



UNIVERSITI TEKNOLOGI MARA

BCT404: INTRODUCTION TO CONSTRUCTION TECHNOLOGY

Course Name (English)	INTRODUCTION TO CONSTRUCTION TECHNOLOGY APPROVED
Course Code	BCT404
MQF Credit	4
Course Description	The general aim of the course is to provide a basic knowledge and understanding on the background of local construction industry scenario, organizations and practiced. The course also covers an introduction to building elements and plant machinery used, theoretical study with emphasis on the methods of executing preliminary works, temporary works, sub-structure and load bearing wall construction.
Transferable Skills	Students are able to develop knowledge, communication and practical skills through studio, assignments and workshop
Teaching Methodologies	Lectures, Lab Work, Studio, Tutorial
CLO	CLO1 Apply the basic theories of executing preliminary works to substructure works in construction technology CLO2 Report verbally and in writing the methods of preliminary works to substructure works in construction technology. CLO3 Display the soil test and bricklaying procedures according to UBBL 1984 Standard and specification applied in construction technology.
Pre-Requisite Courses	No course recommendations
Topics	
1. Overview Of The Construction Industry 1.1) Introduction to Construction Industry, importance and objectives 1.2) Sectors and the major key players involved in construction project 1.3) Stages of works in construction project 1.4) The construction teams 1.5) Contractor's registration, organization, responsibilities and scope of works 1.6) Traders 1.7) Types of Project Implementation	
2. Introduction to Basic Construction Plants, Machineries & Equipments 2.1) Types Of Plant and function 2.2) Types Of Machineries and function 2.3) Tools & Equipment on site	
3. Site Investigation 3.1) Objective Of Site Investigation 3.2) Types Of Site Investigation 3.3) Methods Of Site Investigation 3.4) Element & Factors to be investigate	
4. Soil Technology & Properties 4.1) Definition & Importance of Soil Technology 4.2) Soil Stratum & Formation of Soil 4.3) Classification of Soil 4.4) Types Of Soil 4.5) Groundwater action 4.6) Soil Characteristics which influence building foundation 4.7) Suitability of foundation for different types of soil	

<p>5. Soil Investigation 5.1) Objectives Of Soil Investigation 5.2) Factors in Planning Soil Investigation 5.3) Methods Of Soil Investigation 5.4) Analysis Of Soil Investigation</p>
<p>6. Excavation Works 6.1) Introduction 6.2) Types of excavation works (Oversite, Trench and Pit) 6.3) Ground water control 6.4) Supporting the sides of excavation</p>
<p>7. Temporary Works 7.1) Scaffolding 7.2) Formwork 7.3) Shoring & Shielding 7.4) False work</p>
<p>8. Introduction to Building Structure 8.1) Sub-structure 8.2) Superstructure</p>
<p>9. Foundation 9.1) Introduction 9.2) Function of foundation & Requirement 9.3) Factors to be consider in choosing suitable type of foundation 9.4) Shallow Foundation (Types, condition applied and construction methods) 9.5) Deep Foundation (Types, condition applied and construction methods)</p>
<p>10. Basement 10.1) Types of construction methods 10.2) Factors effect selection of methods 10.3) Typical Basement Construction: retaining wall excavation, dewatering, floor, basement wall & waterproofing.</p>
<p>11. Load Bearing Wall 11.1) Types of Load bearing building (concrete, bricks) 11.2) Methods of construction</p>

Assessment Breakdown		%	
Continuous Assessment		100.00%	

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Lab Exercise	Soil Lab Report	20%	CLO3
	Presentation	Studio work	20%	CLO2
	Test	n/a	40%	CLO1
	Written Report	Studio work	20%	CLO2

Reading List	Reference Book Resources
	<ul style="list-style-type: none"> • Chudley, R., & Greeno, R. 2016, <i>Building Construction Handbook</i>, 11th Edition Ed., New York Routledge London [ISBN: 9781138408807] • Mike Riley, Alison Cotgrave 2013, <i>Construction Technology</i>, 3rd edition Ed., Palgrave Macmillan England [ISBN: 1137030178] • Edward Allen, Joseph Iano 2013, <i>Fundamentals of Building Construction</i>, John Wiley & Sons New Jersey [ISBN: 1118138910] • Francis D. K. Ching 2014, <i>Building Construction Illustrated</i>, 5th Edition Ed., John Wiley & Sons New Jersey [ISBN: 9781118458341] • Murray Grant, Peter F. Pallett 2012, <i>Temporary Works</i>, Inst of Civil Engineers Pub London [ISBN: 0727741772]

Article/Paper List	This Course does not have any article/paper resources
Other References	This Course does not have any other resources