



UNIVERSITI TEKNOLOGI MARA

WTE255: PARTICLEBOARD TECHNOLOGY

Course Name (English)	PARTICLEBOARD TECHNOLOGY APPROVED
Course Code	WTE255
MQF Credit	2
Course Description	This course will interactively engage students cognitively and scientifically in areas of lignocellulosic particle composites. Students will define concepts, state and explain definitions, describe the various manufacturing processes use in the production of lignocellulosic particle composites, list and name their properties and uses.
Transferable Skills	Students will be able to apply all the theory of particleboard in real particleboard industry.
Teaching Methodologies	Lectures, Blended Learning, Discussion, Presentation
CLO	CLO1 Apply the concepts use in the manufacturing of lignocellulosic composite products CLO2 Describe and distinguish the different properties and uses of lignocellulosic composite products CLO3 Explain the knowledge and understanding of theories of lignocellulosic composite products
Pre-Requisite Courses	No course recommendations
Topics	
1. 1. Introduction 1.1) 1.1 Definition 1.2) 1.2 Malaysian lignocellulosic particle composite industries 1.3) 1.3 Adhesives use in lignocellulosic particle composites	
2. 2. Plywood and LVL Technology 2.1) 2.1 Introduction 2.2) 2.2 Raw materials 2.3) 2.3 Manufacturing process 2.4) 2.4 Properties and uses	
3. 3. Particleboard Technology 3.1) 3.1 Introduction 3.2) 3.2 Raw materials 3.3) 3.3 Manufacturing process 3.4) 3.4 Properties and uses	
4. 4. Wood Cementboard Technology 4.1) 4.1 Introduction 4.2) 4.2 Raw materials 4.3) 4.3 Manufacturing process 4.4) 4.4 Properties and uses	
5. 5. Oriented strand board (OSB) Technology 5.1) 5.1 Introduction 5.2) 5.2 Raw materials 5.3) 5.3 Manufacturing process 5.4) 5.4 Properties and uses	

6. 6. Glulam Technology

- 6.1) 6.1 Introduction
- 6.2) 6.2 Fingerjointing Technology
- 6.3) 6.3 Raw materials
- 6.4) 6.4 Manufacturing process
- 6.5) 6.5 Properties and uses

7. 7. Structural Sandwich Panel

- 7.1) 7.1 Introduction
- 7.2) 7.2 Raw materials
- 7.3) 7.3 Manufacturing process
- 7.4) 7.4 Properties and uses

Assessment Breakdown		%	
Continuous Assessment		100.00%	

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Group Project	Group	20%	CLO2
	Online Quiz	Individual	20%	CLO3
	Test	Test 2	15%	CLO1
	Test	Test 1	15%	CLO1
	Written Report	Individual	30%	CLO3

Reading List	Reference Book Resources
	<ul style="list-style-type: none"> • A. A. Moslemi, <i>Particleboard: Materials</i> [ISBN: 0809306557] • Terry Sellers 1985, <i>Plywood and Adhesive Technology</i>, CRC Press [ISBN: 0-824774078] • 2011, <i>Modern Technology of Wood, Veneer, Plywood, Particle, Board, Fibreboard, Bamboo & Forest Products</i>, India • L.E.Akers 2013, <i>Particle Board and Hardboard</i>, Pergamon press

Article/Paper List	Other References
This Course does not have any article/paper resources	<ul style="list-style-type: none"> • n/a 1999 <i>Wood Handbook</i>, USDA • n/a <i>Particleboard and Dry Process Fiberboard Manufacturing</i> , 2nd Edition, Thomas Maloney • n/a Richard F. Bald <i>Plywood Manufacturing Practices</i> • n/a Jamaludin Kasim 2006, <i>Mechanical and Physical Properties of Particleboard and Thermoplastic Composite from Bamboo</i>