220220658 Postharvest Physiology and Technology

Module Name	**Postharvest Physiology and Technology**
Module Level, if applicable	Intermediate
Code if Applicable	220220658
Subtitle, if applicable	-
Courses, if applicable	220220658 Postharvest Physiology and Technology
Semester(s) in which the module is taught	4th
Person responsible for the module	Rista Anggriani, STP., MP., M.Sc.
Lecturer	Prof. Dr. Ir. Noor Harini, MS. Rista Anggriani, STP., MP., M.Sc.
Language	Indonesian
Relation to curriculum	Compulsory Course for undergraduate program in the Food Technology Department, Faculty of Agriculture and Animal Science
Type of teaching	Lecture, project
Workload	● Lecture: 2 SKS X 50 minutes X 16 weeks ● Project: 2 SKS X 60 minutes X 16 weeks ● Independent learning: 2 SKS X 60 minutes X 16 week
Credit points	2 SKS X 1.5 = 3 ECTS
Requirements according to the examination regulations	1. Registered in this course 2. Minimum 80% attendance in this course
Recommended prerequisites	Food Chemistry and Biochemistry, Food Ingredient Knowledge

Module Objectives (Intended learning outcomes)	On successful completion of this course, student should be able to : ● Understand the post-harvest processes and phases of agricultural products, the differences between the stages of post-harvest products (vegetable and animal), physical, chemical, structural, anatomical and post-harvest indicators and post- harvest phases (development, maturation, ripening and senescence). ● Knowing the relationship between pre-harvest and post-harvest, internal factors (cultivation) and external factors (environment) on post-harvest physiological processes ● Knowing, analyzing and developing processes that occur in post-harvest products including respiration (aerobic and anaerobic), graphs on climacteric and non-climacteric, their relationship with the hormone ethylene, stages of respiration and RQ assessment based on the substrate ● Knowing, exploring and developing post- harvest technology by drying, cooling, modified air, irradiation, chemical modification, storage, packaging and transportation. ● Understanding the importance of sustainable postharvest practices in minimizing waste, reducing environmental impact, and ensuring the long-term viability of agricultural systems.

Module Content	This course is intended to discuss about the physiologics of post-harvest products, the phases in post-harvest and discussing the relationship between pre-harvest and post- harvest, and developing post-harvest technology in order to improve the quality of agricultural products from post-harvest products. In addition, it explores post-harvest technology for plant and animal foodstuffs such as cereal sources (rice, beans, tubers), from horticultural sources (fruits and vegetables), from animal sources and their derivatives (fish, milk, eggs). Post-harvest technology includes physiological activities during the process of drying, cooling, air modification, irradiation, chemical modification, storage, packaging and transportation. Moreover, this course understands the importance of

	sustainable postharvest practices in minimizing waste, reducing environmental impact, and ensuring the long-term viability of agricultural systems.
Study and examination requirements and forms of examination	**Cognitive:** Midterm exam, Final exam, Quizzes, Assignments **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	For Class **A. Compulsory** 1. Harini, N. 2010. Fisiologi dan Teknologi Pasca Panen. Jurusan Teknologi Hasil Pertanian, Fakultas Pertanian, Universitas Muhammadiyah Malang, Malang. 2. Kahramanoğlu, İ., 2017. Introductory chapter: Postharvest physiology and technology of horticultural crops. Postharvest handling, 13, pp.1-5. 3. Yahia, E.M. and Carrillo-Lopez, A. eds., 2018. Postharvest physiology and biochemistry of fruits and vegetables. Woodhead publishing. **B. Option** 1. Paper that related to the topic

Date of Last Amendment	8th January 2022