

Module designation	Food Microbiology
Module level, if applicable	Undergraduate
Code, if applicable	NBIOUM6304
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	Odd semester
Person responsible for the module	Prof. Dr. Dra. Utami Sri Hastuti, M.Pd
Lecturer	Prof. Dr. Dra. Utami Sri Hastuti, M.Pd Sitoresmi Prabaningtyas, S.Si., M.Si Fauzi Akhbar Anugrah, S.Si., M.Si Muhammad Andry Prio Utomo, S.Si., M.Si.
Language	Bahasa Indonesia
Relation to curriculum	Undergraduate degree program, Elective, 5th semester
Type of teaching, contact hours	Undergraduate degree program: cooperative learning, presentation, laboratory work, 2 x 50 = 100 minutes and 1 x 170 minutes
Workload	1. Lectures: 2 x 50 = 100 minutes (1.67 hours) per week. 2. Exercises and Assignments: 2 x 60 = 120 minutes (2 hours) per week. 3. Laboratory work: 1 x 170 minutes (2.83 hours) per week. 4. Private study: 2 x 60 = 120 minutes (2 hours) per week.
Credit points	3 Credit points (~5 ECTS-eq)
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to be eligible for the final examination.
Recommended prerequisites	-
Module objectives/intended learning outcomes	Students are able to: (LO4) Master the basic concepts and procedures of Biology and integrated laboratory processing using logical, critical, systematic, and innovative thinking to develop innovative and creative biology learning based on ICT and the potential of local wisdom

Course learning outcomes	• Understanding microbial growth in food. • Understanding the role of microbes in food spoilage. • Understanding the principles of food preservation. • Understanding how to test food quality • Mastering the techniques and procedures for the use of microbes in the food fermentation process	
Content	This course covers the following main topics: • Microbial growth in food. • The role of microbes in food breakdown. • The principles of food preservation. • How to test food quality • Techniques and procedures for utilizing microbes in the food fermentation process	
Learning activity	Week 1	Theory: Introduction to food microbiology, microbial growth in food and food spoilage
	Week 2	Theory: Damage to meat, dairy and eggs-PBL
	Week 3	Theory: Damage to meat, dairy and eggs
	Week 4	Theory: Preservation of food with the addition of sugar and salt, preservation of food by alcoholic fermentation, preservation of food by non-alcoholic fermentation
	Week 5	Theory: Food quality test and organoleptic test conditions
	Week 6	FINAL EXAMINATION (THEORIES)
	Week 7	Lab Practice: Making PCA medium
	Week 8	Lab Practice: Microbiological quality test of canned food
	Week 9	Lab Practice: Microbiological quality test of vegetables
	Week 10	Lab Practice: Utilization of microbes in Nata fermentation technology from various fruits
	Week 11	MIDTERM EXAMINATION (LAB PRACTICE)
	Week 12	Lab Practice: Nata de Coco processing and yogurt making
	Week 13	Lab Practice: Tapai and Brem manufacture
	Week 14	Lab Practice: The effect of adding preservatives on the shelf life of sweets
	Week 15	Lab Practice: Making soybean tempeh with a variety of spices
	Week 16	FINAL EXAMINATION (LAB PRACTICE)
Study and examination requirements and forms of examination	PBL: 10% PjBL: 50% Midterm test practice: 10% Final test practice: 10% Final test theory: 10% Makalah: 5% Presentasi : 5%	

Media employed	LCD, Whiteboard, Sipejar, WA group.
Reading list	1. Buckle K.A., 1987. <i>Ilmu Pangan</i>. Jakarta : UI Press 2. Direktorat GIZI – DEPKES RI. Tanpa tahun. <i>Susunan Hidangan Sehari-hari 4 Sehat 5 Sempurna</i>. Jakarta : DEPKES RI. 3. Dwidjoseputro, D. 1978. <i>Dasar-dasar Mikrobiologi</i>. Jakarta: Djambatan 4. Fardiaz, Srikandi, .1992. <i>Mikrobiologi Pangan</i>. Jakarta : Gramedia 5. Handayanu , U. 1987.<i>Pengaruh Kadar Gula dan pH Dalam Medium Fermentasi</i> 6. <i>Air Kelapa pada Pembuatan Nata de Coco</i>. Proposal Thesis. FP-UNEJ 7. Suhardijono, L. 1988. <i>Tanaman Kelapa Budidaya dan Pemanfaatannya</i>. Yogyakarta : Penerbit Kanisius. 8. Susanto , Tri, 2002. <i>Ilmu Pangan dan Gizi dan permasalahannya</i>. Malang : Fakultas Pertanian Universitas Brawijaya. 9. Tarigan, J, 1988. <i>Pengantar Mikrobiologi</i>. Jakarta : Depdikbud DIKTI PPLPTK
Date of last amendment made	January, 2022