

**DETERMINATION OF CREDITS COURSES  
MAJOR PLANT PEST AND DISEASE**

Course	CLO	CLO 1.1	Learning Methods	Study Materials	Study Hours		Sks/Credits
					T	P	
Major Plant Pest and Disease	Students are able to detect the presence of Plant Pest and Disease (OPT) and their natural enemies in the field on various components of the environment that are intertwined to plan environmental-based integrated pest management according to the National IPM concept effectively and efficiently.	Students are able to master comprehensive understanding of Integrated Plant Pest and Disease Management (MOPTT) on agricultural production systems	Face to Face, Structure Assignment, Independent Study	1. General explanation of the course contract. 2. Introduction. Illustration of the material for Integrated OPT Management as a whole.	8		0,18
		Students are able to analyze environmental components to explain the causes of the emergence of the MOPTT concept	Face to Face, Structure Assignment, Independent Study	1. Definition and scope of MOPTT and why MOPTT 2. The environmental impacts of agricultural pesticide usage 3. Human awareness of environmental sustainabilit 4. The emergence of the MOPTT concept.	8		0,18
		Students are able to analyze the components of the environment that are intertwined into a harmonious agricultural system to provide high-quality, environmentally friendly agricultural products for people and the environment	Face to Face, Structure Assignment, Independent Study, Practicum	1. Definisi tanaman sakit 2. Konsep penyakit tanaman yang disebabkan oleh faktor abiotik 3. Gejala dan tanda penyakit non infeksius	6	2	0,20
		Students are able to identify and describe the presence of plant pest and disease (OPT)in the field, as well as their natural enemies and population dynamics, in order to create an integrated environmental-based control strategy (for pest)	Face to Face, Structure Assignment, Independent Study, Practicum	1. Components driving ecosystem processes 2. Evolution, coevolution between plants and herbivores. 3. Sustainable agricultural ecosystem	6	2	0,20
		Students are able to master various integrated control technologies for plant pests and diseases and their problems in the field	Face to Face, Structure Assignment, Independent Study, Practicum	1. Development of pests population 2. Role of Life Table in Insect Pest Management 3. Mechanism of natural balance. 4. Density-dependent factor and Density-independent factor of pest population.	6	3	0,24
		Students are able to master various integrated control technologies for both pests and plant diseases and their problems in the field	Face to Face, Structure Assignment, Independent Study, Practicum	1. Explanation of Plant Diseases in MOPTT 2. Explanation regarding the application of MOPTT for plant diseases at the farmer level 3. Problem Based Solution (PBL)	6	3	0,24

		Students are able to identify various integrated control technologies for both pests and plant diseases and their problems in the field	Face to Face, Structure Assignment, Independent Study, Practicum	1. Explanation of why Plant Health Management should be used for Plant Diseases 2. Understanding the Concept of Plant Health Management 3. Plant Health Management Systematic Steps	6	2	0,20
		Students are able to identify and describe the presence of plant pest and disease (OPT) in the field, as well as their natural enemies and population dynamics, in order to create an integrated environmental-based control strategy. (for plant diseases)	Face to Face, Discussion	1. Understanding pest vulnerability in monocultures 2. Type and role of biodiversity in agroecosystems 3. Diversified agroecosystems and pest management 4. Relationship of climate change with: a. Activity and abundance of natural enemies b. The effectiveness of biopesticides and synthetic insecticides	6	2	0,20
		Students are able to identify and explain conflicts of interest in social and environmental aspects in the Implementation of MOPTT	Face to Face, Discussion	1. Understanding the space-time development of disease 2. Disease control based on the concept of epidemiology 3. Manipulating elements that influence disease development	6	3	0,24
		Students are able to understand and explain the economic decisions of pest/disease control	Face to Face, Discussion	1. Conflicts of interest in ecosystem management 2. The Social consequences of MOPTT activities. 3. Environmental quality	6	3	0,24
		Students are able to determine and combine appropriate and compatible pest management methods	Face to Face, Discussion	1. The concept of economic level 2. Economic damage and income threshold 3. Income threshold and economic injury level	6	3	0,24
		Students are able to determine and combine appropriate and compatible disease management methods	Face to Face, Discussion	Pest Control: Biological Control a. Host plant resistant b. Cultural practices c. Autocidal control (self-control) d. Physical and mechanical controls e. Chemical control f. Quarantine/Law	6	3	0,24
		Students are able to plan how the MOPTT program in the future (pests management)	Face to Face, Discussion	Presentation of Problem Based Learning (Pests)	6	2	0,20

		Students are able to plan how the MOPTT program in the future (disease management)	Face to Face, Discussion	Presentation of Problem Based Learning (Diseases)	6	2	0,20
				<b>Total Hours</b>	88	30	3,00
	sks/credit Theory		(Total Hours for Theory × 1 sks)/(2.83 × 16)	<b>SKS Theory</b>			1,94
	sks/credit Practicum/field work		(Total Hours for Practicum × 1 sks)/(2.83 × 10)	<b>SKS Practicum</b>			1,06

Notes: T = Theory P = Practicum/Field Work

1 SKS/Credit = 170 minutes = 2,83 hours

1 Semester = 16 Face Times

The study time required for students to achieve CLO at each learning stage is determined by the lecturer/lecturer team based on their experience in teaching the course.

Total Course SKS/Credits = Theory + Practicum/field work