MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES** **BACHELOR OF BIOLOGY PROGRAMME**	**COURSE CODE :** **D10D-4008**
Module designation	Aquatic Ecology	
Semester in which the module is taught	4	
Persons responsible for the module	1. Dr. Keukeu Kaniawati Rosada 2. Hikmat Kasmara, Drs, MS 3. Prof. Sunardi 4. Dr. rer. nat. Tri Dewi Kusumaningrum Pribadi	
Medium of instruction	Indonesian	
Relation to curriculum	Compulsory Course	
Teaching methods	Lectures, Discussions, Student-Centered Learning, Project-based Learning, Collaborative Learning	
Workload	Total workload : 8160 minute = 136 hour Lecture, discussion, and collaborative learning : 3 x 50 minute x 16 week = 2400 minute = 40 hour Exercises : 3 x 60 minute x 16 week = 2880 minute = 48 hour Self-study : 3 x 60 minute x 16 week = 2880 minute = 48 hour	
Credit points	3.00 (5.43 ECTS)	
Required and recommended prerequisites for joining the module	General Ecology	
Module objectives/intended learning outcomes	1. Able to understand the basic principles and scope of aquatic ecology as the basis for studying aquatic ecosystems. 2. Able to explain the relationship between abiotic and biotic components as well as the classification of ecosystems and organisms in aquatic environments. 3. Able to analyze the relationship between physical, chemical, and biological parameters and the structure and dynamics of aquatic communities. 4. Able to evaluate the quality of aquatic ecosystems using bioindicator data and ecological assessment methods. 5. Able to develop ideas and solutions based on aquatic ecology to address environmental issues in a critical and responsible manner.	
Contents	1. Understanding aquatic ecology 2. Classification and zoning of aquatic ecosystems 3. Physical and chemical properties of water are important for aquatic biota 4. The concept of systems in aquatic ecology 5. Bioecology of aquatic animals 6. Bioecology of aquatic plants 7. Water quality assessment and biological indicators 8. Current aquatic environmental issues	
Examination forms	Quiz, Midterm exam, Assignment, and Final exam	
Study and examination requirements	The minimum attendance in lectures is 80%. Final grades are evaluated based on quiz (10%), midterm exam (15%), assignment (10%), final exam (15%), project and participation (50%)	
Reading lists	1. Wetzel, R.G. 2001. Limnology: Lake and River Ecosystems. Third Edition.Academic Press 2. Dash, M. C., & Dash, S. P. (2009): Fundamentals of Ecology (3rd ed.), Tata McGraw-Hill Education Private Limited, New Delhi. 3. M. Begon, R.W. Howarth & C.R. Townsend (2014): Essentials of Ecology (4th ed). 4. Sigee, DC. 2005. Freshwater Microbiology: Biodiversity and Dynamic Interactions of Microorganisms in the Aquatic Environment. Manchester: John Wiley & Son, Ltd. 5. Pandey, Pramod & Mallik, Sumanta & Yumnam, Rameshori. (2024). Handbook of Aquatic Microbiology. CRC Press. London 6. Dodds, W. K., & Whiles, M. R. (2017). *Freshwater ecology* (3rd ed.). Academic Press.	