

Summary Information

Module Code	7160CIVPG
Formal Module Title	Advanced Materials
Owning School	Civil Engineering and Built Environment
Career	Postgraduate Taught
Credits	10
Academic level	FHEQ Level 7
Grading Schema	50

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
David Yeboah	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
Abhijit Ganguli	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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Teaching Responsibility

LJMU Schools involved in Delivery
Civil Engineering and Built Environment

Learning Methods

Learning Method Type	Hours
Lecture	11
Seminar	11
Tutorial	11

Module Offering(s)

Offering Code	Location	Start Month	Duration
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	To further develop the student's understanding of the behaviour of Civil Engineering Materials under a wide range of service conditions. To develop the student's ability to evaluate new developments in Materials Technology and to compare critically the choice of materials for specific applications.
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Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Critically analyse the materials requirements for specific structural and non-structural applications.
MLO2	Critically analyse current developments in materials technology.
MLO3	Analyse the behaviour of materials under fire conditions.
MLO4	Critically evaluate recent developments in Materials Technology.

Module Content

Outline Syllabus
The relationships between materials properties and environment leading to durability criteria. Design for durability, life cycle planning and maintenance. Production and properties of advanced materials including composite materials. Assessment of novel structural materials. Fire: combustion and spread of fire, behaviour and deterioration of structural materials in fire conditions.

Module Overview

Additional Information

This module develops techniques for evaluating and understanding the behaviour of engineering materials under various service conditions including exposure and loading regimes. On completion of the module students should be able to make intelligent decisions with regard to choice of materials for Civil Engineering applications. Also they will have an understanding of the performance of a range of materials commonly used in the design of structures and an appreciation of new developments in the industry.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Centralised Exam	Examination	100	3	MLO4, MLO1, MLO3, MLO2