

MODULE CODE: M4X01858
TITLE: Civil Engineering Technology 1
DATED: 24/09/2018

LEVEL: 4
CREDITS: 20

JACS CODE: K210
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AIM(S)

"To introduce learners to the methods and techniques used to create civil engineering structures"

"To develop an understanding of the technical requirements for substructures and superstructures"

"To gain an understanding of hazards related to construction and civil engineering activities and consider the required health, safety and welfare legislation"

LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to demonstrate the ability to:

1. Identify methods and resources used in earthworks and substructure activities.
2. Describe the methods and resources used in the construction of superstructures.

INDICATIVE CONTENT

- Provide an overview of the types of earthmoving equipment and of its efficient and economical usage.
- Describe appropriate methods and resources to ensure safe and productive operations particularly in deep excavations, trenching and at height.
- Provide an overview of the types of plant and equipment used in substructure and drainage activities.
- Describe techniques of installing piling systems and ground stabilization activities.
- Detail methods and processes of constructing foundations including a description of resources used.
- Describe methods and resources used in processes when undertaking drainage works including culverts as well as installing services.
- Provide an overview of the types of plant and equipment used in the construction of superstructures.
- Describe appropriate methods and resources used in undertaking the main forms of structural activities including the use of concrete in its various forms as well as the use of structural steelwork.

LEARNING AND TEACHING STRATEGY

Whilst lectures will provide an introduction to the various construction activities, the delivery of this module will be enhanced by site visits where possible and videos etc., of site operations. Extracts from technical journals will be included in lectures to provide realistic and relevant case studies.

The allocation of teaching to deliver the module is:

Activity type	Hours	Percentage
Scheduled learning	60	30%
Independent learning	140	70%
Placement learning	0	0%
TOTAL	200	100%

ASSESSMENT

Assessment Component 1 – 50%

Submission of a 1500 word report on an aspect of construction activity selected by the student and agreed by the teaching member of staff. The activity will be directly related to the syllabus and would discuss such matters as rock blasting techniques, types of pile hammers, corporate floor construction, defects in concrete etc. Students are required to give a brief presentation of their findings to their cohort.

Assessment Component 2 – 50% (2 hours)

Students will sit a 2hour written test to assess the knowledge gained of methods and techniques used to create civil engineering structures.

Assessment Summary

Activity type	Percentage
Written	50%
Coursework	50%
Practical	0%
TOTAL	100%

BIBLIOGRAPHY

Essential

Nunnally, S. W. (2010) "*Construction Methods and Management*", 8th Edition, Pearson Prentice Hall

Recommended

Warren, D. R. (1996) "*Civil Engineering Construction*", Macmillan

Background

Harris, F. (1994) "*Modern Construction and Ground Engineering Equipment and Methods*", Longmans

Holmes, R. (1995) "*Introduction to Civil Engineering Construction*", College of Estate Management

Journals

New Civil Engineer
Construction News

Websites

www.icevirtuallibrary.com
www.bre.co.uk
www.ice.org.uk
www.asce.org