MODULE HANDBOOK

	UNIVERSITAS PADJADJARAN **FACULTY OF MATHEMATICS AND NATURAL SCIENCES** **BACHELOR OF BIOLOGY PROGRAMME**	**COURSE CODE:** **D10D-5001**
Module designation	Biosystematics and Evolution	
Semester in which the module is taught	5	
Persons responsible for the module	1. Dr. Susanti Withaningsih, M.Si 2. Dr. Teguh Husodo, M.Si 3. Annisa, SP., M.Si., Ph.D. 4. Dr. Eneng Nunuz Rohmatullayaly, M.Si	
Medium of instruction	Indonesian	
Relation to curriculum	Compulsory Course	
Teaching methods	Lectures, discussions, collaborative learning, and inquiry learning	
Workload	Total workload : 5440 minute = 90.67 hour Lecture, discussion, collaborative learning, and inquiry learning : 2 x 50 minute x 16 week = 1600 minute = 26.67 hour Exercises : 2 x 60 minute x 16 week = 1920 minute = 32 hour Self-study : 2 x 60 minute x 16 week = 1920 minute = 32 hour	
Credit points	2.00 (3.62 ECTS)	
Required and recommended prerequisites for joining the module	Basic Biology, general ecology, genetics, cell and molecular biology, basic microbiology, plant structure and development, and animal structure and physiology	
Module objectives/intended learning outcomes	1. Students understand the history and theory of the origin of life, including the big bang theory (the formation of the universe). 2. Students understand the process of geographic evolution/continental change (continental drift) and environmental changes (geological time). 3. Students understand evolutionary theories and their mechanisms (natural selection, genetic drift, random events, isolation, mutation, etc migration). 4. Students are able to differentiate micro and macroevolution as well the character of homology and analogy. 5. Students master the process of how genetics is involved evolution and formation of phylogenetic trees. 6. Students understand the concepts of species and speciation as well formation of variations. 7. Students understand ecology as an approach to evolution	
Contents	This course studies history, theory, mechanisms and types of evolution in animals and plants. Evolutionary theory, natural selection theory and its renewal, evidence of evolution, species, convergent evolution and coevolution, geological time and life, human evolution, evolution future experiments and evolution	
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. Darwin, C. 1958. The Origins of Species. USA: New American Library 2. Mayr E., Peter D.A., 1991. Principles of systematic zoology. 2ed, McGraw-Hill. Inc. 3. More E., 1992. The units of evolution essays on the natural of species. 4. Niles E. 1989. Macro evolutionary dynamics species, niche and adaptive peaks. 5. Theodosius D. et al., 1975. Evolution. 6. Verne G., 1991. The evolutionary process; A critical study of evolutionary theory. 7. Schraer and Stlotze. 1999. Biology The Study Of Life. New Jersy: Prentice Hall. 8. Faber and King. 1996. Biology The Network Of Life. USA: Harper. 9. Grandcolas, P., & Maurel, M.-C. (2018). *Biodiversity and evolution*. ISTE Press – Elsevier 10. Satoh, N. (2016). *Chordate origins and evolution: The molecular evolutionary road to vertebrates*. Academic Press.	