



Subject Module
 Department of Agrotechnology
 Faculty of Agriculture
 University of Islam Malang

Module Handbook

Module Title	Physiology and Technology of Postharvest
Module Level, if available	Undergraduate Study Program of Agrotechnology
Course Code	MKW 60623
Headings, if available	-
Subject (MK)	Physiology and Technology of Postharvest
Semester	IV
Course Coordinator	Dr.Siti Asmaniyah Mardiyani,SP.MP
Teaching Team	-
Language of instruction	Indonesian language/English
Linkages with the Curriculum	Study Program : Agrotechnology Specialization: Agrotechnology Type: Compulsory/elective
Learning Methods and Duration	<ol style="list-style-type: none"> 1. Lecture: 100 minutes/meeting (14 meetings) 2. Practicum 100 minutes/meeting (7 meetings) 3. Structured Assignments/individual and group Assignments presentation
Student Study Load	<ol style="list-style-type: none"> 1. Lecture: 100 minutes/meeting (14 meetings) 2. Practicum: 170 minutes/meeting (14 meetings) 3. Structured Assignments/quiz/group presentation 4. Attendance: 75% of total attendance
Credit Weight	3 credits or 5.1 ECTS
Requirements for Passing the Course	<ul style="list-style-type: none"> • Attendance >75% • The final score of all the components of the learning evaluation >44 <p>The final score component:</p> <ul style="list-style-type: none"> • 20% Midterm Exam • 20% Final Exam • 30% Practicum • 20% Structured Assignments (individual and group) • 10% Presence
Prerequisite Courses	Plant Biochemistry
Learning Outcomes	<p>The expected learning outcomes are:</p> <ol style="list-style-type: none"> 1. Have an attitude of creative and innovative thinking in their work in accordance with professional ethics in the field of agriculture (ILO 1) 2. Able to use tools, methods, and processes to solve various field problems in agriculture (ILO 6) 3. Able to apply various research methods in the field of Agrotechnology (ILO 7) 4. Able to apply agricultural practices based on <i>Good Agricultural Practices</i> (ILO 8)

Learning Content	<p>After completing this course students are able to:</p> <ol style="list-style-type: none"> 1. Study agricultural disciplines properly and thoroughly, especially Agricultural Product Physiology and Technology. 2. study multidisciplinary science in relation to post-harvest handling and agricultural product technology through experimentation and testing. 3. recognise and formulate problems in agriculture using the disciplines of physiology and agricultural product technology 4. Planning, problem-solving, and managing post-harvest management processes for both fresh and refined agricultural products. 5. using physiology and agricultural technology to solve different agricultural field problems <p>The topics include:</p> <ol style="list-style-type: none"> 1. Introduction 2. Physiological Characteristics of Post-Harvest Horticultural Products 3. Chemical and Physical Changes In Horticulture Products After Harvesting 4. Fresh Handling Technology Of Fruit, Vegetable And Cut Flower Products 5. Fruit And Vegetable Processed Technology 6. Freshhandling of Flowers 7. GMP AND HACCP in Post-Harvest Agricultural Products 8. Post-Harvest Plant Physiology And Physiology Of Serealia 9. Post-Harvest Physiology And Technology Of Ubi, Umbi And Nuts 10. Post Harvest And Processing Technology Of Coconut And Palm Oil 11. Post-Harvest And Processing Technology Of Beverages, Sources Of Hearings, Spres, Essentials And Drugs 12. Post-Harvest And Processing Technology For Fiber, Bioufuel And Rubber Plants 13. Green Technolgy In The Field Of Post-Harvest Agricultural Product Technology 14. Presentation of short internship assignments in the industry for handling fresh or processed agricultural products
	<p>Examination requirements: A minimum of 75 % attendance to attend the final exam</p> <p>Forms of examination: Essay</p>
Learning Media	Projector and screen, Zoom application, LMS of UNISMA (Daring UNISMA), e-book, WA Group
References	<p>Main References :</p> <ol style="list-style-type: none"> 1. Mardiyani, S.A..2020. Buku Ajar Fisiologi dan Teknologi Pasca Panen Produk Pertanian.AMR GRUP. Malang 2. Elhadi M. Yahia, Armando Carrillo-López.2018. Postharvest Physiology and Biochemistry of Fruits and Vegetables.

[Woodhead Publishing](#)

3. Sidiq M. 2012. [Tropical and Subtropical Fruits: Postharvest Physiology, Processing and Packaging](#)
4. Mardiyani, S.A. 2021. Panduan Praktikum Fisiologi dan Teknologi Hasil Pertanian. Fak. Pertanian. UNISMA. Malang

Supporting References :

1. Chakraverty et al. 2002. Handbook of Postharvest Technology (Cereal, Fruits, Vegetables, Tea, Spices). Marcel Dekker In
2. Gopinadhan Paliyath Ph.D., 2008. Postharvest Biology and Technology of Fruits, Vegetables, and Flowers
3. H. C. Werner Muhlbauer, Joachim Muller. 2020. Drying Atlas: Drying Kinetics and Quality of Agricultural Products. Woodhead Publ.
4. Mardiyani, S.A. 2017. Green Technology di bidang Pangan dan Energi. UB Press. Malang