

Module Handbook

Modul Name	Biosystematics
Modul Level	Bachelor
Abbreviation, If applicable:	BIC 200
Sub---heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester	Even (4 th Semester)
Module Coordinator	Prof. Bambang Irawan
Lectures	Prof. Bambang Irawan Hamidah
Language	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course / Elective Studies
Teaching format/ class hours per week during semester	300 minutes/ week
Workload per semester	100 min lecture + 100 min structural assignment + 100 min self-assignment x 13 weeks; total 3900 min = 65 hours 65/25 = 2.6 ECTS
Credit point	2
Requirements	Vertebrate Comparative Anatomy, Plant Anatomy, Genetics
Learning goals/competencies	<p>General Competence (Knowledge)</p> <p>This subject is designed in order for student to be able to distinguish among the three school of taxonomy (evolutioner, phenetics, and cladistics), construct the phenogram and cladogram manually, to analyzing the phylogenetic relationship, and writing taxonomical description (analytic, diagnostic, and diagnostic defferential).</p> <p>Specific Competence</p> <ol style="list-style-type: none"> 1. Explaining the scope of biosystematics and differencing it with taxonomy. 2. Explaining the taxonomy character and its use on studying the kinship connection 3. Explaining the connection of evolution with biodiversity 4. Elaborating the kinship diagram (phylogeny tree) 5. Making phonogram of 10 taxon 6. Making cladogram of 10 taxon 7. Describing the statistic of phylogeny diagram 8. Calibrating phylogeny tree 9. Explaining the kinship connection and classification of plant 10. Explaining the kinship connection and classification of animal 11. Comparing name of plant and animal
Content	Systematics and phylogenetic reconstruction. Some terminologies pertaining to biosystematic (taxa, phylogenetic relationship, evolution, and biosystematics). Taxonomical characteristics and it function. Concepts pertaining to species, taxon, grade, and clade. 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. Examples of phenogram and cladogram: case in plants and animal. Classification system and its hierarchies and catagories. How to write taxonomical description (analytics, diagnostic, and differential). Nomenclature code. Classification of organisms into emperium. Diagnostic description of Regnum: Monera, Protocista, Plantae, Fungi, and Animalia.

Soft skill Attribute	Discipline and Argumentation
Study/ exam achievements	<p>Students are considered to be competent and pass if at least get 40% of maximum. Final score (NA) is calculated as follow: Paper project (20%) + mid exam (30%) + final exam (40%) + soft skill (10%)</p> <p>Final index is defined as follow:</p> <p>A : 75 - 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 - 39.99</p>
Form of media	LCD, computer
Learning Method	Class and discussion
Literature	<p>c. 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..</p> <p>d. De Vogel, E.F. (Eds.). Manual of Herbarium Taxonomy, theory and practice.UNESCO</p> <p>e. Futuyma, D.J. 1986. Evolutionary Biology, 2 nd ed. Sinauer Associates, Inc. Sunderland, Massachusetts.</p> <p>f. Otte, D., Endler, J.A. (Eds). 1989. Speciation and its Consequences. Sinauer Associates, Inc. Massachysetts.</p> <p>g. Ross, H.H.1973. Biological Systematics. Addison Wesley Publishing Company, Inc. Massachysetts.</p> <p>h. Skelton, P. 1993. Evolution; a biological and palaeontological approach. Prentice Hall, London.</p>
Note	Requirement of Animal Taxonomy