

MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME	COURSE CODE : D10D-50606
Module designation	Research Methodology of Ecology	
Semester in which the module is taught	5	
Persons responsible for the module	1. Prof. Parikesit, M.Si., Ph.D 2. Dr. Teguh Husodo, M.Si 3. Dr. rer. nat. Tri Dewi K. Pribadi 4. Dr. Susanti Withaningsih, M.Si 5. Dr. Keukeu Kaniawati, M.Si 6. Dr. Indri Wulandari, M.I.L 7. Nurullia Fitriani, S.Si, MT	
Medium of instruction	Indonesian	
Relation to curriculum	Compulsory course	
Teaching methods	Lectures, discussion, collaborative learning, problem base learning	
Workload	Total workload : 10880 minutes = 181.33 hours Lectures, discussion, collaborative learning, problem base learning : 4 x 50 minutes x 16 weeks = 3200 minutes = 53.33 hours Exercises : 4 x 60 minutes x 16 weeks = 3840 minutes = 64 hours Self-study : 4 x 60 minutes x 16 weeks = 3840 minutes = 64 hours	
Credit points	4.00 (7.24 ECTS)	
Required and recommended prerequisites for joining the module	Terrestrial Ecology and Aquatic Ecology	
Module objectives/intended learning outcomes	1. Able to conduct ecological research that integrates biological and technological concepts 2. Able to use ecological analysis software to process field data 3. Able to apply ecological analysis in developing alternative solutions to environmental problems 4. Able to relate research results to applicable conservation policies and practices 5. Able to compile ecological baseline documents for monitoring or conservation based on field data	
Contents	The Ecology Research Methods course equips students with scientific approaches and research techniques for studying the interactions between organisms and their environment. Students will learn ecological research design, starting from hypothesis formulation, sampling techniques (quadrats, transects, mark-recapture), methods for measuring ecological parameters (diversity, abundance, distribution), to ecological data analysis using quantitative approaches. The course covers research methods in various types of ecosystems (terrestrial, aquatic, urban), mastery of research tools (GPS, environmental sensors, spatial analysis software), and scientific data presentation techniques. Through a combination of lectures, field practicums, and simple research projects, students will develop the ability to independently design, conduct, and report on ecological research. This course is highly relevant for students interested in ecology, conservation, natural resource management, or environmental science, while also forming a systematic framework for solving ecological problems at the population, community, and ecosystem levels.	
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. Canadell <i>et al.</i> Ecological Studies: Analysis and Synthesis. Springer 2. Henderson, P.A. Practical Methods in Ecology. 2009. Wiley-Blackwell 3. Henderson, P.A. and Southwood. Ecological Methods, 4th Edition. 2016. Wiley-Blackwell. 4. Borcard, D., Gillet, F., & Legendre, P. (2018). <i>Numerical ecology with R</i> (2nd ed.). Springer. 5. Fletcher, R. J., Jr., & Fortin, M.-J. (2018). <i>Spatial ecology and conservation modeling: Applications with R</i> . Springer.	