UNIVERSITI TEKNOLOGI MARA

BSS502: CONSTRUCTION TECHNOLOGY I

Course Name (English)	CONSTRUCTION TECHNOLOGY I APPROVED
Course Code	BSS502
MQF Credit	3
Course Description	The subject deals with construction and form of high-rise buildings and focuses on more detailed site investigation and properties of soil, soil improvement and use of plants, equipments and machineries. The subject also deals with basement construction, caisson and cofferdam. And also integrates the building industry's current demand for new materials and technology.
Transferable Skills	Students should be able to: 1. identify the properties of soil and its significance to the building foundation, the importance of site investigation, soil improvement and treatment, technique and process of foundation, basement, caisson, cofferdam and types of plant for multi-storey building. 2. identify and interpret on the latest construction techniques that are being practiced in Malaysia through research and communication with professionals involved in these works.
Teaching Methodologies	Lectures, Blended Learning, Field Trip, Presentation
CLO	CLO1 1. identify the properties of soil and its significance to the building foundation, the importance of site investigation, soil improvement and treatment, technique and process of foundation, basement, caisson, cofferdam and types of plant for multi-storey building. CLO2 2. identify and interpret on the latest construction techniques that are being practiced in Malaysia through research and communication with professionals involved in these works.
Pre-Requisite Courses	No course recommendations

Topics
1. Introduction to Construction Technnology 1.1) Basic requirement of a building 1.2) Building processes 1.3) Legislation, selection of site, design 1.4) Construction requirements
2. Site Investigation 2.1) Importance of site investigation 2.2) Stages of site investigation 2.3) Purpose of site investigation 2.4) Site investigation (the process)
3. Soil Mechanics 3.1) Appraisal of earth structure 3.2) Formation of rock, strength, permeability and cohesion 3.3) Soil exploration procedures 3.4) Laboratory and field tests 3.5) Site investigation and sitting of building
4. Soil Investigation 4.1) Importance of soil investigation 4.2) Types of soil investigation 4.3) Soil investigation tests 4.4) Types of soil

5. Soil Investigation 5.1) n/a
6. Ground Water Control / Dewatering 6.1) Types of ground water control 6.2) Types of dewatering 6.3) Importance of ground water control and dewatering
7. Soil Stabilisation 7.1) Purpose of soil stabilisation 7.2) Importance of soil stabilisation 7.3) Chemical soil stabilisation 7.4) Mechanical soil stabilisation
8. Soil Improvement 8.1) Purpose of soil improvement 8.2) Importance of soil improvement 8.3) Types of soil improvement 8.4) Methods and techniques of soil improvement
9. Basement 9.1) Introduction to basement 9.2) Types of basement 9.3) Methods and techniques of basement construction
10. Cofferdam 10.1) Introduction to cofferdam 10.2) Types of cofferdam
11. Caisson 11.1) Introduction to caisson 11.2) Types of caisson 11.3) Advantages of caisson
12. Project Site Visit 12.1) n/a
13. Revision/Test 13.1) n/a
14. Presentation 14.1) n/a
15. Study Week 15.1) n/a
16. Exam 16.1) n/a

Assessment Breakdown	%
Continuous Assessment	30.00%
Final Assessment	70.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	Individual : 10%	10%	CLO1 , CLO2
Assignment	Grouping 20%	20%	CLO1 , CLO2

Reading List

Recommended Text

- **Clyaton, CRI 1994, *Site Investigation: A Handbook for Engineers*, Thomas Telford London**
- **Foster, JS 1994, *Structure & Fabric 1 & 2*, Longman London**
- **Nunnally, S 1994, *Construction Methods and Management*, Prentice Hall New Jersey**
- **R. Chudley & R. Greeno 2001, *Building Construction Handbook*, Fourth Edition Ed., Butterworth - Heinemann Publications United KIngdom**
- **H. Leslie Simmons, RA, CSI 2001, *Construction Principles, Materials and Methods*, John Wiley & Sons, Inc New York**
- **Checo Yit Lin 2001, *Construction Technology for Tall Buildings*, Second Edition Ed., World Scientific Singapore**
- **Ching F. DK 2001, *Building Construction Illustrated*, Third Edition Ed., John Wilely & Sons New York**
- **Guilford & Surrey 1994, *Construction and Building Materials*, Butterworth Scientific United Kingdom**
- **Barry R 2001, *The Construction of Buildings*, Fifth Edition Ed., Blackwell Science**
- **Gervick B..C 1993, *Construction of Prestressed Concrete Structures*, John Wiley & Sons**
- **Eric Fleming 2005, *Construction Technology: An Illustrated Introduction*, Blackwell**
- **William P. Spence 2006, *Construction Methods, Materials, and Techniques*, Second Edition Ed., Thomson**

Article/Paper List: This Course does not have any article/paper resources

Other References: This Course does not have any other resources