementary	reading			
1. Begenal, Metho	ds for Asssessment of Fish Production in Freshwaters, Blackwell Scientific Publications, Oxford, 1978			