UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND SCIENCE
DEPARTMENT OF BIOLOGY EDUCATION
Colombo 1 Street Yogyakarta 55281
Phone: (0274)565411 Ext. 217, (0274)565411(Administration Office),fax (0274)548203
Website:fmipa.uny.ac.id, E-mail :humas_fmipa@uny.ac.id

Bachelor of Science in Biology **MODULE HANDBOOK**

Module name:	Laboratory Work in Entomology
Module level,if applicable:	Undergraduate
Code:	BIM6165
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	Odd
Module coordinator:	Triatmanto, M.Si
Lecturer(s):	
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective course
Teaching format / class hours per week during the semester:	100 minutes lectures, 120 minutes structured activities, and 120 minutes individual studyper week
Workload:	Total workload is 91 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week for 16 weeks.
Credit points:	1 SKS (3 ECTS)
Prerequisites course(s):	Invertebrate Biology
Perogram Learning Outcomes:	4. Comprehensively mastering Biology (core biology) to solve problems in the field of Biology (problem-solving) and to underlie the concepts of related sciences 5. Mastering the techniques and methodologies in Biology as well as familiar with the equipment used in Biology laboratories in order to get the knowledge of Biology (how we know what we know) 6. Being adaptive, creative, innovative in applying the concepts of Biology and other related fields 7. Being skillful in applying the techniques used in laboratories and daily life 9. Being able to work and create jobs/being an entrepreneur in the field of Biology 10. Having managerial ability to supervise and evaluate workers and optimizing the networks in order to develop professionalism

<table>
<tr><td></td><td>11. Possessing scientific skills to support the ability to speak in local, national, and international forums</td></tr>
<tr><td>Course Outcomes</td><td>After taking this course, the students have ability to:
CO1. Use the capture and handling tools used in the entomology lab work, according to the insect's habitat and it’s habit.
CO2. Identify insects among animals captured from the environment
CO3. Identify insect diversity through observation.
CO4. Identify and communicate morphological features of insects
CO5. Identify the anatomical structure of insects by surgery.
CO6. Communicate the results of observing insects in paper / picture or presentation.
CO7. Identify insects based on their morphological characteristics and put them in their taxonomic position.
CO8. Elabotrate the role of insects for humans and communicate the results in article or presentation.
CO9. Elaborate of the role of insects that are beneficial and harmful ecologically, agriculture, health, and industry
CO.10 Analyzing secondary data about insect population dynamics, to extrapolate next season</td></tr>
<tr><td>Content:</td><td>This course develops an understanding of insect objects, the role of insects that are beneficial and harmful ecologically, agriculture, health, and industry, as well as skills in dealing with insects directly and interpretations, predictions about the dynamics of insect populations based on secondary data</td></tr>
<tr><td>Study/exam achievements:</td><td>The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>1 to 7</td><td>Attitudes , knolwedge, and lab. work skills analitik skills,</td><td>Survey, test, rubrics and manuals, paper base test</td><td>85%</td></tr>
<tr><td>2</td><td>8; 9; 10</td><td>Scientific & analytic skills</td><td>Observe rubrics and manuals, portofolio</td><td>15%</td></tr>
<tr><td colspan="3"></td><td>Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forms of media:</td><td>Real objects, model, multimedia</td></tr>
<tr><td>Reference:</td><td>A. Compulsory books
1. Sastrahidajat. 1983. Entomologi Terapan. Bandung: ITB
2. Karlshoven, LGF . 1981. The Pest of Crops In</td></tr>
</table>

	Indonesia. Jakarta: PT Ichtiar baru Van Hoeve **3.** Metcalf, C.L. & W.P. Flint. 1979. *Destructive and Useful Insect*. New Delhi: McGraw-Hill Book Company. **B. Recommended books** 1. Kotpal et al, 1981. *Modern Texbook of Zoollogy* Snodgrass, R.E. 1975. *Principles of Insect Morphology*. Washington DC: McGraw-Hill Book Company 2. Daly, Hewel V. Et. al.. 1978. *Introduction to Insect Biology and Diversity*. Kogakusha: McGraw-Hill, Inc. 3. Ross, Robert H, Charles A. Ross, June R.P., Ross. 1982. *A Textbook of Entomology*. Singapore: John Wiley & Sons., Inc.

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11
CO1				✓	✓		✓				
CO2				✓	✓						
CO3				✓	✓						
CO4				✓	✓						
CO5				✓	✓						
CO6				✓	✓	✓	✓		✓		
CO7				✓	✓	✓					
CO8				✓		✓	✓		✓	✓	✓
CO9				✓		✓	✓		✓	✓	✓
CO10						✓	✓		✓	✓	✓