Module Name	Pesticide and Biological Fertilizer Production
Module Level, if applicable	Advances
Code if Applicable	0320206239
Subtitle, if applicable	-
Courses, if applicable	0320206239 (Pesticide and Biological Fertilizer Production)
Semester(s) in which the moduleis taught	6
Person responsible for the module	Erfan Dani Septia S.P., M.P. Ir. Henik Sukorini M.P., P.hD
Lecturer	Erfan Dani Septia S.P., M.P. Ir. Henik Sukorini M.P., P.hD
Language	Indonesian
Relation to curriculum	Compulsory Courses for undergraduate program in Department of Agrotechnology, Faculty of Agriculture and Animal Science.
Type of teaching, contact hours	Lecture, Lab Work, Mini Project, Independent Learning
Workload	• Lecture : 3 sks × 50 minutes × 16 weeks • Lab work : 1 sks x 170 minute x 16 week • Mini Project : 3 sks × 60 minutes × 16 weeks • Independent Learning 3 sks × 60 minutes × 16 weeks
Credit points	SKS 3 SCH x (1.5) = 4,5 ECTS
Requirements according to the examination regulations	1. Registered in this course 2. Minimum 80% attendance in this course
Recommended prerequisites	No prerequisites
Module Objectives (Intended learning outcomes)	On successful completion in this course on Pesticide and Biological Fertilizer Production, student should be able to: 1. Understanding Formulation Techniques: Module objectives may aim to equip students with the knowledge of various formulation techniques used in pesticide and biological fertilizer production. This includes understanding the principles behind formulation, selecting appropriate ingredients, and optimizing formulations for effectiveness and safety.

	2. Applying Sustainable Practices: Another objective may focus on fostering an understanding of sustainable practices in pesticide and fertilizer production. This could involve learning about eco-friendly alternatives, minimizing environmental impact, and adhering to regulatory standards to ensure the safety of both users and the environment.
Module Content	In a course on Pesticide and Biological Fertilizer Production, the module content spans a diverse array of topics critical to understanding the production, application, and impacts of these agricultural inputs. The course typically begins with an introductory section, laying the foundation by defining pesticides and biological fertilizers, exploring their historical development, and elucidating their pivotal role in modern agriculture. Moving forward, a detailed exploration of chemistry and formulation techniques becomes essential. This section delves into the chemical properties of active ingredients, elucidating the intricate process of formulating these compounds into products that balance efficacy with safety. Additionally, understanding the modes of action of pesticides and biological fertilizers is crucial, as it enables students to grasp how these products interact with target pests, pathogens, and plants, influencing their efficacy and potential environmental impact. Moreover, the course delves into regulatory frameworks and safety considerations surrounding pesticide and fertilizer production and use. Students learn about the stringent regulations governing these products, as well as the necessary safety protocols to mitigate potential risks to human health and the environment.

	Practical aspects of production processes are also covered extensively, providing insights into manufacturing techniques, quality control measures, and the equipment required for efficient production. Alongside, application techniques are explored in detail, emphasizing methods to optimize efficacy while minimizing environmental impact. Understanding the broader ecological and economic implications of pesticide and fertilizer use is also essential. This includes examining environmental and ecological impacts, exploring emerging trends and technologies in the field, and considering economic factors influencing market dynamics and agricultural practices.
Study and examination requirements and forms of examination	**Cognitive:** Midterm exam, Final exam, Quizzes, Assignments, Presentation **Affective:** Assessed from the element /variables achievement, namely (a) Contributions (attendance, active, role, initiative, and language), (b) Being on time, (c) Effort.
Media employed	Classical teaching tools with white board and power point presentation
Recommended Literature	1. Pesticide Formulation and Adjuvant Technology" by Frederick Fishel 2. Pesticide Application Methods by Michael J. Whiting and Frederick M. Fishel. 3. Biological Control: Measures of Success" by M. P. Hassell, J. Waage, and R. van den Bosch 4. Handbook of Pesticide Toxicologyedited by Robert Krieger 5. Biofertilizers and Biopesticides: A Sustainable Alternative edited by M. V. Desai and D. K. Chaudhary 6. Pesticide Drift and the Pursuit of Environmental Justice by Jill Lindsey Harrison
Date of Last Amendment	23rd August 2022