MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES** **BACHELOR OF BIOLOGY PROGRAMME**	**COURSE CODE: D10D-3004**
Module designation	Plants Structure and Development 2 Practicum	
Semester in which the module is taught	3	
Persons responsible for the module	1. Dr. Mohamad Nurzaman 2. Dr. Tia Setiawati 3. Ruly Budiono, M.S 4. Asep Zaenal Muttaqien, MT	
Medium of instruction	Indonesian	
Relation to curriculum	Compulsory course	
Teaching methods	Practice, Cooperative Learning, Project Based Learning	
Workload	Total workload : 2720 minutes = 45.33 hours Practice : 1 x 170 minutes x 16 weeks = 2720 minutes = 45.33 hours Exercises : - Self-study : -	
Credit points	1.00 (1.81 ECTS)	
Required and recommended prerequisites for joining the module	-	
Module objectives/intended learning outcomes	1. Students are able to describe in general terms the scope and extent of plant structure and development. 2. Students are able to identify and describe the characteristics of the components that make up plant structures. 3. Students are able to explain theoretically and practically the structure of cells, tissues, and organs, as well as their development. 4. Students are able to apply the basic principles of using tools in research activities in the field of plant structure and development.	
Contents	1. Introduction 2. How to use and observe with a microscope 3. How to make preparations 4. Cells 5. Meristem 6. Epidermis and epidermal derivatives 7. Parenchyma, Collenchyma, Sclerenchyma 8. Xylem and phloem vessels 9. Secretory tissue 10. Stem 11. Root 12. Leaf 13. Fruit 14. Seed 15. Flower	
Examination forms	Quiz, Midterm exam, Assignment, and Final exam	

Study and examination requirements	The minimum attendance in lectures is 100%. Final grades are evaluated based on quiz (10%), midterm exam (35%), assignment (20%), and final exam (35%)
Reading lists	1. Gartner L.P. and Hiatt J.L. 2006. *Color Textbook of Histology*, 3rd ed. Saunders Elsevier: Philadelphia. 2. Drake, R.L, Vogl, W and Mitchell, A.W.M. 2007. *Gray's Anatomy for Students*. Saunders Elsevier: Philadelphia. 3. Harver, H.A., V.W. Rodwel & P.A. Mayes. 1997. Review of Physiology Chemistry. Lange Medical Publishing. Los Altos California. 4. Vander, A.J., H.S. James & D.S. Luciano. 1994. Human Physiology. McGraw-Hill Inc. New York. St Louis. San Fransisco. 5. Tortora, G.G. & N.P. Anagnostakos. 1984. *Principles of Anatomy and Physiology*, 4th ed. Harper & Row Publishers: New York 6. Mescher, A. L. (2018). Junqueira's Basic Histology: Text & Atlas (15th ed.). McGraw-Hill Education. 7. Drake, R. L., Vogl, W., & Mitchell, A. W. M. (2019). Gray's Anatomy for Students (4th ed.). Elsevier.