FACULTY OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

List of Courses Offered for University of Malaya Stduent Exchange (UMSEP) for 2018/2019 Academic Session

No.	Course Code	Topic	Pre-Requisite	Credit	Course Offered Semester I	Course Offered Semester II	Course Description
BACHELOR OF COMPUTER SCIENCE (COMPUTER SYSTEM AND NETWORK)
1	WIC2002	Network Security	No	3		√	This course is designed to provide student knowledge of network security, types of attack towards network, security services, and security mechanism. This course also will examine the security criteria by identity the best practices for the network security. The criteria will be looking into encryption techniques, remote access, intrusion detection and prevention, Virtual Private Network, firewall, honey pots, AAA, Infrastructure security, and physical security. Finally, the course will evaluate a plan and best proposal to design a secure network topology based on security policy and legal issues. This course also emphasis on practical exercises by introducing a range of security applications used in a network.
2	WIC2004	Internet Technology	No	3		√	This course contains the introduction towards Internet and its evolution in introducing new technologies such as Internet of Everything, Cloud Computing and Software Defined Network. It explained the concept and steps of implementation of the technology discussed and how to implement it. It also discussed the strength and weaknesses of each Internet technology and the security issues related.
BACHELOR OF COMPUTER SCIENCE (ARTIFICIAL INTELLIGENCE)
1	WIA1004	Fundamentals of Artificial Intelligence	No	3		√	This is an introductory course to the Principle of Artificial Intelligence (AI). It covers the history, the basic concepts and techniques of AI such as knowledge representation, problem solving, searching, reasoning and machine learning. It also differentiates between conventional systems and intelligent systems and introduces the various applications of AI.
2	WID3005	Intelligent Robotics	No	3		√	This course covers the fundamentals of robot intelligence. It covers topics on the background of robotic, applications (such as military, industries, medical, and, search and rescue), effects of robots on life, robot components, types of robots with functions and applications, senses – vision (image, pattern recognition, pixel analysis), acoustic, speech, touch, olfactory (artificial nose), robot kinematics, artificial emotions, navigation and cognitive mapping, sensors and robot problem solving. It also covers new development in robotics (such as bio-inspired robotics, evolutionary robotic and evolutionary algorithms).
BACHELOR OF COMPUTER SCIENCE (INFORMATION SYSTEMS)
1	WIE2003	Introduction to Data Science	No	3		√	The course is designed to help the student learn fundamental concepts of data science. It covers the what, when, who, where, why and how (5W 1H) of data science in the era of big data. Also encompass, the life cycle of data science from data preparation, data processing, data cleansing and integration, to data analysis and visualization of data in data-driven decision making. The role of data scientist, the knowledge and skills required is also presented. Machine learning algorithms and statistical models are included. Diverse technologies, programming languages as well as tools in data science are discussed.

No.	Code	Course	Prerequisite	Credit			Description
2	WIE3002	Electronic Commerce	*No*	3		√	This course consists of the following components: (a) History of e-Commerce 1: Development of telegraph, mail orders, call centres, EDI, web businesses, network economy, real and virtual network; (b) History of e-Commerce 2: Economy scale offer vs. demand, Metcalfe's Law, dominant enterprise model and cost model; (c) Market opportunity analysis; (d) Online business models; (e) Interface design and system design; (f) Market communication and branding; (g) Implementation of resources system, website development and web architecture; (h) Electronic payment system; (i) E-commerce issues including security and policies and cyber laws; (j) E-commerce in practice and future trend and (k) Mobile commerce.
BACHELOR OF COMPUTER SCIENCE (SOFTWARE ENGINEERING)							
1	WIF2001	Human Computer Interaction	No	3		√	This course covers both human factors and the technical methods for the design and evaluation of interactive systems, where it is structured within four main topics: overview of HCI, essential interaction design principles, UI Development process, and interface design and programming. Overview of HCI introduces human, computer and interactions; User Interfaces (UI); usability and user experience (UX). Essential interaction design principles include topics on Psychopathology of everyday things, Psychology of everyday actions, Knowledge in the head and in the world, Knowing what to do, understanding and designing for error. UI Development process includes topics on iterative design, user-centred design, design discovery, design exploration and evaluation of user interfaces. Interface design and programming include topics on visual information design, forms design, interface design patterns, prototyping and construction tools, and responsiveness issue. Three types of applications are covered: Graphical User Interfaces, The Web and Mobile Devices.
BACHELOR OF INFORMATION TECHNOLOGY (MULTIMEDIA)							
1	WIB1001	Fundamental of Multimedia	No	3		√	In this course, students will be introduced to the main elements of a multimedia system including text, image and graphics, audio, video and animation. Students will be taught the editing process for each multimedia element using appropriate editing tools such as Adobe Photoshop, Adobe Illustrator, Audacity and SketchUp. Students also will be using a presentation tool such as MS Powerpoint and Prezi to create multimedia presentation for a mini project. Students also will be exposed to issues related to data compression, security and current multimedia technologies.
2	WIB2002	Interactive Design	No	3	√		This course covers the main topics in interactive design such as the following: interaction concept and design; user roles in interactive design; design for combining information and communication; effective aspects of interface and interactivity; data collecting, analyzing, and presentation; interactive design process; and interactive design evaluation process.
3	WIG3004	Virtual Reality	No	3		√	This course begins with some introduction to virtual reality technology and its applications, followed by detail explanation regarding input and output devices that are being used in virtual reality application. Students will also learn about human sensory systems (visual, audio and tactile) and their relations to the development of virtual reality devices, as well as the possible effects these devices have on human health. Then students will be taught about how to model a virtual reality world and manipulate its objects using virtual reality development tools and programming languages. The course ends by providing students with fundamental knowledge regarding data visualisation, a research area that is closely related to virtual reality.