MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME**	**COURSE CODE: D10D-601016**
Module designation	Ferns Biology	
Semester in which the module is taught	5	
Person(s) responsible for the module	1. Dr. Suryana, S.Si., MP. 2. Joko Kusmoro, Drs., MP.	
Medium of instruction	Indonesian	
Relation to curriculum	Elective course	
Teaching methods	Lectures, discussions, cooperative learning, inquiry learning, and 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 are able to explain the morphological and anatomical characteristics of ferns. 2. Students are able to explain the basic concepts of biodemography and fern population dynamics. 3. Students are able to use quadrat or transect sampling techniques. 4. Students are able to identify fern species using a determination key. 5. Students are able to compile classifications down to the family and genus levels. 6. Students are able to access and use IUCN KEHATI conservation data, etc. 7. Students are able to explain the potential ecological and economic benefits of ferns. 8. Students are able to compile scientific reports based on field observations. 9. Students are able to present results in the form of visual infographics and poster presentations.	
Contents	1. Characteristics of ferns 2. Population dynamics of ferns 3. Classification of ferns 4. Biodemography of ferns 5. Research methodology of ferns 6. Conservation of ferns 7. Utilization of ferns	

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. Pedigo, L (1999) Entomology and Pest Management, MacMillan Pub.Co 2. Metcalf, R.L., & W.L.Luckmann (1999) Introduction to Insect Pest Management, 3rd. ed. John Wiley & Sons. 3. Purnomo, H.(2010) Pengantar Pengendalian Hayati. Penerbit Andi. Yogyakarta 4. Debach, P (1991) Biological Control by Natural Enemies 2nd Edition, Cambridge University Press, Cambridge 5. Natawigena,H (1990) Entomologi pertanian. Penerbit Orba Sakti, Bandung 6. Matsumura, F., 1985. Toxicology of Insecticides. 2nd ed. Plenum Press. 7. Marimuthu, J., Fernandez, H., Kumar, A., Thangaiah, S. (2022). Ferns. Springer Singapore