



UNIVERSITI TEKNOLOGI MARA

BCM544: CONSTRUCTION TECHNOLOGY IV

Course Name (English)	CONSTRUCTION TECHNOLOGY IV APPROVED
Course Code	BCM544
MQF Credit	4
Course Description	The general aim of the course is to provide sufficient knowledge and understanding of principles in building construction and other works related. The course covers the element of long span structures and tall buildings, with emphasis on the design principle, technology and installation of the element. It also covers the various aspects of integrating mechanical and electrical services into the building under construction
Transferable Skills	communication skill
Teaching Methodologies	Lectures, Blended Learning
CLO	CLO1 Assess design principles and construction method various forms of tall buildings and long span structure. CLO2 Assess the key issues associated with relevant specification, regulation and legislation in tall building and long span structure confidently in teamwork. CLO3 Analyse the construction method implementation on tall building and long span structure
Pre-Requisite Courses	No course recommendations
Topics	
1. INTRODUCTION TO LONG SPAN 1.1) an introduction to long span building and long span structure	
2. TYPES AND FORMS OF BUILDING WITH EXTENSIVE FLOOR AREA 2.1) trussed system 2.2) rigid/portal frame 2.3) folded plate 2.4) shell roof 2.5) grid structures 2.6) domed structures 2.7) tensioned structures	
3. GENERAL PLANNING CONSIDERATION 3.1) building performance and system integration 3.2) building regulation an control 3.3) constraint and resources 3.4) environmental requirement 3.5) safety and health	
4. CONSTRUCTION TECHNIQUES FOR LONG SPAN STRUCTURE 4.1) 1. Trussed frame 4.2) 2. Portal framed 4.3) 3. Dome Structure 4.4) 4. Shell Structure 4.5) 5. Folded Plated Structure 4.6) 6. Grid Structure 4.7) 7. Tensioned Structure	
5. CONSTRUCTION TECHNIQUES FOR TALL BUILDING STRUCTURE 5.1) material handling and mechanisation 5.2) wall and floor construction 5.3) external cladding construction 5.4) roof construction	

6. INTEGRATION OF MECHANICAL SERVICES INTO THE BUILDING

- 6.1) 1. accommodation of M&E Services
- 6.2) 2. testing and commissioning
- 6.3) 3. special requirement for service run

7. DESIGN PRINCIPLES AND CONSTRUCTION METHODS

- 7.1) types of load (live load, dead load, wind load construction load and others)
- 7.2) linear element
- 7.3) surface element
- 7.4) spatial element

Assessment Breakdown	%
Continuous Assessment	40.00%
Final Assessment	60.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	n/a	10%	CLO2
	Presentation	n/a	10%	CLO2
	Test	n/a	20%	CLO2 , CLO3

Reading List	Reference Book Resources
	<ul style="list-style-type: none"> • Bryan, T 2010, <i>Construction Technology : Analysis and Choice</i>, Blackwell Publishing • Lin M.C.Y 2009, <i>Construction Technology for Tall Buildings</i>, Scientific Pub. Co. Inc • Chudley, R & Greeno, R 2008, <i>Advanced Construction Technology</i>, 4 Ed., Pearson Education Limited • Chudley, R & Greeno, R 2008, <i>Building Construction Handbook</i>, 7 Ed., Butterworth Heinemann Publication • Foster J.S & Harington R 2007, <i>Structure and Fabric 1 & 2</i>, 7 Ed., Longman. • Illingworth J.R 2000, <i>Construction Methods and Planning</i>, E & FN Spon • Hanna A.S 1999, <i>Concrete Formwork System</i>, Marcel Dekker Inc • Nunnally S 1998, <i>Construction Method and Management</i>, 4 Ed., Prentice-Hall. • Ratay R.T 1996, <i>Handbook of Temporary Structures in Construction</i>, 2 Ed., McGraw-Hill. • Walton, D 1995, <i>Building Construction: Principles and Practices</i>, Macmillan Education Limited. • Barrit CMH 1988, <i>Advanced Building Construction</i>, 2 Ed., Longman • Schueller 1986, <i>High Rise Building Structures</i>, John Wiley & Sons., 2 Ed., John Wiley & Sons. • Beedle LS, <i>Developments in Tall Buildings</i>, Van Nostrand. [ISBN: 1983]

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