Title	**BIOLOGY AND ECOLOGY OF FRESHWATER INVERTEBRATES**
Code	ZDIB19
Study Program	Postgraduate Interdisciplinary University Programme Environment protection and Nature Conservation
Semester	III.
ECTS	5
Status	Elective
Lecturer	Dr. sc. Nataša Turić, Phd, Assistant Professor Dr. sc. Dubravka Čerba, Phd, Assistant Professor
Co-Lecturers	-
Requirements for Enrolment	-
Objectives	The aim of subject is to introduce students with the basic concepts of biology and ecology of freshwater invertebrates and their role in aquatic communities. Also, to introduce the students with knowledge of the aquatic ecosystems functioning and enable the students to use basic methods and equipment for the study of freshwater invertebrates in situ, in order to assess and monitor water quality and the state freshwater ecosystems. The main aim is to encourage students to work independently and to develop ideas related to the research and protection of water and to encourage critical thinking about the anthropological impact on the environment.
Learning Outcomes	After completing the subject, students will be able to: 1. Identify and describe the most common groups of freshwater invertebrates 2. Describe the freshwater communities and to define the role of invertebrates in aquatic ecosystem functioning 3. Understand trophic relationships between freshwater invertebrates and other aquatic organisms 4. Explain the connection and interdependence of the habitat types, conditions and freshwater invertebrate fauna 5. Argue the importance of monitoring and assessment, management and protection of freshwater ecosystems 6. Select and use a variety of techniques and methods to independently perform the fieldwork

Connection between Learning Outcomes, Curricular and Student Activities

Student Activities	ECTS	Learning Outcomes	Curricular Activities	Methods of Assessment	Credits*	
					min	max
Attending the lectures	1	1-6	Lectures	Presence record	15	30
Attending the Seminars	0,5	1-6	Seminars	Presence record	10	15
Writing a seminar	0,5		Seminars	Evaluation of seminars	10	15
Final exam	3		Knowledge testing	Oral exam	25	40
Total	**5**				**60**	**100**

Final mark:
60-70 credits: D
71-80 credits: C
81-90 credits: B
91-100 credits: A

Consultations	

Learning Activities	Lectures	Seminars	Practice
Hours	10	5	-
Contents / Teaching Units	Structure and the dynamics of freshwater invertebrate communities. Biology and ecology of freshwater invertebrates. Ecological and morphological adaptations of aquatic invertebrates to conditions and habitat types. The importance of freshwater invertebrates in the food webs - trophic relationships and energy flow. The role of macroinvertebrates in the assessment and monitoring the state of the freshwater quality. Water bugs and beetles as monitoring objects for determining the value of the protected areas. Protected and invasive freshwater invertebrate species in Croatia.		
Obligatory Literature	Ruppert, E.E., R. S. Fox and R. D. Barnes (2004). Invertebrate Zoology. A functional evolutionary approach. Seventh edition, Thomson Brooks/Cole. Dobson, M., Frid, C., 2009. Ecology of Aquatic Systems. Oxford University Press. Enger, E. D., Ross, F. C., Bailey, D. B. 2005: Concepts in Biology. WCB Mc. Graw – Hill Companiec Inc. New York.		
Recommended literature	Bakran-Petricioli, T., 2007. Priručnik za inventarizaciju i praćenje stanja. Državni zavod za zaštitu prirode, Zagreb.		
Requirements for Acquiring Signature	Lecture and Seminars attendance. Writing a seminar.		
Type of Exam	Oral Exam.		
Lectures Language	Croatian		
Quality Monitoring			