Liverpool John Moores University

Title:	ADVANCED CONSTRUCTION TECHNOLOGY
Status:	Definitive
Code:	**5502ICBTCE** (126969)
Version Start Date:	01-08-2021
Owning School/Faculty:	Civil Engineering and Built Environment
Teaching School/Faculty:	ICBT, Colombo

Team	Leader
Alison Cotgrave	Y

Academic Level:	FHEQ5	**Credit Value:**	15	**Total Delivered Hours:**	55
Total Learning Hours:	150	**Private Study:**	95		

Delivery Options
Course typically offered: Semester 1 and Summer

Component	Contact Hours
Lecture	39
Off Site	8
Tutorial	6

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Coursework – 1500 words	30	
Exam	AS2	Written Examination	70	2

Aims

This unit enables learners to understand the methods and techniques used for specialised civil engineering projects and develop skills in solving problems arising from construction and civil engineering activities.

Learning Outcomes

After completing the module the student should be able to:

1 Recognise the methods and techniques used in tunnelling activities.
2 Recognise the methods and techniques used in hydraulic structures and marine works.
3 Recognise the methods and techniques used in highway construction and railway works.
4 Solve problems arising from complex civil engineering activities.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Coursework	3	4
Exam	1	2

Outline Syllabus

Tunneling activities: ground conditions, e.g. hard rock, soft ground. Ground support, cut and cover tunnelling, pipe jacking, mini-tunneling, construction of shafts

Constructing hydraulic structures: materials used, e.g. earth, rock fill, and concrete. Ancillary works. Canal and river works.

Constructing marine works: cofferdams, caissons, sea walls, harbour works, coastal protection activities.

Constructing and maintaining carriageway works: rigid pavements, flexible pavements, railway works (provision of new track and ancillary structures).

Factors affecting solutions to civil engineering problems: proper regard to health, safety and welfare. Environmental issues, quality matters, technical and economic considerations, importance of resource planning and programming, contingency plans, amendments as necessary.

Learning Activities

Students will be supported in their learning, to achieve the above learning outcomes, in the following ways:

By a series of lectures and tutorials and through participation within practical sessions for problem solving.

Self-managed investigative study to analyse cases related to the industry.

In-class participation and case studies are key features of this module.

A recommended resource list - indicating key reading, internet support and physical learning assistance, is provided to help enable students to undertake self-directed study.

Notes

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