

MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME	COURSE CODE : D10D-50604
Module designation	Plant Biotechnology	
Semester in which the module is taught	5	
Persons responsible for the module	1. Dr. Mohamad Nurzaman, M.Si 2. Dr. Tia Setiawati, M.Si 3. Drs. Ruly Budiono, M.Sc. 4. Asep Zainal Mutaqin, M.Si.	
Medium of instruction	Indonesian	
Relation to curriculum	Compulsory Course	
Teaching methods	Lectures, discussions, and collaborative learning	
Workload	Total workload : 5440 minutes = 90.67 hours Lectures, discussions, and collaborative learning : 2 x 50 minutes x 16 weeks = 1600 minutes = 13.33 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	Plants Structure and Development 2 and Plant Physiology	
Module objectives/intended learning outcomes	1. Able to master general plant biotechnology concepts 2. Able to master the concepts, principles and procedures of plant tissue culture and their applications 3. Able to master the concept of genetic engineering/transgenic plants	
Contents	This course discusses the scope of plant biotechnology and its applications, the role of tissue culture techniques (in vitro) in propagating and improving plant characteristics, introduction to tissue culture lab facilities and aseptic techniques, basic tissue culture media, various types of culture and their benefits, production of secondary metabolites in vitro, transgenic/GMO plants and their controversies.	
Examination forms	Quiz, Midterm exam, Activities, Worksheet Reports, and Final exam	
Study and examination requirements	The minimum attendance in lectures is 100%. Final grades are evaluated based on quiz (5%), midterm exam (30%), activities (10%), worksheet reports (25%), and final exam (30%)	
Reading lists	1. Park, S. 2021. Plant Tissue Culture Techniques and Experiments 4th Edition. Elsevier. 2. Timir Baran Dja & Biswajit Ghosh. 2005. Plant Tissue Culture : Basic and Applied. Universities Press 3. Chawla. HS. 2018. Introduction to Plant Botechnology. CRC Press. 4. Agnès Ricroch, Surinder Chopra, Marcel Kuntz. 2002. Plant Biotechnology: Experience and Future Prospects. Springer.	