

Module Information

2022.01, Approved

Summary Information

Module Code	4502ICBTCE
Formal Module Title	Civil Engineering Construction Technology
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	39
Off Site	8
Seminar	6
Tutorial	6

Module Offering(s)

Display Name	Location	Start Month	Duration Number	Duration Unit
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APR-PAR	PAR	April	12 Weeks
JAN-PAR	PAR	January	12 Weeks
SEP-PAR	PAR	September	12 Weeks

Aims and Outcomes

Aims	This unit enables learners to develop an understanding of the methods and techniques used to create civil engineering structures, and to develop the skills needed to solve problems associated with civil engineering activities. Learners will also develop an understanding of successful integration of building services engineering applications into complex 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 the methods and techniques used in earthwork activities.
MLO2	2	Assess bearing capacity (allowable bearing capacity), settlement calculation, foundations in different soil types.
MLO3	3	Apply the methods and techniques used to create substructures and superstructures.
MLO4	4	Demonstrate the implications for integrating building services into civil engineering structures.

Module Content

Outline Syllabus	Construction methods sequences and resources used in civil engineering, building and building services activities; site layouts, traffic and waste management planning. Earthworks activities methods sequences and resources used in civil engineering: Construction methods used earthworks, piling, drainage works, ground stabilization, false work and formwork. Shallow foundations: foundation types, bearing capacity (allowable bearing capacity), settlement calculation, foundations in different soil types, Terzaghi's & Meyerhof Analysis. Deep foundations: pile types, single pile, pile groups, settlement calculation. Substructures: foundations, piling works, drainage works, culverts, underpasses, provision of utilities and service ducts. Superstructures: bridges, industrial and commercial buildings, large span open plan structures. Construction methods: reinforced concrete, formwork and false work, structural steelwork. Latest Technologies used in Super structure sub structure construction. Factors affecting human comfort: thermal comfort (air temperature, mean radiant temperature, air velocity, relative humidity). Lighting comfort (natural light, artificial light, minimum levels of illumination, glare). Acoustic comfort (sound transmission, sound absorption, sound insulation, reverberation). Building services: cold/hot water supply and distribution, drainage and water removal, electricity supply and distribution, safe and effective disposal of waste products, refrigeration and air conditioning, escalators, passenger lifts, goods lifts. Design and use of civil engineering structures: physical size, shape and weight of equipment, structural considerations to accept services, e.g. lift shafts, service ducts, fire breaks, expansion and contraction, vibration from machinery and plant/equipment, structural integrity and discontinuity.
Module Overview	
Additional Information	

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Essay	Essay	30	0	MLO1, MLO2, MLO3, MLO4
Exam	Written Examination	70	3	MLO1, MLO2, MLO3, 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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