

Summary Information

Module Code	4503ICBTQS
Formal Module Title	Material Science in Engineering
Owning School	Civil Engineering and Built Environment
Career	Undergraduate
Credits	15
Academic level	FHEQ Level 4
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
International College of Business and Technology

Learning Methods

Learning Method Type	Hours
Lecture	45
Practical	6
Tutorial	15

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
APR-PAR	PAR	April	12 Weeks

JAN-PAR	PAR	January	12 Weeks
SEP_NS-PAR	PAR	September (Non-standard start date)	12 Weeks

Aims and Outcomes

Aims	Aim(s) of the module is to introduce various building & civil engineering materials and to demonstrate understanding of science of building & civil engineering materials & integrity of structural elements. This module focuses on a wide range & forms of buildings & civil engineering structures.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Identify & understand the usage of wide range of materials in various types & forms of buildings & civil engineering structures & integration of elements.
MLO2	2	Analyse the behaviour, properties & science of wide range of materials in various types & forms of buildings & civil engineering structures & integration of structural elements.
MLO3	3	Demonstrate the behaviour, properties & science of wide range of materials in various types & forms of buildings & civil engineering structures for effective.
MLO4	4	Identify specifications & standards of materials testing for building & civil engineering works, structural designing and integration of various type of buildings & civil engineering structures and examine various quality problems & complexities of material selection and alternative materials for building & civil engineering structures.

Module Content

Outline Syllabus	Note: Tutor must address below indicative content applies to various forms of building construction, structural forms of civil engineering & service engineering; Introduction to Form of civil engineering materials used in engineering construction: Sand, cement, steel, rubble, brick, block, soil, plastic, PVC Engineering & Index properties construction materials: Sand, cement, concrete, steel, rubble, brick, block, soil, plastic, PVC Calculations associated with material's behaviour: Sand, cement, concrete, steel, rubble, brick, block, soil, plastic, PVC Experimental method, data collection and data analysis of materials testing's: Concrete (Cube & Slump) and Soil testing's (PSD, Liquid limit, permeability, CBR, Density and plastic limit) Material wastage Waste material management Material double handling Dangerous & harmful materials Eco-friendly material selection & cost effective alternative materials
Module Overview	
Additional Information	

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Report	Coursework	30	0	MLO3
Exam	Examination	70	2	MLO1, MLO2, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Karl Jones	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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