

## Biosystematics

Module name		Biosystematics				
Module level		2 <sup>nd</sup> year of Bachelor program				
Abbreviation, if applicable						
Sub-heading, if applicable						
Courses included in the module, if applicable		BI-2104 Biosystematics				
Semester/term		3rd Semester				
Module coordinator(s)		Dr. Rina Ratnasih				
Lecturer(s)		Dr. Rina Ratnasih Prof. Djoko T. Iskandar				
Language		Indonesian				
Classification within the Curriculum		Compulsory courses for Bachelor Program in Biology				
Teaching format/ class hours per week during the semester		Lecture (Face to face lecture):50% -Lecture : 2 hours x 14 weeks Practical class : 50 % -Practical class : 3 hours x 14 weeks ; Field works : total 46 hours				
Workload	Total Workload	[Lecture] 2 CU x 3 hours x 16 weeks; [Practical class] 2 CU x 3 hours x 14 weeks; Field works 56 h; 214 hours, 4(2) CU				
		Face to face teaching	Structured activities	Independent study	Exam	Total
	Lecture	28	32	16	4	80
	Practical class	42	46	32	4	124
	Total					214
Credit points		4(2) CU				
Requirements		<i>Fundamental Biology</i>				
Content	<ol style="list-style-type: none"> <li>1. Terminology in Biosystematic</li> <li>2. Categories in Biosystematic</li> <li>3. Definition of species</li> <li>4. Spesiatic and variation intra population</li> <li>5. Clasification and Nomenclature</li> <li>6. Biosystematic characters</li> <li>7. Phenetic and Cladistics approach</li> <li>8. Classification evolution</li> <li>9. Phylogenetic</li> <li>10. Collection samples for Taxonomic</li> <li>11. Systematic and conservation</li> </ol>					
Learning goals/ competencies	<p><i>After completion of this module students are expected to be able to:</i></p> <p>Knowledge :</p> <ul style="list-style-type: none"> <li>• Recognize the terms used in biosystematics</li> <li>• Identify and distinguish organisms based on taxonomic data</li> <li>• Describe the characters of a taxon</li> </ul> <p>Skills :</p> <ul style="list-style-type: none"> <li>• Classify organisms based on similarities and dissimilarities</li> <li>• Analyze and interpret taxonomic data and information</li> <li>• Make use of simple tools to measure data based on morphological characters</li> <li>• Apply software to analyze and interpret taxonomic data</li> <li>• Collect samples based on scientific methods</li> </ul> <p>Competencies:</p> <ul style="list-style-type: none"> <li>• Apply the taxonomic parameters to classify organism within categories</li> </ul>					

Study/exam achievements	Lecture (50%); Practical class (50%)				
	Midterm exam	Final exam	Laboratory and fieldwork reports	Quizzes and Assignments	Total
	Lecture	30%	45%	--	25%
Laboratory/Practical class	30%	40%	15%	15%	100%
Forms of media	Classical laboratory teaching tools:	Classical methods : lecture/white board; Web			
	Integrated teaching tools:	-			
	Digital teaching tools:	-			
	Problem based teaching tools:	-			
Literature	<ol style="list-style-type: none"> <li>1. Mayr, E.&amp; Ashlock, P. D. 1991. Principles of Systematic Zoology. 2nd ed. McGraw-Hill, Inc.New York.</li> <li>2. Wiley, E. O. 1981. Phylogenetics: The Theory and Practice of Phylogenetic Systematics. John Wiley &amp; Sons, Inc.</li> <li>3. Judd, W. S. 2008. Plant Systematic. Sinaeur Associates, Inc. Massachusetts</li> <li>4. Hillis, D. M., Moritz, C. &amp; Mable, B. K. Molecular Systematics. 2nd ed. Sinaeur Associates, Inc. Massachusetts.</li> <li>5. Wiley, E. O., Siegerl-Causey D., Brooks, D. R. &amp; Funk, V. 1991. The Complete Cladist: A Primer of Phylogenetic Procedures. University of Kansas Museum of Natural History,Special Publication 19. <a href="http://www.nhm.ukans.edu/cc.htm">http://www.nhm.ukans.edu/cc.htm</a></li> <li>6. Salemi, M. &amp; Vandamme, A.-M. 2003. The Phylogenetic Handbook: A practical approach to DNA and protein phylogeny. 1st ed. Cambridge Univ. Press.</li> <li>7. Jones Jr, S.B. &amp; Luchsinger, A.E. 1987. Plant Systematics. McGraw-Hill</li> <li>8. Ross, H.H. 1974. Biological Systematics. Addison-Wesley Publ.Inc.</li> </ol>				