

MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME	COURSE CODE: D10D-601013
Module designation	Plant Reproduction	
Semester in which the module is taught	5	
Person(s) responsible for the module	1. Dr. M. Nurzaman 2. Dr. Tia Setiawati 3. Rusdi, Ph.D	
Medium of instruction	Indonesian	
Relation to curriculum	Elective course	
Teaching methods	Lectures, discussions, cooperative learning, Project-based Learning and inquiry 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	Plant Physiology Plant Structure and Development	
Module objectives/intended learning outcomes	1. Students are able to explain the basic concepts of plant reproduction, including the differences between vegetative and generative reproduction and their roles in plant evolution and adaptation 2. Students are able to analyze the structure and function of the reproductive organs of angiosperm and gymnosperm seed plants and non-vascular plants. 3. Students are able to describe the process of generative reproduction, including gametogenesis, pollination, double fertilization, and its obstacles. 4. Students are able to demonstrate natural and artificial vegetative reproduction techniques and explain the factors that influence them 5. Students are able to describe plant embryological development from zygote to seed and fruit formation, as well as the phenomenon of apomixis. 6. Students are able to evaluate ecological interactions in plant reproduction, including pollination, seed dispersal, and environmental influences. 7. Students are able to assess the application of biotechnology in plant reproduction, including genetic engineering and tissue culture. 8. Students are able to evaluate ethical and conservation issues related to plant reproduction in the context of global change.	
Contents	This course comprehensively discusses the basic principles of plant reproduction which include Asexual Propagation, Propagation by Cuttings, Propagation by Layering, Processes of Budding, Grafting and Budding, Propagation by Specialized Stems and Roots, Cellular Life Cycle, Growth in Plants, Hormones in Growth.	
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. SR. Mishra. 2005. Plant Reproduction. Discovery Publishing House. New Delhi 2. Shubhrata R. Mishra. 2009. Understanding Plant Reproduction. Discovery Publishing House. New Delhi 3. Scott, R. J., & McCubbin, A. G. (2023). <i>Plant reproduction</i> . CABI Publishing, Wallingford. 4. Evert, R. F., & Eichhorn, S. E. (2013). <i>Raven biology of plants</i> (8th ed.). W.H. Freeman	