MULTIMEDIA UNIVERSITY®

COURSE INFORMATION

1.	**Name of Course**	Problem Solving and Program Design
2.	**Course Code**	PSP0101
3.	**Type of Course** (e.g. : Core, major, elective etc.)	Core
4.	**Synopsis**	The course aim to introduce the students to programming concepts and enforces good style and logical thinking skill in solving and developing structured program logic.
5.	**Version** (State the date of theSenate's approval - previous and the current approval date)	Current: January 2018 Previous: June 2016
6.	**Name(s) of Academic Staff**	Suhaini binti Nordin Norwahida Syazwani Othman
7.	**Semester and Year Offered**	Trimester 1
8.	**Credit Value**	4
9.	**Pre-Requisite**	Nil

10. **Objective of the course in the programme:**

To equip students with problem solving and program design skills to solve IT related problems using suitable tools.

11. **Justification for including the course in the programme:**

To expose students to problem solving approaches and program design techniques.

12.

Course Learning Outcomes (CLO)	**Domain**	**Level**
CLO1: Solve tasks using problem solving approaches	Cognitive	3
CLO2: Use appropriate tools for program design	Cognitive	3
CLO3:		
CLO4:		

13. **Mapping of the Course Learning Outcomes to the Programme Learning Outcomes, Teaching Methods and Assessment:**

Course Learning Outcomes (CLO) (Must tally with CLOs in item 12)	**Programme Learning Outcomes (PLO)**												**Teaching Methods**	**Assessment Method**
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12		
CLO1	✓	✓				✓							Lecture/Tutorial	Final Exam/Class Discussion/Project/MidTerm
CLO2	✓	✓				✓							Lecture/Tutorial	Final Exam/Assignment/Project
CLO3														
CLO4														
Total	**2**	**2**				**2**							*Indicate the relevancy between the CLO and PLO by ticking "✓" the appropriate relevant box (This description must be read together with standards 2.1.2, 2.2.1, and 2.2.2 in Area 2 – pages 16 & 18 of COPPA 2.0)*	

14. **Transferable Skills:**

- Motivation - Students need to understand that this course is important as it will be the pre-requisite for PSP0201
- Time management - Submission of coursework on time. (Assignment and Project)

15. **Distribution of Student Learning Time (SLT)**

	Course Content Outline	****CLO**	**Teaching and Learning Activities**				**Guided Learning (NF2F)***	**Independent Learning (NF2F)***	**Total SLT**
			Guided Learning (F2F)*						
			***L**	***T**	***P**	***O**			
1	**Introduction** Problem solving in programming. Generation of Programming languages. Programming language used today. Job prospect in programming		2		2			4	8
2	**Program Development Life Cycle (PDLC)** Introduction phases in PDLC: requirements analysis, design, implementation, testing, documentation		2		2			4	8
3	**Problem Solving Approach** Algorithm, flowchart, pseudocode. Input-Process-Output. Example of problem solving		4		4		8	8	24
4	**Program Design Tools** Using appropriate tools for program design and exercises		2		2			4	8
5	**Control Structure** Sequence control. Selection control. Repetition control. Example of control structure problem.		4		4		8	8	24
6	**Arrays** Introduction to arrays and examples of problem solving using arrays.		4		4		8	8	24
7	**Functions** Introduction to functions and examples of problem solving using functions.		4		4			8	16
								Total SLT	**112**

SUMMATIVE ASSESSMENT

1. Continuous Assessment	**Percentage %**	**Total SLT**
Class/Lab Discussion	10%	0
Assignment	15%	6
Project	15%	11
Term Test	10%	11
Total SLT for Continuous Assessment		**28**

2. Final Assessment	**Percentage %**	**Total SLT**	
		F2F	**ILT**
Final Exam	50%	2	18
Total SLT for Final Assessment (F2F + NF2F)		**20**	
Grand Total	**100%**	**160**	

****Indicate the CLO based on the CLO's numbering in Item 12.**
***L= Lecture, *T= Tutorial, *P= Practical, *O= Others, F2F*= Face to Face, NF2F*= Non Face to Face**

16. **Identify Special Requirement to Deliver the Course (e.g., software, nursery, computer lab, simulation room):**

	Computer lab
17 .	**Main References:**
	Sprankle, M., & Hubbard, J. (2012). Problem solving & programming concepts (9th ed.). Upper Saddle River, NJ: Pearson Education.
18 .	**Additional References:**
	1. Downey,A.B, (2013). Think Python: How to Think Like a Computer Scientist, O'Reilly.
	2. Farrell, Joyce (2013). Programming Logic and Design: Comprehensive Version (7th ed.). Cengage Learning
	3. Gaddis, T. (2008). Starting out with programming logic & design (1st ed.). USA: Pearson Addison Wesley.

Note:

	Cells shaded light grey contain formulas / fixed values. Edit these formulas only if needed.