& LESSON PLANS FIRST SEMESTER 2023/2024



Agricultural Microbiology Major

Department of Agricultural Microbiology

Wood Physics

KGY201921018

Team teaching: 변희섭(Hee Seop Byeon) Tim MBKM Departemen Mikrobiologi Pertanian

> UNIVERSITAS GADJAH MADA FACULTY OF AGRICULTURE 2023



Universitas Gadjah Mada

Faculty of Agriculture
Department of Agricultural Microbiology
Second Semester of 2023/2024

Code document:

	Second Semes						
		SEMESTER COU	RSE OUTLINE & LES	SON PLANS			
Course code	Course name	Credits	Semester	course status	Prerequisite courses		
KGY20192101 8	Wood Physics	T: 2 P: 0	First semester	Elective course MBKM	None		
Course overview	physical prope Throughout th mechanical be course is taken	on Wood Physics is designed to provide a comprehensive understanding of the perties, behavior, and utilization of wood as a fundamental engineering material. this course, participants will explore the intrinsic characteristics of wood, its behavior, environmental interactions, and its role as a sustainable resource. This en by students who are participating in an exchange program at Gyeongsang eversity, following the syllabus predetermined by the local university.					
Program Learning Outcome	PLO 1	giving attention		s regarding plant produc ocial-humanitarian aspec ire. (K1)			
(PLO)	PLO 2	technology of ir expertise with i	Able to apply logical, critical, systematic, and innovative thinking by utilizing the technology of information to produce solutions according to the field of expertise with integrity and embodied in scientific documents. [G1]				
	PLO 3	implementation	design, implement of agricultural busi tudents are expecte		t arise in the		
Course Learning Outcomes	CLO 1		·	haracteristics [PLO 1] 🛭 K	72		
(CLO)	CLO 2	Students have t	he ability to identify	wood Behavior and pro	perties [PLO 2] 🛮 G1		
	CLO 3	Students can carry out application of wood properties [PLO 3] 🛮 S1					
Correlation among CLO, the material,		Course method Alokasi Waktu Course material (Offline/online) Estimated Learning time					
learning method and estimated time	CLO 1	General Characteristics of wood Offline Learning 2 x 50 mir of synchron lecture					
	CLO 1	Specific gravit wood	y and density of	Offline Learning	2 x 50 minutes of		

			aun ala na na ua
			synchronous lectures
	Moisture existence conditions of	Offline Learning	2 x 50 minutes
CLO 1	wood	_	of
			synchronous
			lectures
	Hygroscopic property of wood	Offline Learning	2 x 50 minutes
CLO 2			of
(102			synchronous lectures
	Moisture movement in wood	Offline Learning	2 x 50 minutes
	1120100000 1110 (01110110 111) (0000	Ommie zearning	of
CLO 2			synchronous
			lectures
	Shrinking and swelling of wood	Offline Learning	2 x 50 minutes
			of
CLO 2			synchronous
			lectures
	Shrinking and swelling of wood	Offline Learning	2 x 50 minutes
			of
CLO 2			synchronous
		. 1. /	lectures
	Mid exam/project assignment re		2 50
	Thermal properties of wood	Offline Learning	2 x 50 minutes of
CLO 2			synchronous
C10 2			lectures
	Thermal properties of wood	Offline Learning	2 x 50 minutes
	^ ^	Ü	of
CLO 2			synchronous
			lectures
	Electrical property of wood	Offline Learning	2 x 50 minutes
CIO 3			of
CLO 3			synchronous lectures
	Electrical property of wood	Offline Learning	2 x 50 minutes
	2.55 and property of wood	Offinite Learning	of
CLO 3			synchronous
			lectures
	Acoustic property of wood	Offline Learning	2 x 50 minutes
			of
CLO 3			synchronous
			lectures

		Acoustic	property of wood		offline Learnin	ng	2 x 50 minutes
			1 1 7				of
	CLO 3						synchronous
							lectures
	CLO 3	Light pro	perty of wood	0	offline Learnin	ıg	2 x 50 minutes
							of
							synchronous
							lectures
	CLO 3	Sensory of	characteristic of wood	0	offline Learnin	ıg	2 x 50 minutes
							of
							synchronous
		Final ava	m/nucicat assignment r	vacult/casa	analysis ros	.14	lectures
	CCL Court have		m/project assignment r	esuit/case	analysis resu	ш	
Loorning	SCL: Case bas	ea ana Proj	iect Based Learning				
Learning method							
metriod	Student excha	ange					
Student	Stauciii exciii	unge					
learning							
experience							
	(Offline 100%))					
Learning							
Media							
and Course							
Method							
Percentage							
	Evaluation	n hasis	Evaluation	Bobot	CLO 1	CLO 2	CLO 3
Methods of	Lvaidatio		componen		010 1	020 2	020 3
assessment in	A. Participate	ory	Individual				
accordance	Activity	•	assignment	20%			V
with course				•			•
learning	B. Project res	sult/case	lab clatem, punctice	200/			
outcome with	study resu	lt	labolatory practice	30%		V	
course				, ,			
learning	C. Cognitive		Mid Exam	25%		V	
outcome	C. Cogmure		Final Exam	25%	V		
			Total	100%			
References	Main referen	ces:					
	1. Byeor	n, HS., & o	thers. (Year of Publicatio	n). <i>Wood F</i>	Physics & Med	chanics. F	Iyang MunSa.
			ear of Publication). Fore	st Products	s and Wood S	cience. Ic	wa State
		rsity Press.					
	3. Fushi	tani, M., & o	others. (Year of Publicati	on). 목재 들	물리. 文 數출 [:]	반.	

Team Teaching	1. 변희섭(Hee Seop Byeon) 2. Tim MBKM Departemen Mikrobiologi Pertanian							
Authorisation	Authorisatio n datr	Course coordinator '						
	August 14 th 2023	August 14 th 변희섭(Hee Seop Byeon) Signature and name Ir. Ngadiman, M.Si.						

수업 계획서

1. 강좌 및 담당교수

교과목명		목재물리학	학수번호	11001636 수강반 001		001	
외국어강의	l구분	영어	강의시간	수(1,2)	강의실	[456-0302]	
	소속	환경재료과학과	수업방법				
담당교수	성명	변희섭	연구실	456-320, 환경재료학연구실 (055-772-1861)		5-772-1861)	
	전화번호	0557721861	E-mail	hsbyeon@gnu.ac.kr			

2. 교재 및 참고서적

구분	저자	도서명	출판사	비고
주교재	Hee-Seop Byeon and others	Wood Physics & Mechanics	Hyang MunSa	
참고서적	John G. Haygreen	Forest Products and Wood science	Iowa state University Press	
참고서적	Fushitani masami 외 8 인	목재물리	文數출판(일본)	

3. 과제

과제	과제명	참고사항
과제	Occasional demands	

4. 평가방법

평가방법	중간고사	기말고사	출석	수시고사	과제물	기타	계
배점비율	40	40	10	0	10	0	100

5. 주별 강의계획

주차	강의내용	강의방법	활용기자재	비고(상세 수업방법)
1주차	General Characteristics of wood	대면		
2주차	Specific gravity and density of wood	대면		
3주차	Moisture existence conditions of wood	대면		
4주차	Hygroscopic property of wood	대면		

5주차	Moisture movement in wood	대면	
6주차	Shrinking and swelling of wood	대면	
7 주차	Shrinking and swelling of wood	대면	
8주차	Thermal properties of wood	대면(중간 고사)	
9주차	Thermal properties of wood	대면	
10주차	Electrical property of wood	대면	
11주차	Electrical property of wood	대면	
12주차	Acoustic property of wood	대면	
13주차	Acoustic property of wood	대면	
14주차	Light property of wood	대면	
15주차	Sensory characteristic of wood	대면(기말 고사)	

과제 요약:

날짜 세부 정보