MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME**	**COURSE CODE** **D10D-0311**
Module designation	DNA Barcoding	
Semester(s) in which the module is taught	6	
Person(s) responsible for the module	1. Annisa, M.Si., Ph.D 2. Dr. Sri Rejeki R.	
Medium of instruction	Indonesian	
Relation to curriculum	Elective courses	
Teaching methods	Lectures, discussions, cooperative learning, and inquiry learning, project based learning	
Workload	Total workload : 5440 minutes = 90.67 hours Lectures, discussions, hours cooperative learning, and inquiry learning : 2 x 50 minutes x 16 minggu = 1600 minutes = 26.67 Exercises : 2 x 60 minutes x 16 minggu = 1920 minutes = 32 hours Self-study : 2 x 60 minutes x 16 minggu = 1920 minutes = 32 hours	
Credit points	2,00 (3,62 ECTS)	
Required and recommended prerequisites for joining the module	1. Genetics 2. Cell and molecular biology	
Module objectives/intended learning outcomes	1. Able to explain the basic concepts of DNA barcoding, including target genes and the working principles of PCR and sequencing. 2. Able to apply DNA extraction, PCR amplification, and gel electrophoresis protocols for DNA barcoding. 3. Able to analyze DNA sequence results using bioinformatics tools and identify species based on reference databases. 4. Able to evaluate DNA sequence quality, identify potential contamination errors, and validate species identification results. 5. Able to design DNA barcoding projects for specific applications using innovative approaches.	
Contents	The DNA Barcoding course explaining the concept of DNA coding and understanding the application of DNA coding. After taking this course, students are able to operate simple bioinformatics in searching data and analysis through online. Students are able to explain the application of DNA barcoding in various fields.	
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. Kress, W.J. and Erickson, D.L (ed.). 2012. DNA Barcode. Springer. Washington. 2. Trivedi, S., Rehman, H., Saggu, S., Panneerselvam, C. and Ghosh, S.K. 2018. DNA Barcoding and Molecular Phylogeny. Springer. Cham 3. Andreas D. Baxevanis and B. F. Francis Ouellette. 2004. Bioinformatics, a practical guide to the analysis of genes and proteins. A John Wiley & Sons, Inc. 4. DeSalle, R. (2024). DNA Barcoding. Humana New York