Undergraduate Programme In Biology Education **Module Handbook**

Module Designation	*Plant Pests and Diseases* Hama Penyakit Tanaman
Module level	Bachelor degree/Undergraduate Program
Course Code	4620102085
Semester/Term	1st Semester
Person responsible for the module	Prof. Yuliani, M.Si Prof. Dr.. Yuni Sri rahayu, M.Si Dr. Mahanani Tri Asri, M.Si Dra. Evie Ratnasari, M.Si
Language	Bahasa Indonesia (Indonesian Language)
Relation to curriculum	Elective Course
Teaching method	Lecture
Workload	2 x 50 minutes lectures,1 x 150 minutes practicum activity in laboratory, 2 x 60 minutes structured activity, and 2 x 60 minutes individual activity per week, 14 weeks per semester 79.33 total hours per semester ~ 3.18 ECTS**
Credit Point	2 Credit unit (3.18 ECTS)
Required and recommended prerequisites for joining the module	Plant Physiology, Microbiology, Animal Taxonomy
Module Objectives/intended learning outcomes	After taking this course, students will be: 1. Mastering the concepts of plant pests and their application (Knowledge) 2. Able to apply concepts or theories about plant pests, methods of prevention and control that are mastered to solve problems in the environment procedurally in accordance with the field of knowledge. (Knowledge) 3. Able to make the right decisions based on analysis of information and data, and able to provide guidance in choosing various alternative solutions independently and groups in the field of plant pests (Special Competencies) 4. Able to design problem solving by implementing transferable skills in the field of plant pests to develop ecopreneurship (eco-innovation, eco-opportunity, eco-commitment). (Special Competencies) 5. Able to communicate scientific ideas, both orally and in writing by using appropriate communication media according to the target (general Competencies) 6. Able to work independently, responsibly, both as individuals and in groups. (Attitude)

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<tr><td>Content</td><td>Plant disease pests study material about pests and diseases in plants and their control. The study covers the scope of plant pests and diseases, plant diseases which include biotic diseases (bacteria, viruses, fungi and nematodes) and abiotic diseases including plant diseases due to nutrient deficiency or environmental factors. Meanwhile, plant pests include the main pests in several productive plants and their predators. Other studies are ways of controlling pests and plant diseases that take into account the balance of the ecosystem and are environmentally sound, the effects of pathogens on the physiological functions of plants and efforts to defend plants against pathogens, as well as skills in diagnosing the causes of pests and diseases in plants based on the symptoms shown. Pest study of plant diseases is accompanied by various process skills that will be used to solve problems in the field of plant pests and their applications. Learning is delivered by presentations, discussions, projects, and assignments.</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>Study Requirement
Attendance: students must attend at least 75% of the lectures to be eligible for the final examination.
Study examination
The final grade (NA) is calculated based on the following ratio:
<table><tr><td>Assessment Components</td><td>Percentage of contribution</td></tr><tr><td>Participation</td><td>20%</td></tr><tr><td>Assignment</td><td>30%</td></tr><tr><td>Mid-semester test</td><td>20%</td></tr><tr><td>Final semester test</td><td>30%</td></tr></table>Grade conversion of 0-100 scale into 0-4 scale is set as below:<table><tr><td>Letter</td><td>Number</td><td>Grade Interval</td></tr><tr><td>A</td><td>4,00</td><td>85 ≤ A ≤ 100</td></tr><tr><td>A-</td><td>3,75</td><td>80 ≤ A- < 85</td></tr><tr><td>B+</td><td>3,50</td><td>75 ≤ B+ < 80</td></tr><tr><td>B</td><td>3,00</td><td>70 ≤ B < 75</td></tr><tr><td>B-</td><td>2,75</td><td>65 ≤ B- < 70</td></tr><tr><td>C+</td><td>2,50</td><td>60 ≤ C+ < 65</td></tr><tr><td>C</td><td>2,00</td><td>55 ≤ C < 60</td></tr><tr><td>D</td><td>1,00</td><td>40 ≤ D < 55</td></tr><tr><td>E</td><td>0,00</td><td>0 ≤ E < 40</td></tr></table></td></tr>
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Reading List	1. Burchett, S and Burchett, S.2017. *Plant Pathology*. Garland Science Pub 2. Dharam P.Abrol. 2013 *Integrated Pest Management: Current Concepts and Ecological Perspective.*Academic Press 3. Duca, M. 2015. *Plant Physiology*. Heidelberg: Springer International Publishing 4. Hagstrum D,w and Philips G.C.2012. Biological control: Insect pathogens, parasitoids, and predators.Kansas State University. 5. Marcshner, H. 2012. *Mineral nutrition of higher plants*. London: Academic Press Pub. 6. Sastrahidayat. I.R. 2011. *Fitopatologi (Ilmu Penyakit Tumbuhan)*. Malang. UB Press 7. Sembel, T.D. 2010. *Pengendalian Hayati Hama-hama Serangga Tropis dan gulma.*Yogyakarta: Andi.