UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND SCIENCE
DEPARTMENT OF MATHEMATICS EDUCATION
Colombo 1 Street Yogyakarta 55281
Phone: (0274)565411 Ext. 217, (0274)565411(Administration Office),fax
(0274)548203
Website:fmipa.uny.ac.id, E-mail :humas_fmipa@uny.ac.id

Bachelor of Science in Biology

MODULE HANDBOOK

Module name:	Agroforestry
Module level, if applicable:	Undergraduate
Code:	BIM6270
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	Even
Module coordinator:	Dr. Ir. Suhartini, MS
Lecturer(s):	Dr. Ir. Suhartini, MS.
Language:	Indonesian
Classification within the curriculum:	Elective Course
Teaching format / class hours per week during the semester:	100 minutes lectures, 120 minutes structured activities, and 120 minutes individual studyper week
Work load:	Total workload is 91 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week for 16 weeks.
Credit points:	2 SKS (3 ECTS)
Prerequisites course(s):	Ecology and Plant Physiology
Perogram Learning Outcomes:	4. Comprehensively mastering Biology (core biology) to solve problems in the field of Biology (problem-solving) and to underlie the concepts of related sciences
6. Being adaptive, creative, innovative in applying the concepts of Biology and other related fields
9. Being able to work and create jobs/being an entrepreneur in the field of Biology
11. Possessing scientific skills to support the ability to speak in local, national, and international forums
Course Outcomes	After taking this course, the students have ability to:
CO1. Understand the background and development, as well as the scope of Agroforestry
CO2. explain and give examples of strengths and weaknesses of the Agroforestry system from biological, economic, and social aspects.
CO3. describe the classification of Agroforestry systems based on objectives, structure, functions, level of technology input, and management, ecological zones
CO4. Determine criteria and select the type of Agroforestry

	component based on management objectives and site conditions
	CO5. explain the relationship and role of biophysical and climatic factors in agroforestry, as well as the role of trees in increasing productivity and soil conservation.
CO6. Determine the methods and data needed in Agroforestry financial and economic analysis
CO7. Explain social factors and their role in the Agroforestry system
CO8. Describe the Agroforestry system in the highlands
CO9. Describe the Agroforestry system in the wet and dry tropical regions
CO10. Describe the Agroforestry system for livestock and firewood production
CO11. Describe the Agroforestry system in the mangrove and freshwater areas for fish production
CO12. Describe the Agroforestry system for the production of medicinal materials (Treefarma)
CO13. Responsible for planning, implementing and reporting agroforestry utilization activities in the form of scientific articles independently and in groups.
Content:	This course discusses the boundaries, background and development history, goals and role of agroforestry systems, agroforestry system principles in increasing land and forest productivity, agroforestry strengths and weaknesses, classification of agroforestry systems, selection of agroforestry system component types, soil aspects , economic and social agroforestry systems, and the development and application of agroforestry systems in various ecological zones.
Study/examachievements:	The final mark will be weight as follow:

No	CO	Assessment Object	Assessment Technique	Weight
1	CO1 to CO13	Observed attitudes , knolwedge, and skills	Survey, test, rubrics and manuals	100%
			Total	100%

Forms of media:	Real objects, model, multimedia
Reference:	A. Nair, P.K.R. (1993). An Introduction to agroforestry. Netherlands: Kluwer Academic Publishers.
B. The Center for Agroforestry University of Missouri (tt). Handbook for Agroforestry Planning & Design. Missouri: Michael Gold, Mihaela Cernusca & Michelle Hall, Eds.
C. Martin, F & Sherman, S. (1992). *Agroforestry principles*. Revised and updated by Dr. Tim Motis, 2007. ECHO Technical Note.
D. da Fonseca, G.A.B., Harvey, C.A., Claude Gascon, C., Heraldo L. Vasconcelos, H.L., & Izac, A-M. N. (2004) Agroforestry and Biodiversity Conservation in Tropical Landscapes. London: Island Press
E. Kaonga, M.L. Ed. (2012). Agroforestry for Biodiversity and Ecosystem Services – Science and Practice: Croatia: In Tech.
F. Mellink, W., Rao, Y.S., dan McDicken, K.G. (Ed.) (1991). *Agroforestry in asia and the pasific*. Bangkok: RAPA Pubication.
G. Huffaker, C.B. dan Messenger, P.S. (Ed.) (1989). Teori dan praktek pengendalian biologis. Jakarta: UI Press.

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11
CO1				V							
CO2				V							
CO3				V							
CO4				V		V					
CO5				V		V					
CO6				V		V					
CO7				V		V					
CO8				V		V					
CO9				V		V					
CO10				V					V		
CO11				V					V		
C012				V					V		
CO13											V