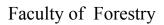


Course Module

Characteristics of Wood as Construction Material



Mulawarman University

Module name	Characteristics of Wood as Construction Material		
Modul level, if applicable	Doctoral		
Code, if applicable	190401903P017		
Subtitle, if applicable			
Courses, if applicable	Regular		
Semester(s) in which the module is taught	The course is available in all active teaching semesters		
Person responsible for the module	Prof. Dr. Ir. Agus Sulistyo Budi		
Lecturer	Prof. Dr. Ir. Agus Sulistyo Budi		
	Dr. Ir. Isna Yuniar Wardhani, M.P.		
Language	Indonesia, English		
Relation to curriculum			
Type of teaching, contact hours			
Workload	Number of meetings per semester 16 meetings (14 meetings for learning activity, 1 meeting for mid-semester, 1 meeting for final examination)		
	For this course, students are required to meet a minimum of 119 hours per semester, which consist of :		
	- 35 hours for lecture		
	- 42 hours for structured assignments		
	- 42 hours for individual study		
Credit points	3 SKS / 4.8 ECTS		
erean pomo	Details: 1 Credit = 170 min / week		

	1 Credit = 170 min x 14 week = 2380 min / semester			
	1 Credit = 39.7 h / semester			
	1 ECTS = 25 h/ Semester			
	1 Credit = 1.59 » 1.6			
	3 Credit = 1.6 x 3 = 4.8 ECTS			
Requirements according to				
the examination regulations				
Recommended prerequisites				
Module objectives/intended learning outcomes	Intended Learning Outcome (ILO) Attitude 1. CPL1/ILO1 (S1) - Internalize values, norms, and ethics Knowledge 2. CPL2/ILO2 (P1) - Synthesize knowledge acquired from research findings with novelty and its implementation 3. CPL3/ILO3 (P2) - Discover and develop scientific conceptions with novelty value, and develop scientific arguments as scientific solutions Specialized Skills 4. CPL6/ILO6 (GS3) - Manage data and information to support decision-making processes			
	 Course Learning Outcome (CLO) CLO 1: Students are able to correlate the properties of wood with the requirements for wooden construction materials. CLO 2: Students are able to develop engineered materials based on the properties of wood. CLO 3: Students are able to manage data on wood to develop engineered wood products as construction materials. 			
Content	This course provides students with a comprehensive understanding of wood structure, properties, and applications in construction. Students will explore wood formation at the molecular level, analyze its strength and essential characteristics as a construction material, and assess the differences in reaction wood properties. The course covers wood treatments, engineered wood products, and their suitability for structural applications, as well as the compatibility of joints and fastening tools with various wood types. The complete topic of each meeting is mentioned below: 1. Students are able to analyze the formation of wood structure in trees 1 st -2 nd sessions) → CLO1. 2. Students are able to correlate the molecular structure of wood with its strength properties (3 rd -4 th sessions) → CLO1. 3. Students are able to analyze the essential properties of wood as a construction material (5 th -6 th sessions) → CLO1 4. Students are able to analyze the properties of reaction wood (7 th -8 th sessions) → CLO1.			

	6. Stude structure construction faste CLG	chooses (9 th session) \rightarrow Clents are able to analyze ctural materials (10 th sessions are able to relate structions (11 th -13 th sessions are able to synthesize and the synthesize structions with difference cools are able to synthesize the synthesize and the synthesize cools with difference cools.	e the properties of enginession) \rightarrow CLO2 . the types of wood to v	neered wood for arious kinds of of joints and 6th sessions) →	
Study and examination requirements and forms of examination	No.	Objects of Assessment	Forms of Assessment	Quantity (%)	
	1	Affective	Participation	10	
	2	Practicum	Participation, Group Project Report	20	
	3	Assignment/Case Study	Group Presentation	15	
	4	Project	Report	15	
	5	Mid-semester test	Written test	15	
	6	Final semester test	Written test	25	
		TOTAL			
Media employed	Class, Ms. Powerpoint, Ms. Word, Computer, LCD, STAR				
Reading list	 Shmulsky, R and P.D. Jones. 2019. Forest Products and Wood Science An Introduction. Seventh edition. John Wiley & Sons Ltd. UK Schweingruber, F.H. 2007. Wood Structure and Environment. Springer-Verlag Berlin Heidelberg. Kollmann, F.F.P and W.A. Cote. 1984. Principles and Wood Science Technology: I. Solid Wood. Springer –Verlag. New York Wood handbook—Wood as an engineering material. 2010. Madison, U.S. Department of Agriculture, Forest Service, Forest Products Laboratory Zwerger, K. 2011. Wood and Wood Joints . Birkhäuser GmbH, Basel, Switzerland Handbook 1: Timber Structures. 2008. Leonardo da Vinci Pilot Project Kollmann, F.F.P., E.W. Kuenzi and A.J. Stamm. 1975. Principles and Wood Science Technology: II. Wood Based Materials. Springer –Verlag. Berlin – Heidelberg. 				

8.	BSN, 2013. SNI 7973, Spesifikasi desain konstruksi kayu.
9.	Various other related scientific articles on the Characteristics of
	Wood as Construction Material