MINISTRY OF EDUCATION, CULTURE, RESEARCH AND TECHNOLOGY

UNIVERSITAS NEGERI MAKASSAR

FACULTY OF MATHEMATICS AND NATURAL SCIENCES DEPARTMENT OF BIOLOGY

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Module Handbook for Biosystematics

Module designation	**Biosystematics**
Module level, if applicable	Bachelor of science
Code, if applicable	-
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	Even Semester (6)
Person responsible for the module	Dr. Alimuddin Ali, S.Si, M.Si
Lecturer	
Language	Indonesia
Relation to curriculum	Elective course, 6th semester
Type of teaching, contact hours	Learning methods: lectures, project based learning,discussions, assignments. CSU : 3 3 x 50 minutes lecture = 150 minutes 3 x 60 minutes scheduled task = 180 minutes 3 x 60 minutes independent task = 180 minutes Total teaching format = 510 minutes = 8.5 hours
Workload	Total workload = (Total Teaching format x 16) = 8,5 x 16 = 136 jam
Credit points	3 CSU (4,5 ECTS) ECTS = Total workload : 30 jam = 136 : 30 = 4,5
Requirements according to the examination regulations	Student must have attended at least 80% of the lectures to sit in the exams
Recommended prerequisites	Genetics, Microbiology, Ecology
Module objectives/intended learning outcomes	1. Able to describe the definition and basic concepts of biosystematics taxonomy and classification 2. Able to describe the history and theories of biological classification. 3. Able to describe the trends in biosystematics: chemotaxonomy, cytotaxonomy and molecular taxonomy 4. Able to describe the dimensions of speciation. Species concepts: Typological, Nominalistic and Biological species concepts 5. Able to describe the spesiation and variation intra population 6. Able to describe the Clasification and Nomenclature 7. Able to describe the Phenetic and Cladistics approach 8. Able to describe the Phylogenetic 9. Able to describe the Collection samples for Taxonomic
Content	In the Biosystematics course, students will study and understanding of biosytematics, taxonomy and classification, trends in biosystematics (chemotaxonomy, cytotaxonomy and molecular taxonomy), dimensions of speciation (Typological, Nominalistic and Biological), spesiation and variation intra population, Explanation and critics to

	the three main school of taxonomy: evolutionary taxonomy, phenetic (numeric) taxonomy, and phylogenetic cladistic) taxonomy. How to construct phenogram and cladogram, Diagnostic description of Regnum: Monera, Protoctista, Plantae, Fungi, and Animalia.
Study and examination requirements and forms of examination	Midterm and final exam, assignments
Media employed	LMS-SYAM OK, Power Point Presentation, Textbook, Journal Article, Handout
Reading list	1. Mayr, E.& Ashlock, P. D. 1991. Principles of Systematic Zoology. 2nd ed. McGraw-Hill, Inc.New York. 2. Wiley, E. O. 1981. Phylogenetics: The Theory and Practice of Phylogenetic Systematics. John Wiley & Sons, Inc. 3. Judd, W. S. 2008. Plant Systematic. Sinaeur Associates, Inc. Massachusetts 4. Hillis, D. M., Moritz, C. & Mable, B. K. Molecular Systematics. 2nd ed. Sinaeur Associates, Inc. Massachusetts. 5. Wiley, E. O., Siegerl-Causey D., Brooks, D. R. & Funk, V. 1991. The Complete Cladist: A Primer of Phylogenetic Procedures. University of Kansas Museum of Natural History. http://www.nhm.ukans.edu/cc.htm 6. Salemi, M. & Vandamme, A.-M. 2003. The Phylogenetic Handbook: A practical approach to DNA and protein phylogeny. 1st ed. Cambridge Univ. Press. 7. Collins, J.T. (Eds). 1984. Principles and Methods of Phylogenetic Systematics: cladistics workbook. Special Competence Publication No. 12. University of Kansas, Museum of Natural History. 8. De Vogel, E.F. (Eds.). Manual of Herbarium Taxonomy, theory and practice.UNESCO 9. Futuyma, D.J. 1986. Evolutionary Biology, 2 nd ed. Sinauer Associates, Inc. Sunderland, Massachusetts. 10. Otte, D., Endler, J.A. (Eds). 1989. Speciation and its Consequences. Sinauer Associates, Inc. Massachysetts.