



# THE MODULE HANDBOOK

Magister Biology Study Program

FACULTY OF BIOLOGY

## Insect Biosystematics

<b>Course code</b>	BIMB20222
<b>Course level</b>	Magister
<b>Semester/ term</b>	Even
<b>Course coordinator(s)</b>	Sukirno, S.Si., M.Sc., Ph.D.
<b>Lecture(s)</b>	1. Dra. Siti Sumarmi, Ph.D. 2. Dr. RC Hidayat Soesilohadi, M.S. 3. Drs. Hari Purwanto, M.P., Ph.D.
<b>Language</b>	Indonesian
<b>Classification within the Curriculum</b>	Elective
<b>Teaching format/ class hours per week during the semester</b>	This course is organised into one class with minimum 3 enrolled students and planned to have 14 topics delivered in 14 meetings and 4 weeks of exams.
<b>Workload</b>	Estimated working hour: 1 credits of theory and 1 credit of laboratory and field works.
<b>Credits</b>	1-1 credits
<b>Requirements</b>	Entomology
<b>Program Learning Outcome</b>	K3 Able to demonstrate analysis and synthesis based on biological concepts, and principles of sustainable use and conservation of biological resources. GS2 Able to make decisions in solving problems in the field of biology based on analytical or experimental studies and critical analysis of information and data; GS5 Able to use information technology in the development of science and apply it in their field of expertise; SK1 Able to conduct research in the field of biology independently or in groups, and able to solve various related problems;
<b>Course Learning Outcome</b>	1. Able to demonstrate analysis and synthesis based on the concept of insect biosystematics, and the principles of sustainable use and conservation of insect sources 2. Able to make decisions in solving insect biosystematics problems based on analytical or experimental studies and critical analysis of information and data to solve various problems related to insect systematics 4. Able to use information technology in the development of science and apply it in the field of insect biosystematics



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	5. Able to conduct research in the field of insect biosystematics independently or in groups, and able
<b>Course Description</b>	This course studies the history of entomological systematics, the development of entomological systematics in different countries, taxonomic characters, principles and rules in nomenclature, international procedures and codes, the position of insects in the Arthropoda class in relation to other Arthropoda members, evolution and classification of insects, suborders, super families and all families that have important economic significance. Use of identification principles and keys in classification, use of modern engineering approaches in insect identification and taxonomy. Insect bioinformatics and phylogenetic analysis
<b>Assessments</b>	Project: insect collection, identification, and determination keys, Assignment, Midterm test, and Final test
<b>Study Media</b>	Online: computers, gadgets, internet access, field work and lab works, MEGA software
<b>Literature</b>	<ol style="list-style-type: none"><li>1. Borror D, Triplehorn CA, Johnson N. 1989. Introduction to the study of insects. Edition no. 6. Brooks. Cole Publishing Company, USA.</li><li>2. Footitt, R. G. and P. H. Adler. 2009. Insect biodiversity: Science and society. Wiley- Blackwell. West Sussex, UK. 623 pp.</li><li>3. Price, P. W., Denno, R. F., Eubanks, M. D., Finke, D. L., &amp; Kaplan, I. (2011). Insect ecology: behavior, populations and communities. Cambridge University Press.</li><li>4. Clark, D.P., 2009. Molecular biology: academic cell update edition. Academic Press.</li><li>5. Hoy, M.A., 2003. Insect molecular genetics: an introduction to principles and applications. Academic Press.</li></ol>