



UNIVERSITI TEKNOLOGI MARA

BSS402: BUILDING CONSTRUCTION AND MATERIALS I

Course Name (English)	BUILDING CONSTRUCTION AND MATERIALS I APPROVED
Course Code	BSS402
MQF Credit	3
Course Description	The subject focuses on low rise buildings and deals with site investigation, building foundations (sub-structure), superstructure, openings roofs, partitions and finishes applied to low rise building. It includes the study of building materials: concrete, timber and glass. The fundamental processes involved in construction use of techniques and of practice onsite are covered. The lecture and tutorial programs will provide a general introduction and development of basic principles of the subject and the coursework will relate case studies to real situations.
Transferable Skills	Understanding on basic requirement for building construction and materials and ability to understand and produce a technical drawing
Teaching Methodologies	Lectures, Studio, Field Trip, Tutorial, Workshop
CLO	CLO1 understand the principles and procedures of building construction and material technology as applied to low rise domestic, commercial and industrial building. CLO2 understand the importance of site investigation: the properties of soil and its significance to type of building foundation, the choice of appropriate superstructure. CLO3 develop an understanding of construction techniques practiced in Malaysia and the professionals involved in the construction industry
Pre-Requisite Courses	No course recommendations
Topics	
1. Site Investigation 1.1) Introduction, types of site investigation; new works, defects, failures, safety and equipment used, methods of site investigations, elements and factors to be investigated	
2. Soil Investigation 2.1) Definition and objectives, extent of investigation, method used; in-situ testing of soil and lab test.	
3. Shallow Foundation 3.1) Types of shallow foundation (strip, pad, raft, shortbored pile, stepped, combined, continuous and balanced)	
4. Superstructure 4.1) Column ; construction method 4.2) Floor; purpose and types, finishes 4.3) Roofs; evaluation of form, development of trussed frames, comparison of construction techniques, types and selection	
5. Partition 5.1) Purpose choice of load bearing and non-load bearing partition with respect to performance requirements	
6. Building Envelope 6.1) Introduction; pre-cast paneling, curtain walling, cladding, method of construction function	
7. Building Materials 7.1) Properties of concrete, timber and glass; manufacture, structure of material. Performance in use, resistance to elements, movement, thermal durability and protective measures	

8. Studio

8.1) Introduction, Technical Drawing Instruments, Lines and Lettering, Sketching and Orthographic Projection, Symbols in Technical Drawings

9. Workshop

9.1) Soil test,

Assessment Breakdown	%
Continuous Assessment	40.00%
Final Assessment	60.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Group assignment	5%	CLO1 , CLO2 , CLO3
	Individual Project	Studio- basic technical drafting	15%	CLO1 , CLO3
	Lab Exercise	Conducted test at Workshop/Lab	15%	CLO1 , CLO2
	Test	n/a	5%	CLO1 , CLO2 , CLO3

Reading List	Recommended Text	Barry R 2001, <i>The Construction of Buildings</i> , 5th Ed Ed., Blackwell Science Oxford
	Reference Book Resources	<ul style="list-style-type: none"> • Checo Yit Lin 2001, <i>Construction Technology for Tall Buildings</i>, 2nd Ed Ed., World Scientific Singapore • Ching F.DK. 2001, <i>Building Construction Illustrated</i>, 3rd Ed Ed., John Wiley & Sons New York • Eric Fleming 2005, <i>Construction Technology: An Illustrated Introduction</i>, Blackwell Publishing • Foster, JS 1994, <i>Structure and Fabric 1 & 2</i>, Longman London • Gervick B.C. 1993, <i>Construction of Prestressed Concrete Structures</i>, John Wiley & Sons • Guilford & Surrey 1994, <i>Construction and Building Materials</i>, Butterworth Scientific United Kingdom • H. Leslie Simmons, RA, CSI 2001, <i>Construction Principles, Materials and Methods</i>, John Wiley & Sons, Inc. New York • Lyons, A.R 1997, <i>Material for Architects and Builders</i>, Arnold London • P.C. Varghese 2006, <i>Building Materials</i>, Prentice-Hall India • R. Chudley & R. Greeno 2001, <i>Building Construction Handbook</i>, 4th Ed Ed., Butterworth-Heinemann Publications United Kingdom • Stulz, R 1993, <i>Appropriate Building Materials</i>, Intermediated London
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	