MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME**	**COURSE CODE: D10D-60103**
Module designation	Ecophysiology	
Semester(s) in which the module is taught	6	
Person(s) responsible for the module	1. Dr. M. Nurzaman, M.Si. 2. Dr. Tia Setiawati, M.Si. 3. Dr. Desak M.Malini, M.Si 4. Dra. Nining R., M.I.L	
Medium of instruction	Indonesian	
Relation to curriculum	Elective course	
Teaching methods	Lectures, discussions, cooperative learning, and inquiry learning, project passed learning	
Workload	Total workload : 5440 minutes = 90.67 hours Lectures, discussions, cooperative learning, and inquiry learning : 2 x 50 minutes x 16 weeks = 1600 minutes = 26.67 hours Exercises : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours Self-study : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours	
Credit points	2,00 (3,62 ECTS)	
Required and recommended prerequisites for joining the module	1. Plant Physiology 2. Animal Structure and Physiology	
Module objectives/intended learning outcomes	1. Demonstrate an attitude of responsibility, respect for ideas/opinions, and cooperation. 2. Able to think logically, critically, systematically, and innovatively in the context of science development 3. Able to apply the science of ecophysiology in real life settings 4. Able to analyze plant physiological processes and relate them to plant productivity and adaptation to environmental stress and present them in accordance with the concepts of plant physiology 5. Able to understand the basic concepts of homeostasis 6. Able to understand the concept of ecophysiology and be able to explain the mechanism of anatomical, physiological and behavioral adaptation responses of animals to environmental conditions both internal and external.	
Contents	Ecophysiology of plants and animals is a elective course that will study the physiological responses of plants and animals to the environmental conditions in which they live. This course will discuss physiological functions in variations in abiotic environmental conditions expressed by the state of plant growth and animal responses (especially vertebrates) in adapting, tolerating and modifying to extreme environments (limited availability of water, nutrients, temperature, energy, oxygen and the balance of substances dissolved in cells), both anatomically, physiologically, and behaviorally so that animals are able to survive and reproduce in their environmental niches.	
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. Djiwoseputro, D. 1994. Pengantar Fisiologi Tumbuhan. Cetakan ke tiga belas. Jakarta: PT Gramedia Pustaka Utama 2. Lakitan, B. 2010. Dasar-dasar Fisiologi Tumbuhan. Ed I cetakan 8. Jakarta: Rajawali Pers 3. Salisbury, F. B. & C. W. Ross. 1995. Fisiologi Tumbuhan. Diterjemahkan oleh D. R. Lukman & Sumaryono. Bandung: ITB 4. Taiz, L. and Z. Eduardo. 1992. Plant Physiology. New York: The Benyamin Cumming Publishing Company. Inc. 5. Fitter, A. H. & R. K. M. Hay. 1994. Fisiologi Lingkungan Tanaman. Edisi Indonesia, cetakan ke tiga. Yogyakarta: Gadjah Mada University Press 6. Gardner, F.P., Pearce, R.B., dan Mitchell, R.L. 2008. Fisiologi Tanaman Budidaya. Susilo H. Subiyanto. (Penerjemah). Jakarta: UI Press 7. Hasanuzzaman, M. (2020). Plant Ecophysiology and Adaptation under Climate Change: Mechanisms and Perspectives I. Springer Singapore 8. Steinberg, C. E. W. (2022). Aquatic Animal Nutrition. Springer Cham.