



UNIVERSITI TEKNOLOGI MARA

AAR454: ENVIRONMENTAL ECOLOGY AND SUSTAINABILITY

Course Name (English)	ENVIRONMENTAL ECOLOGY AND SUSTAINABILITY APPROVED
Course Code	AAR454
MQF Credit	2
Course Description	An introduction to the natural environment through the understanding of ecology. The relationships of ecology to the built environment are covered through studies on human impacts on the natural environment. Climatic influences on building designs and sustainable design principles will be covered.
Transferable Skills	Reflective learner, resourceful and responsible, effective communicator, responsive.
Teaching Methodologies	Lectures, Seminar/Colloquium
CLO	CLO1 Illustrate basic understanding of ecology and climatic effects in built environment. CLO2 Explain the importance of architectural sustainable design principles upon the environment.
Pre-Requisite Courses	No course recommendations
Topics	
1. Ecology 1.1) ? Understanding the concept of ecology 1.2) ? The balance of ecosystem	
2. Natural Cycles 2.1) ? Carbon cycle 2.2) ? Food cycle 2.3) ? Nutrient cycle, etc	
3. Environmental Pollution 3.1) ? Water pollution 3.2) ? Air pollution 3.3) ? Land or soil pollution	
4. Resource degradation and depletion 4.1) ? Renewal and non-renewable resources 4.2) ? Reduce, reuse and recycle	
5. Population explosion and life style changes 5.1) ? Affluences 5.2) ? Technological influence 5.3) ? Climatic changes	
6. Global Climate and Wind Pattern 6.1) ? Climatic zones and global wind pattern 6.2) ? Macro, micro and site climates: Tropical Architecture	
7. Effect of Climate on Human 7.1) ? Temperature, humidity and wind movement	
8. Climatic Influence on Building 8.1) ? Adaptation to the local climate and materials 8.2) ? Influence of climate and wind on the shape and structure of buildings	
9. Sustainable design principles: 9.1) ? Environment form 9.2) ? Ecological benign materials 9.3) ? Healthy interior environment 9.4) ? Good design	

10. Exemplary examples on sustainable and green development (both local and overseas)
10.1) N/A

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 importance of architectural sustainable design principles upon the environment.	40%	CLO2

Reading List	Reference Book Resources
	<ul style="list-style-type: none"> • E.Moran 2010, <i>Environmental Social Science : Human - Enviro</i>, Ed., , USA: John Wiley & Sons, Inc [ISBN:] • D.E.Williams 2007, <i>EcologicArchitecture</i>, Ed., , USA: John Wiley & Sons, Inc [ISBN:] • Slessor, Catherine 2001, <i>Eco tech ; Sustainable Architecture and High</i> , Ed., , Thames & Hudson, London [ISBN:] • Graham P. 2003, <i>Building Ecology : First Principles for a Sus</i>, Ed., , Oxford, Blackwell Science [ISBN:] • Starr,C.and Taggart, R. 2004, <i>Ecology and Behavior</i>, Ed., , Belmont, California, New York, London [ISBN:] • Brown, G. Z. 2001, <i>Sun, Wind & Light: Architectural Design Strategies</i>, John Wiley New York

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