



UNIVERSITI TEKNOLOGI MARA

BCT401: INTRODUCTION TO BIO-COMPOSITE

Course Name (English)	INTRODUCTION TO BIO-COMPOSITE APPROVED
Course Code	BCT401
MQF Credit	2
Course Description	This course will expose students to the various Bio-composite materials used in the industry. The Bio-composite classes will emphasis on the manufacturing process, application, characteristics and properties of the Bio-composite materials. It is such as basic knowledge that Bio-composite's student must have
Transferable Skills	Identification of bio-composite products in terms of manufacturing process, characteristics and properties
Teaching Methodologies	Lectures, Presentation
CLO	<p>CLO1 Outline and identify the various types of Bio-Composite industry and the products. (LO1)</p> <p>CLO2 Explain and differentiate the manufacturing process, characteristics and properties, and the applications of various types of Bio-Composite products. (LO1)</p> <p>CLO3 Discuss within groups and deliver a presentation on the applications of various types of Bio-Composite products based on their characteristics and properties. (LO4 & LO5)</p>
Pre-Requisite Courses	No course recommendations
Topics	
1. Introduction 1.1) 1.1 What is Bio-Composite? 1.2) 1.2 Bio-Composite Industry in General 1.3) 1.3 Types of Bio-Composite Products	
2. Plywood 2.1) 2.1 Manufacturing of Plywood 2.2) 2.2 Characteristics and Properties 2.3) 2.3 Application of Plywood	
3. Particle Board 3.1) 3.1 Type of Particle Board: OSB, WB, and CB 3.2) 3.2 Manufacturing of Particle Board 3.3) 3.3 Characteristics and Properties 3.4) 3.4 Application of Particle Board	
4. Fibre Board 4.1) 4.1 Type of Fibre Board: LDF, MDF, and HDF 4.2) 4.2 Manufacturing of Fibre Board 4.3) 4.3 Characteristics and Properties 4.4) 4.4 Application of Fibre Board	
5. Laminated Veneer Lumber (LVL) 5.1) 5.1 Manufacturing of Laminated Veneer Lumber 5.2) 5.2 Characteristic and Properties 5.3) 5.3 Application of Laminated Veneer Lumber	
6. Pulp and Paper 6.1) 6.1 Type of Pulp and Paper 6.2) 6.2 Manufacturing of Pulp and Paper 6.3) 6.3 Characteristics and Properties 6.4) 6.4 Application of Pulp and Paper	

7. Cement Bonded Wood Particle Board and Cement Bondede Wood Fibre Board

- 7.1) 7.1 Manufacturing
- 7.2) 7.2 Characteristics and Properties
- 7.3) 7.3 Application of Cement Board

8. Wood Polymer Composite

- 8.1) 8.1 Type of Wood Polymer Composite
- 8.2) 8.2 Manufacturing of Wood Polymer Composites
- 8.3) 8.3 Characteristics and Properties
- 8.4) 8.4 Applications of wood Polymer Composites

9. Natural Fibre Composite

- 9.1) 9.1 Type of Natural Fibre Composite
- 9.2) 9.2 Manufacturing of Natural Fibre Composites
- 9.3) 9.3 Characteristics and Properties
- 9.4) 9.4 Application of Natural Fibre Composites

10. Adhesive and Coating Technology

- 10.1) 10.1 Type of Adhesive
- 10.2) 10.2 Characteristics and Properties
- 10.3) 10.3 Application of Adhesive and Coating

Assessment Breakdown	%
Continuous Assessment	50.00%
Final Assessment	50.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	n/a	10%	CLO3
	Quiz	Quiz 1	5%	CLO1
	Quiz	Quiz 2	5%	CLO2
	Test	Test 1	15%	CLO1
	Test	Test 2	15%	CLO2

Reading List	Recommended Text	<ul style="list-style-type: none"> • Haygreen, J.G. and Bowyer, J.L, <i>Wood Science and Forest Products</i> • Kollman, F.F.P. and Cote, W.A., Jr., <i>Principles of Wood Science and Technology Vol. 1 – Solid Wood.</i>
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	