


MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME	COURSE CODE : D10D-4002
Module designation	Genetics Practicum	
Semester in which the module is taught	4	
Persons responsible for the module	1. Annisa, M.Si., Ph.D 2. Dr. Sri Rejeki Rahayuningsih 3. Nining Ratningsih, Dra., MIL.	
Medium of instruction	Indonesian	
Relation to curriculum	Compulsory Course	
Teaching methods	Practice, Project-based Learning, Collaborative Learning	
Workload	Total workload : 2720 minute = 45.33 hour Practice : 1 x 170 minute x 16 week = 2720 minute = 45.33 hour 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 observe the C2 life cycle of <i>Drosophila melanogaster</i> as a model animal in genetics practicums and recognize mutants. 2. Students are able to perform C4 crosses based on Mendel's monohybrid and dihybrid laws and discuss the results of the crosses. 3. Students are able to perform sex-linked C4 crosses and discuss the results of the crosses. 4. Students understand and practice C4 chromatography of the eyes of <i>Drosophila melanogaster</i> . 5. Students are able to prepare onion root slides and identify the stages of mitotic division directly. 6. Students are able to prepare slides and identify giant polytene chromosomes from the salivary glands of <i>Drosophila</i> larvae. 7. Students are able to design simulations for population genetics.	
Contents	1. Test animal <i>Drosophila melanogaster</i> : life cycle and mutants 2. Monohybrid cross 3. Dihybrid cross 4. Sex-linked cross 5. Chromatography 6. Mitosis 7. Polytene chromosomes 8. Population genetics	

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 (25%), midterm exam (25%), assignment (25%), and final exam (25%)
Reading lists	<ol style="list-style-type: none"> 1. Markow, Therese A. and Patrick O'Grady. 2006. <i>Drosophila: A Guide to Species Identification and Use</i>. California. Elsevier. 2. Sullivan, William, and Hawley, R. Scott. 2000. <i>Drosophila Protocols</i>. New York. Cold Spring Harbor Laboratory Press. 3. Snustad D.P and Simmons M, J 2012. <i>Principles of Genetics</i>, 6th Ed. John Wiley & Sons, Inc. NJ. 4. Pierce, B. A. (2023). <i>Genetics: A Conceptual Approach — Update (7th ed., digital update)</i>. W. H. Freeman 5. Brooker, R. J. (2024). <i>Genetics: Analysis and Principles (Edisi ke-7)</i>. McGraw-Hill.