

**SEMESTER COURSE OUTLINE
& 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:

SEMESTER COURSE OUTLINE & LESSON PLANS

Course code	Course name	Credits		Semester	course status	Prerequisite courses
KGY201921018	Wood Physics	T: 2	P: 0	First semester	Elective course MBKM	None
Course overview	The course on Wood Physics is designed to provide a comprehensive understanding of the physical properties, behavior, and utilization of wood as a fundamental engineering material. Throughout this course, participants will explore the intrinsic characteristics of wood, its mechanical behavior, environmental interactions, and its role as a sustainable resource. This course is taken by students who are participating in an exchange program at Gyeongsang National University, following the syllabus predetermined by the local university.					
Program Learning Outcome (PLO)	PLO 1	Able to explain theoretical concepts regarding plant production technology by giving attention to economic and social-humanitarian aspects to achieve quality, sustainable and profitable agriculture. (K1)				
	PLO 2	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	Able to identify, design, implement, and solve problems that arise in the implementation of agricultural businesses. [S1]				
Course Learning Outcomes (CLO)	After completing this course, students are expected to able:					
	CLO 1	Students can explain about wood characteristics [PLO 1] □ K2				
	CLO 2	Students have the ability to identify wood Behavior and properties [PLO 2] □ G1				
	CLO 3	Students can carry out application of wood properties [PLO 3] □ S1				
Correlation among CLO, the material, learning method and estimated time		Course material			Course method (Offline/online) Learning	Alokasi Waktu Estimated time
	CLO 1	General Characteristics of wood			Offline Learning	2 x 50 minutes of synchronous lectures
	CLO 1	Specific gravity and density of wood			Offline Learning	2 x 50 minutes of

				<i>synchronous lectures</i>
	CLO 1	Moisture existence conditions of wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>
	CLO 2	Hygroscopic property of wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>
	CLO 2	Moisture movement in wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>
	CLO 2	Shrinking and swelling of wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>
	CLO 2	Shrinking and swelling of wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>
	Mid exam/project assignment result/case analysis result			
	CLO 2	Thermal properties of wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>
	CLO 2	Thermal properties of wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>
	CLO 3	Electrical property of wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>
	CLO 3	Electrical property of wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>
	CLO 3	Acoustic property of wood	Offline Learning	<i>2 x 50 minutes of synchronous lectures</i>

	CLO 3	Acoustic property of wood	Offline Learning			2 x 50 minutes of synchronous lectures	
	CLO 3	Light property of wood	Offline Learning			2 x 50 minutes of synchronous lectures	
	CLO 3	Sensory characteristic of wood	Offline Learning			2 x 50 minutes of synchronous lectures	
	Final exam/project assignment result/case analysis result						
Learning method	SCL: Case based and Project Based Learning						
Student learning experience	Student exchange						
Learning Media and Course Method Percentage	(Offline 100%)						
Methods of assessment in accordance with course learning outcome with course learning outcome	Evaluation basis	Evaluation componen	Bobot	CLO 1	CLO 2	CLO 3	
	A. Participatory Activity	Individual assignment	20%			v	
	B. Project result/case study result	labolatory practice	30%		v		
	C. Cognitive	Mid Exam	25%		v		
		Final Exam	25%	v			
		Total	100%				
References	Main references: 1. Byeon, H.-S., & others. (Year of Publication). Wood Physics & Mechanics. Hyang MunSa. 2. Haygreen, J. G. (Year of Publication). Forest Products and Wood Science. Iowa State University Press. 3. Fushitani, M., & others. (Year of Publication). 목재물리. 文數출판.						

Team Teaching	1. 변희섭(Hee Seop Byeon) 2. Tim MBKM Departemen Mikrobiologi Pertanian			
Authorisation	Authorisation date	Course coordinator	Expertise cooperator (If any)	Head of study program
	August 14 th 2023	변희섭(Hee Seop Byeon)	Signature and name	Ir. Ngadiman, M.Si. Ph.D.

수업 계획서

1. 강좌 및 담당교수

교과목명	목재물리학	학수번호	11001636	수강반	001
외국어강의구분	영어	강의시간	수(1,2)	강의실	[456-0302]
담당교수	소속	환경재료과학과	수업방법		
	성명	변희섭	연구실	456-320, 환경재료학연구실(055-772-1861)	
	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 8인	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		
7주차	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