



**THE MODULE HANDBOOK**  
**FACULTY OF BIOLOGY**  
**MASTER PROGRAMME**

**PLANT BIOSYSTEMATICS**

<b>Module code</b>	BIO-71010
<b>Module level</b>	2 <sup>nd</sup> year of Master Program in Biology
<b>Abbreviation, if applicable</b>	-
<b>Courses related</b>	-
<b>Semester</b>	Even
<b>Course coordinator(s)</b>	1. Dr. Purnomo, M.S.
<b>Lecture(s)</b>	2. Dr. Purnomo, M.S. 3. Rina Sri Kasiamdari, S.Si., Ph.D. 4. Dr. Ratna Susandarini, M.Sc.
<b>Language</b>	Bahasa Indonesia and English
<b>Classification within the Curriculum</b>	Compulsory Courses Specific for Field of Interest
<b>Teaching format/class hours per week during the semester</b>	This course is organized into one class and planned to have 14 teaching weeks and 2 weeks of examination.
<b>Workload</b>	Estimated working hour: 10.5 hours/week.
<b>Credit</b>	3-0 credits
<b>Requirements</b>	BIO-61008, BIO-61009, BIO-61012
<b>Course Learning Outcome</b>	<ol style="list-style-type: none"><li>1. Able to master and apply the practical application of plant biosystematics in both botanical and agronomic aspects.</li><li>2. Able to master and evaluate phenotypic and genotypic variations of a plant taxon (species), classification systems, evolutionary mechanisms,</li></ol>



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	<p>the use of characters in plant biosystematics, and methods to measure relatedness.</p> <p>3. Able to correctly compose a proposal for researches in plant biosystematics.</p>
<b>Syllabus</b>	<p>Plant Biosystematics is a compulsory subject of botany interest learning about the biological and applied aspects of plant systematics. History, scope of plant biosystematics, and its practical application, Phenotypic variations and plant genotypes, Breeding system and hybridization, Species concepts, Evolutionary mechanisms in plants, Sources of scientific evidence; Formal, non-formal classification and their application in botanical analysis and plant cultivation, Phenetic, phylogenetic relationships and the application of analytical methods.</p>
<b>Study/exam achievements</b>	<p>a. Midterm: 30%</p> <p>b. Final examination: 40%</p> <p>c. Weekly quizzes: 10%</p> <p>d. Group assignments : 20%</p>
<b>Forms of media</b>	<p>White board, notebook, LCD</p>
<b>Reference</b>	<ol style="list-style-type: none"><li>1. Harlan, J.R. &amp; J.M.J. de Wet, 1986. Problem in merging populations and counterfeit hybrids. <i>Infraspecific Classification of Wild and Cultivated Plants</i>. The Systematic Association No. 29. Clarendon Press, Oxford. P: 71-76.</li><li>2. Hawkes, J.G., 1986. <i>Infraspecific Classification the Problems</i>. <i>Infraspecific Classification of Wild and Cultivated Plants</i>. The Systematic Association No. 29. Clarendon Press, Oxford. P: 1-7.</li><li>3. Jones, S. B. &amp; A.E. Luchsinger, 1986. <i>Plant Systematic</i>. 2nd edition. Mc Graw-Hill Publishing Company. New York. Pp. 1-80.</li><li>4. Judd, W.S., C.S. Campbell, E.A. Kellogg, &amp; P.F. Stevens, 1999. <i>Plant Systematics A Phyllogenetic Approach</i>. Sinauer Associates, Inc. Publishers. Sunderland. Massachussets. USA. P.: 27-106, 195-197.</li><li>5. Komar, T.E., 1999. Petunjuk Teknis Analisa DNA dengan Random Amplified Polymorphic DNA (RAPD). <i>Laboratorium Genetika Molekuler</i>. Departemen Kehutanan dan Perkebunan, BALITBANG Kehutanan, Balai Penelitian dan Pengembangan Benih Tanaman Hutan. P: 1-22</li><li>6. Radford A.E., 1986. <i>Fundamentals of Plant Systematics</i>. Harper &amp; Row Publisher Inc. P: 217-248.</li><li>7. Sambrook, J., E.F. Fritsch, &amp; T. Maniatis, 1989. <i>Molecular Cloning: a laboratory manual</i>. 2nd ed. N.Y., Cold Spring Harbor Laboratory, Cold Spring</li></ol>



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8. Sokal, R.R. & P.H.A. Sneath, 1963. Principles of Numerical Taxonomy. W.H. Freeman and Company. San Fransisco and London. P: 60-166.
  9. Stace, C.A., 1986. Intraspecific Classification-the Problems. Intraspecific Classification of Wild and Cultivated Plants. The Systematic Association No. 29. Clarendon Press, Oxford. P: 9-20.
  10. Stace, C., 1989. Plant Taxonomy and Biosystematics. Second Edition. Cambridge University Press. P: 69-99.
  11. Williams, J.G.K., A.R. Kubelik, K.J. Livak, J.A. Rafalski, & S.V. Tingey. 1990. DNA polymorphism amplified by arbitrary primers are useful as genetic markers. Nucleic Acid Res. 18 (22) : 6531-6535.
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