STREAM BIOLOGY AND ECOLOGY

1	Course Title:	STREAM BIOLOGY AND ECOLOGY	
2	Course Code:	BIO5307	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	none	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç. Dr. NURHAYAT DALKIRAN	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Fen-Edebiyat Fakültesi, Biyoloji Bölümü, F Blok Görükle Kampüsü, 16059 Nilüfer/Bursa 0.224.2941866/e-posta: dalkiran@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	The aim of the course is to explain the importance of stream biology and the effect of stream organisms on stream ecosystem. The goals are to teach the stream ecosystem and the effects of physical and chemical variables on organisms, living in streams.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Obtains information about the basic concepts on fluvial ecology.
		2	Obtains information about fluvial ecosystems and habitat types.
		3	Understand the importance of the population dynamics, food chain and adaptations on fluvial ecosystems.
		4	Obtains information about the effects of water pollution and eutrophication on fluvial ecosystems and diversity of riverine organisms.
		5	Obtains information about human impact problems on fluvial ecosystems and their solutions.
		6	Obtains information about the importance of riverine organisms in biotic index and biomonitoring studies
		7	Understand the importance of the protection of water sources.
		8	Takes responsibility for the protection of water sources.
		9	
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice

1	Introduction to the stream biology and ecology, types of rivers;	
2	General view of stream physical and chemical characteristics; Stream physical characteristics affected the stream organisms	
3	Streamflow and effects of the stream organisms, Water balance of a catchment; Surface versus groundwater pathways; Flow Variation; Effect of land use on streamflow; The flow regime;	
4	Stream geomorphology, The Drainage Network, The Stream Channel, Pool–riffle features, The floodplain; Sediments and their Transport, Bank and bed erosion	
5	Stream chemical characteristics affected the stream organisms, Nutrients and nutrient cycles, temperature, and effects of the stream organisms	
6	Eutrophication and pollution in fluvial ecosystems, human impact in stream ecosystems, the effects of river pollution in river organisms	
7	repetition of subjects	
8	Classification of stream organisms. Stream plankton, periphyton,	
9	Stream algae, Bentic algal distrubition and abundance, Temporal and spatial variation in benthic algae, Phytoplankton, Limiting factors for phytoplankton, Primary production by river phytoplankton	
10	Macrophytes; stream aquatic plants, Limiting factors for macrophytes, Macrophyte production and its fate,	
11	Meiofauna, macrobenthic fauna, aquatic insects and adaptation in riverine ecosystems,	
12	The importance and ecology of stream fishes in fluvial systems	
13	Food webs in streams, Fluvial Ecosystem Diversity, Food webs and biological communities, Dissolved Organic Matter (DOM),Uptake of DOC	
14	The importance of biomonitoring studies in streams.	

22	Textbooks, References and/or Other Materials:	Hauer F.R. and G.A. Lamberti (2007). Methods in Stream Ecology, Academic Press, 2nd edition, 877p. David A. J, and M. M. Castillo (2007). Stream Ecology Structure and function of running waters 2nd ed. XIV, 436 p.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	30.00
Quiz	0	0.00
Home work-project	1	20.00
Final Exam	1	50.00
Total	3	100.00

Contribution of Term (Year) Learning Activities to Success Grade	50.00
Contribution of Final Exam to Success Grade	50.00
Total	100.00
Measurement and Evaluation Techniques Used in the Course	

24 ECTS / WORK LOAD TABLE

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	5.00	70.00
Homeworks	1	30.00	30.00
Projects	0	0.00	0.00
Field Studies	1	10.00	10.00
Midterm exams	1	15.00	15.00
Others	0	0.00	0.00
Final Exams	1	20.00	20.00
Total Work Load			187.00
Total work load/ 30 hr			6.23
ECTS Credit of the Course			6.00

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	5	5	5	4	5	5	5	0	0	0	0	0	0	0	0	0
ÖK5	5	5	5	5	5	0	0	5	5	0	0	0	0	0	0	0
ÖK6	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0	0
ÖK7	5	5	5	5	5	0	0	5	5	0	0	0	0	0	0	0
ÖK8	5	5	5	5	5	0	0	5	5	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**