MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME**	**COURSE CODE** **D10D-601012**
Module designation	Biofertilization	
Semester(s) in which the module is taught	6	
Person(s) responsible for the module	1. Drs. Ruly Budiono, MS 2. Dr. Asep Zainal Mutaqin, MT	
Medium of instruction	Indonesian	
Relation to curriculum	Elective course	
Teaching methods	Lectures, discussions, cooperative learning, and inquiry learning, project based 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	-	
Module objectives/intended learning outcomes	1. Students understand the main points of learning methods, learning outcomes, academic assessment systems, and key references 2. Students are able to explain the scope of biofertilization, its role in soil fertility, development, and the prospects for biofertilizers 3. Students are able to explain the reciprocal relationship between plants and surrounding organisms in the rhizosphere 4. Students are able to explain the role of microorganisms in enhancing plant growth 5. Students are able to explain symbiotic organisms in increasing the availability of N in the soil 6. Students are able to explain non-symbiotic organisms in increasing the availability of N in the soil	
Contents	The Biofertilization course discusses the function of soil organisms, both symbiotic and non-symbiotic, to enhance plant growth and the function of organisms in improving soil fertility.	
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. Bergessen, FJ. And JR. Posgate, 1987. A century of Nitrogen Fixation research. Present Status and Future prospects. The Royal Soc., London. 2. Dilworth, MJ. Nd AR. Glenn. 1991. Biology and Biochemistryof Nitogen Fixation. Elsevier Amsterdam. 3. Dixon, ROD and CT. Wheeler, 1986. NITROGEN: Fixation In Plants. Blackie USA, Chapman & Hall. New york. 4. Mina, U., & Kaur, N. (Eds.). (2023). Biofertilizers for Sustainable Soil Management. Springer Nature. 5. Fahad, S., Saud, S., Wahid, F., & Adnan, M. (Eds.). (2023). Biofertilizers for sustainable soil management (First edition.). CRC Press.