MULTIMEDIA UNIVERSITY®

SUMMARY OF INFORMATION ON EACH COURSE

1.	Name of Course	Program Design
2.	Course Code	DCS5038
3.	Status of Course [Applies to (cohort)]	Core/Major March 2016
4.	MQF Level/Stage	MQF Level 4
5.	Version (State the date of the Senate approval – history of previous and current approval date)	Previous: Senate 182 Dec 2015 Current: June 2017
6.	Pre-Requisite	None
7.	Name(s) of academic/teaching staff	Usha Vellappan, Nurliyana Rosli, Julie Yew Mei Yee Yap Hui Yen, Mohd Azizi
8.	Semester and Year offered	Year 1 Trimester 3
9.	Objective of the course in the programme: To introduce and acquire problem solving, algorithm design and programming skills. It covers the basic concepts and techniques of algorithm design and implementation using the C programming language.	
10.	Justification for including the course in the programme: This subject introduces the basics of programming concepts as well as sharpening students' skills to prepare them in facing and tackling future programming challenges within the programme and also the working environment.	

11. Assessment Methods and Types:

Method and Type	Description/Details	Percentage
Lab	Lab submissions	10 %
Quiz	Online/Written Quizzes	10 %
Assignment	Written Assignments	15 %
Test	Written test	15 %
Final Exam	Written exam	50 %

12. Details of Course

Topics	Mode of Delivery		
	Lecture	Lab	Independent Learning Time
Topic 1: Software Development and Programming Environment Software Development Life Cycle, Top-down Design with Function System Structure, Program Design Steps and Programming Methodology, Flowchart, Pseudocode.	6	0	6
Topic 2: Variables, data types and arithmetic expressions Working with Variables, Data Types and Constants, Arithmetic Expressions and Assignment Operators.	5	4	9
Topic 3: Control Structures Relational/Equality Operators, Condition, Logical Operator & Expression; If-Else Statement, Switch Statement and Boolean Variables; For loop, While loop and Do-while loop,	6	4	9

	Topic 4: Functions Local vs. Global Variables; Defining Functions, passing Arguments into Functions, Returning value from Functions, Function Call; Arrays as arguments and Recursive Functions.	8	6	13.5
	Topic 5: Array Defining an array, Initializing Arrays, Character Arrays, and Multidimensional Array.	5	4	9
	Topic 6: Pointers Defining Pointer Variables; using Pointers in expressions; Pointer and Functions; Pointers and Arrays and Operations on Pointers.	3	2	4.5
	Topic 7: Structures Defining and using structures; array of structure; structure variable and array as parameter in functions.	3	2	4.5
	Topic 8: File Processing Input and Output Operation with Files.	2	2	4.5

	Total Student Learning Time (SLT)	Face to Face / Guided Learning	Independent Learning
	Lecture	38	38
	Laboratory/Practical	24	24
	Assignment	-	8
	Quiz	4	4
	Mid Term Test	1	5
	Final Exam	2	12
	Sub Total	69	91
	Total SLT	160	
13.	Credit Value	4	
14.	Reading Materials:		
	Textbooks		
	1. **Jeri Hanly & Elliot Koffman**, ***Problem Solving and Program Design in C***, 8th Edition, Prentice Hall, 2015		
	Reference Material (including 'Statutes' for Law)		
	1. **Paul J. Deitel & Harvey M. Deitel**, ***C: How to Program***, 8th Edition, Prentice Hall, 2015. 2. **Stephen G. Kochan, *Programming in C*, 4th Edition,** Addison-Wesley Professional**, 2014.**		