



UNIVERSITI TEKNOLOGI MARA

AAR554: BUILDING SERVICES I

Course Name (English)	BUILDING SERVICES I APPROVED
Course Code	AAR554
MQF Credit	2
Course Description	This course covers the study of cold water and hot water supply system, sanitary and waste disposal system, refuse disposal system, electrical supply and telecommunication system. Emphasis will be on the principles and choices of system for different types and scale of buildings. General application of these services with regards to requirements will be discussed.
Transferable Skills	Reflective learner Resourceful and Responsible Responsive
Teaching Methodologies	Lectures, Presentation
CLO	CLO1 Demonstrate the principles and application of building services in building design. CLO2 Explain the application methods and usage of building services related to different type and scale of buildings.
Pre-Requisite Courses	No course recommendations
Topics	
1. Water Supply 1.1) Sources of water and water treatment	
2. Cold and Hot Water Distribution 2.1) Cold water and hot water supply 2.2) Storage and distribution for domestic and high- rise buildings 2.3) Materials used and its characteristics	
3. Above Ground Drainage System 3.1) ? Rain water/ roof drainage and surface drain 3.2) ? Bathroom/ toilet layout for domestic buildings 3.3) ? Sanitary appliances and types of drainage system 3.4) ? Planning sanitary accommodation and service ducts	
4. Below Ground Drainage System 4.1) ? Sub- soil drainage and soak away 4.2) ? Materials and types of jointing used for soil and waste system 4.3) ? Drainage pipe materials, jointing and drain laying	
5. Sewage Disposal and Treatment 5.1) Sewage disposal and treatment above ground drainage/soil and solid waste disposal system and its installation for high rise buildings 5.2) System of drainage and sewage pump system	
6. Electrical supply and distibution 6.1) Source and supply to small and large building 6.2) Distribution and wiring system in a building	
7. Electrical Equipment and Space Requirement 7.1) Electrical safety, Local by-laws and regulations	
8. Telecommunication 8.1) Telephone installation for housing and large building 8.2) Equipments and layout system 8.3) Safety system, Local by-laws and regulations	

9. Refuse Disposal

9.1) Types of refuse disposal systems

9.2) Design consideration, local by laws and regulations

Assessment Breakdown	%
Continuous Assessment	40.00%
Final Assessment	60.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Assessment on the application methods and usage of building services related to different type and scale of buildings.	40%	CLO2

Reading List	Recommended Text	Hall,F 1994, <i>Building Services and Equipment</i> , Vol 1,2&3 Ed., Essex Longman
	Reference Book Resources	<ul style="list-style-type: none"> • Wines, J 2008, <i>Green Architecture</i>, Ed., , London,Taschen. [ISBN:] • Brown, G.Z. 2001, <i>Sun, Wind and Light: Architectural Design Str</i>, Ed., , USA: John Wiley & Sons, Inc [ISBN:] • Bownass, D 2001, <i>Building Services Design Methodology</i> , Ed., , London, Spoon Spres [ISBN:] • Rigby, B. 2005, <i>Design of Electrical services of buildings.</i>, Ed., , Taylor & Francis [ISBN:] • Woolley, E.L. 1990, <i>Drainage Details</i>, London Northwood Publications. • Woolley E.L 1990, <i>Sanitation Details</i>, E & F.N. Spon London • Blackenbaker 1981, <i>Modern Plumbing</i>, Goodheart, Wilcox United Kingdom • Burberry, P. 1975, <i>Environmental and Services</i>, B.T. Batsford London • Porges, F. 1989, <i>The Design of Electrical Services of Building</i>, E & FN Spon London • Steward, W.E. 1992, <i>Modern Wiring Practice</i>, Butterworth. London

Article/Paper List	This Course does not have any article/paper resources
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Other References	<ul style="list-style-type: none"> • n/a <i>Malaysia Uniform Building By Laws</i> • n/a <i>TNB guidelines & Standards</i> • n/a <i>SYABAS guidelines & standards</i> • n/a <i>Indah Water Guidelines & Standards</i>
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