MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES** **BACHELOR OF BIOLOGY PROGRAMME**	**COURSE CODE:** **D10D-3002**
Module designation	Cell and Molecular Biology Practicum	
Semester in which the module is taught	3	
Persons responsible for the module	1. Annisa, M.Si., Ph.D 2. Dr. Sri Rejeki Rahayuningsih	
Medium of instruction	Indonesian	
Relation to curriculum	Compulsory course	
Teaching methods	Practice	
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. Know, understand and explain general concepts of cell and molecular biology 2. Able to explain cell theory, differences between viruses, prokaryotic cells and eukaryotic cells and their examples 3. Able to explain the structure and materials that make up the cell membrane, the function of the materials that make up the cell membrane and transport between plasma membranes 4. Able to explain cell wall, cilia and flagellum: (a) structure and function of cell wall, difference between plant cell wall, Able to explain cell wall, cilia and flagellum: (a) structure and function of cell walls, differences between plant cell walls, hoursur and bacteria; cilia and) flagellum 5. Able to explain the cytoskeleton which includes actin filaments, intermediate filaments and microfilaments. 6. Able to explain the structure and function of various cell organelles 7. Able to explain cell nuclear membrane, cell nucleus and nucleolus 8. Know and understand the relationship between cells (junction) to cell death (apoptosis) 9. Know, understand and explain the central dogma of molecular biology 10. Know, understand and explain the central dogma of molecular biology	
Contents	Cell and molecular biology course is a compulsory course in Biology Study Program. This course studies cells (prokaryotes and eukaryotes), cell organelles, cell nuclei, intercellular communication (juntions), cell death (apoptosis), dogma central principles of molecular biology, to the introduction of synthetic biology.	
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 (20%), midterm exam (25%), assignment (25%), and final exam (30%)	
Reading lists	1. Harvey Lodish; Arnold Berk; Chris A. Kaiser; Monty Krieger; Anthony Bretscher; Hidde Ploegh; Kelsey C. Martin; Michael Yaffe; Angelika Amon. 2021. Molecular Cell Biology, 9th Edition. W. H. Freeman. NY. 2. Bruce Alberts, Alexander Johnson,Julian Lewis, David Morgan, Martin Raff, Keith Roberts, Peter Walter. 2015. Molecular Biology of the Cell, 6th Edition. Garland Science. NY. 3. Jocelyn E. Krebs, Elliott S. Goldstein, Stephen T. Kilpatrick. 2018. Lewin's Gene XII. Jones & Bartlett. Massachusetts	