

FRESHWATER BENTHIC INVERTEBRATES AND THEIR ECOLOGY

1	Course Title:	FRESHWATER BENTHIC INVERTEBRATES AND THEIR ECOLOGY
2	Course Code:	BYL4112
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	2.00
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:	Prof. Dr. NURHAYAT DALKIRAN
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Bursa Uludağ Üniversitesi Fen-Edebiyat Fakültesi Biyoloji Bölümü Görükle Kampüsü, Nilüfer/BURSA 16059 e-posta: dalkiran@uludag.edu.tr Telefon: 0 224 2941866 Bursa Uludag University Faculty of Arts and Science Department of Biology Gorukle Campus, Nilufer/BURSA e-mail: dalkiran@uludag.edu.tr Phone: 0 224 294 1866
17	Website:	
18	Objective of the Course:	The aim of the course is to understand the biology and ecology of freshwater benthic macroinvertebrates. The goals are to teach of their taxonomy, morphology, development and ecology of freshwater macroinvertebrates. One of the main goals of the course is to understand the importance of the freshwater macroinvertebrates in biomonitoring studies.
19	Contribution of the Course to Professional Development:	Learns biology, ecology, indicator properties and life cycles of benthic macroinvertebrates living in freshwater ecosystems. Applies what they learned to biological monitoring studies.
20	Learning Outcomes:	
	1	Obtains information about the groups of freshwater benthic macroinvertebrates
	2	Understand the fundamentals of the development, biology, morphology, and ecology of benthic macroinvertebrates.
	3	Explains the fundamental relationships between benthic macroinvertebrates and other organisms in freshwater ecosystems.
	4	Obtains information about the effects of water pollution on freshwater benthic macroinvertebrates
	5	Understand the fundamental role that benthic macroinvertebrate populations play in ecological communities
	6	Obtains information about the importance of freshwater benthic macroinvertebrates 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.		
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		10			
21	Course Content:				
	Course Content:				
Week	Theoretical		Practice		
1	General view of freshwater benthic macroinvertebrates; their freshwater habitat types; the importance of benthic macroinvertebrates in freshwater ecosystems and food chain; sampling methods;				
2	Non-insect benthic macroinvertebrates: Porifera, Freshwater jellyfish, Platyhelminthes, Nematoda, Bryozoa, Annelida (Turbellaria, Oligochaeta, Hirudinea); systematic and morphological characteristics; economic aspects; ecological importance in freshwater ecosystems;				
3	Non-insect arthropods: Arachnids, Crustacea, Ostracods; systematic and morphological characteristics; systematic and morphological characteristics; economic aspects; ecological importance in freshwaters;				
4	Molluscs: systematic and morphological				
Activites			Number	Duration (hour)	Total Work Load (hour)
5	General view of aquatic Insects; morphological and systematical		14	2.00	28.00
Practicals/Labs			0	0.00	0.00
adults; metabolic characteristics and life cycles; morphological differences between			14	4.00	56.00
Homeworks			0	0.00	0.00
Physiological and habitat adaptations in aquatic ecosystems;			0	0.00	0.00
Field Studies			0	0.00	0.00
systematical and ecologic characteristics of mayfly nymphs and adults; life cycles, habitat			1	15.00	15.00
Others			0	0.00	0.00
7	repetition of subjects		1	20.00	20.00
Total Work Load					119.00
land and ecologic characteristics of mayfly nymphs and adults; life cycles, habitat types and					3.97
ECTS Credit of the Course					4.00
9	Plecoptera: general morphological, systematical and ecologic characteristics of nymphs and adults; life cycles, habitat types and adaptations in aquatic ecosystems;				
10	Hemiptera: general morphological, systematical and ecologic characteristics of nymphs and adults; life cycles, habitat types and adaptations in aquatic ecosystems;				
11	Trichoptera: general morphological, systematical and ecologic characteristics of larvae and adults; life cycles, habitat types and adaptations in aquatic ecosystems;				
12	Diptera: general morphological, systematical and ecologic characteristics of larvae and adults; life cycles, habitat types and adaptations in aquatic ecosystems;				

13	Coleoptera: general morphological, systematical and ecologic characteristics of larvae and adults; life cycles, habitat types and adaptations in aquatic ecosystems;	
14	The importance of freshwater benthic macroinvertebrates in biotic index and biomonitoring studies; bioindicator species, benthic macroinvertebrates and water pollution, tolerance values, benthic macroinvertebrates as tools for using in biotic indices;	

23	Assesment
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Midterm Exam	1	40.00
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Home work-project	0	0.00
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Total	2	100.00
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Success Grade	
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Total	100.00
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24	ECTS / WORK LOAD TABLE
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ÖK1	5	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
ÖK2	3	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	0	4	0	1	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	0	0	3	0	0	0	4	0	5	0	0	0	0
ÖK7	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	4	0	0	0	4	0	5	0	0	0	0

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