

## FACULTY OF BUILT ENVIRONMENT

### List of Courses Offered for University of Malaya Student Exchange (UMSEP) for the 2017/2018 Academic Session

#### BACHELOR OF SCIENCE IN ARCHITECTURE:

No	Course Code	Topic	Pre-requisite	Credit	Courses Offered Please tick (√) where applicable			Course Description	Other Description (capacity)
					Semester I	Semester II	Special Semester		
1.	BIA 1002	MATERIALS AND CONSTRUCTION I	-	2	√			This course introduces students to the basic building materials and construction techniques, material and construction defects and methods to avoid the occurrence of such defects in the domestic two-story structure using the construction of timber, bricks and reinforced concrete.	5
2.	BIA 1003	ENVIRONMENTAL PHYSICS	-	2	√			This course introduces basic knowledge in the relationship between environmental physics and the built environment in the quest for human comfort, looking into the influence of natural elements and climate on design, the appropriateness of building on site and the problem of heat and wind in the context of micro climate. It will also review the effectiveness and efficiency of vernacular architectural design, bi-climatic design and passive solar architecture.	5
3.	BIA 1004	HISTORY OF ANCIENT AND ASIAN ARCHITECTURE	-	2	√			This course covers: <ul style="list-style-type: none"> <li>• Brief overviews on the legacy of the ancient civilizations such as Egypt, Mesopotamia, Mohenjo-Daro and Harappa, Maya, Aztec and Inca.</li> <li>• Discussion on vernacular architecture heritage covering: <ul style="list-style-type: none"> <li>○ Austronesian World</li> <li>○ Malay Houses</li> <li>○ Siamese traditional architecture</li> <li>○ Indian traditional architecture</li> <li>○ Chinese traditional architecture</li> <li>○ Japanese traditional architecture</li> </ul> </li> <li>• Introduction to the architecture of the Islamic World.</li> <li>• Discussion about foreign influences on the local architecture in Malaysia.</li> </ul>	5
4.	BIA 2001	ARCHITECTURAL DESIGN STUDIO III	BIA 1005	10	√			This course allows students to further build and strengthen skills by using an experiential 'master-	5

No	Course Code	Topic	Pre-requisite	Credit	Courses Offered			Course Description	Other Description (capacity)
					Please tick (√) where applicable				
					Semester I	Semester II	Special Semester		
							<p>apprentice' studio-based learning approach. The student is given two assignments based on a brief and program, to complete a final set of drawings and models, graphically and verbally presented. The design process requires the students to practice an approach of:</p> <ul style="list-style-type: none"> <li>• combining architectural elements</li> <li>• putting together a scheme</li> <li>• conceptualising</li> </ul> <p>This course also provides learning on the architectural theories and themes for this semester, which is:</p> <p>architectural representation architectural language</p> <ul style="list-style-type: none"> <li>• form</li> <li>• space</li> <li>• context</li> </ul>		
5.	BIA 2002	DIGITAL ARCHITECTURE	-	2	√		<p>This course provides continuous training using skills and knowledge to effectively handle architectural digital data information. Students will be familiar with several techniques of 3D modelling using selected architectural software with the ability to transform architectural drawings into 3D digital representation. The final coursework includes techniques of rendering and key frame animation leading to short visual architectural documentation.</p>	5	
6.	BIA 2003	BUILDING STRUCTURES	-	3	√		<p>Topics covered include:</p> <ul style="list-style-type: none"> <li>• Distribution of loads on structural systems</li> <li>• Structural systems</li> <li>• Structural design</li> <li>• Structural analysis</li> </ul>	5	
7.	BIA 3001	ARCHITECTURAL DESIGN STUDIO V	BIA 2004	10	√		<p>This course allows students to focus on the urban studies:</p> <ul style="list-style-type: none"> <li>• visit and conduct an urban study based on a developed brief in an identified town or city</li> <li>• gather planning and building regulation from respective local authorities</li> <li>• illustrate and present the urban site studies utilizing selected principles and concepts</li> <li>• design an individual building project based on the findings of the urban and site studies.</li> </ul>	5	
8.	BIA 3002	WORKING DRAWING	BIA 1006	3	√		<p>This course introduces the technical definition of working drawings, Differences between design</p>	5	

No	Course Code	Topic	Pre-requisite	Credit	Courses Offered			Course Description	Other Description (capacity)
					Please tick (√) where applicable				
					Semester I	Semester II	Special Semester		
								sketch and working drawings. Discussion on the function and importance of working drawings. Appropriate scales to be used for different purposes such as site plan, floor plan, elevations, cross sections, roof plan, ceiling plan, details, etc. To identify standard details and special designed details. To understand the importance of the buildability aspects of the drawing.	
9.	BIA 1006	MATERIALS AND CONSTRUCTION II	BIA 1002	3		√		This course provides the learning of simple construction methods and processes, including site clearance, piling, basement, waterproofing systems, demolition works of 3 to 5 storey buildings, metal and concrete composite structures, cladding systems, industrial building systems, fire-fighting elements and infrastructural work.	5
10.	BIA 1007	ARCHITECTURAL LIGHTING AND ACOUSTICS	-	2		√		This course is a further discussion on the link between environmental physics and the built environment, focusing on: <ul style="list-style-type: none"> <li>Architectural lighting and design</li> <li>Building acoustics and architectural acoustic design</li> </ul>	5
11.	BIA 1008	HISTORY OF WESTERN ARCHITECTURE	-	2		√		This course concentrates on the Western Civilizations for eight weeks and subsequently focuses on Malaysian and Malaya Architectural History for the rest of the course with a final lecture to summarize Western Architecture's influence globally.	5
12.	BIA 2004	ARCHITECTURAL DESIGN STUDIO IV	BIA 2001	10		√		This course allows students to further build and strengthen skills by using an experiential 'master-apprentice' studio-based learning approach. The student is given two assignments based on a brief and program, to complete a final set of drawings and models, graphically and verbally presented. The design process requires the students to practice an approach of: <ul style="list-style-type: none"> <li>combining architectural elements,</li> <li>putting together a scheme and,</li> <li>conceptualising</li> </ul> The architectural design program provides learning on the sustainable design theory and principles for this semester, which is: <ul style="list-style-type: none"> <li>elements – site elements, topography, vegetation, natural materials, building materials;</li> </ul>	5

No	Course Code	Topic	Pre-requisite	Credit	Courses Offered			Course Description	Other Description (capacity)
					Please tick (√) where applicable				
					Semester I	Semester II	Special Semester		
								<ul style="list-style-type: none"> <li>• scheme – climatic design ideas, passive energy design principles, building form and function, and;</li> <li>• concepts – vernacular architecture, tropical architectural design, bio-climatic design, ecological design and sustainable design.</li> </ul>	
13.	BIA 2005	BUILDING SERVICES	-	3		√		<p>This course introduces the:</p> <ul style="list-style-type: none"> <li>• Need for building services in modern living, relevant regulations, cold and hot water distribution and drainage systems.</li> <li>• Design of rainwater collection and drainage systems, plumbing and integrated plumbing systems.</li> <li>• Underground drainage and disposal system, above ground drainage, sewerage systems and septic tanks.</li> <li>• Refuse disposal systems.</li> <li>• Principles of refrigeration and types of air-conditioning.</li> <li>• Choice of cooling system in relation to performance specification and impact of each system on the building.</li> <li>• Location, size and contents of plant rooms, details and design of various ducting systems and damper positioning.</li> <li>• Vertical and horizontal transportation in buildings.</li> <li>• Fire prevention, firefighting systems and equipment.</li> <li>• Uniform Building By-Laws (UBBL) requirements.</li> </ul>	5
14.	BIA 3004	ARCHITECTURAL DESIGN STUDIO VI	BIA 3001	10		√		<p>This course allows students to:</p> <ul style="list-style-type: none"> <li>• apply findings of the urban principles and knowledge in the previous study</li> <li>• focus on conceptual architectural design of an individual five-storey building with basement carpark</li> <li>• to incorporate sustainability, landscaping, interior design, structure, services and by-laws (building and planning).</li> </ul>	5