FAKULTI INFORMATIK & KOMPUTERAN

1.	Name of Course :	Object Oriented Programming				
	Course Code :	CSF12403				
2.	Synopsis :	This course provides an overview of the techniques used in object oriented programming by discussing the concepts and advantages of object-oriented analysis and design. Students will also learn the concepts such as class, inheritance, exceptions and multi-threading; and the design and use of graphical user interface. They will also be required to work in groups to produce information systems or applications. At the end of the course, the students are expected to be able to utilize object oriented concepts in the programming codes to develop information systems or applications.				
3.	Name(s) of academic staff :	PROF. MADYA DR. AHMAD NAZARI BIN MOHD ROSE DR. NUR SAADAH BINTI MOHD SHAPRI DR. WAN AEZWANI BINTI WAN ABU BAKAR				
4.	Semester and Year offered :	Semester	2	Year	1	
5.	Credit Value :	3				
6.	Prerequisite/co-requisite: (if any)					

7. Course Learning Outcomes (CLO) : At the end of the course the students will be able to:

CLO1	Apply the concepts of object-oriented programming in problem solving. (C3,MQF1)
CLO2	Build applications using object-oriented programming approach to solve the real problems. (P3,MQF3a)
CLO3	Organize the concepts and features of object-oriented using mathematical functions in problem solving. (A4,MQF3e)

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

Course Learning Outcomes (CLO)	MQF												Teaching Methods	Assessment
	MQF1	MQF2	MQF3a	MQF3b	MQF3c	MQF3d	MQF3e	MQF3f	MQF4a	MQF4b		PLO12		
CLO 1	/												Lecture, e-Learning	Midterm Test; Final Exam; Group Project; Lab Test;
CLO 2			/										Lecture, Group Project, Laboratory Exercise, Demonstration, e-Learning	Group project; Lab Test;
CLO 3							/						Lecture, e-Learning	Group project

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)

9.	Transferable Skills (if applicable) (Skills learned in the course of study which can be useful and utilized in other settings)	**1**	Practical Skills (MQF3a)
		2	Numeracy Skills (MQF3e)
		3	
		4	
		5	

10. Distribution of Student Learning Time (SLT)

		Teaching and Learning Activities			
		Guided Learning (F2F)	Guided		

Course Content Outline	CLO*	L	T	P	O	Learning (NF2F) eg: e-Learning	Independent Learning (NF2F)	SLT
1.0 Object oriented programming approach 1.1 Introduction to object oriented concept 1.2 Object oriented program design 1.3 Data abstract concept	CLO1	2	0	0	0	2	9	13
2.0 Transformation from structured to object oriented language 2.1 Sequence, control and repeatition statements 2.2 Array application 2.3 Object and class	CLO1	2	0	0	1	1	8	12
3.0 Object oriented paradigm 3.1 Inheritance and polymorphism concepts 3.2 Method overloading 3.3 Message passing between objects	CLO1, CLO2, CLO3	2	0	2	1	2	8	15
4.0 Inheritance implementation in programming 4.1 Inheritance structure using UML notation 4.2 Implement inheritance relationship 4.3 Abstract class and method overriding	CLO1, CLO2, CLO3	2	0	2	0	2	8	14
5.0 Exception Handling 5.1 Introduction 5.2 Throwing and claiming an exception 5.3 Eliminating an exception 5.4 Throwing general exception 5.5 Constructing new exception	CLO1, CLO2, CLO3	1	0	2	2	2	10	17
6.0 Graphics programming and event handling 6.1 Introduction to abstract window toolkit (AWT) 6.2 Using existing AWT & Swing components 6.3 Creating windows dialog and menu	CLO1, CLO2, CLO3	2	0	2	0	2	10	16
7.0 Multithreaded programming 7.1 Introduction to thread and thread process 7.2 Thread implementation 7.3 Synchronous and asynchronous thread 7.4 State Transition Diagram 7.5 Animation	CLO1, CLO2	2	0	0	0	2	7	11
		13	0	8	4	13	60	
							Total	98

Continuous Assessment		Percentage (%)	F2F	NF2F	SLT
1	CLO1: Group Project (Problem Based Question)	10	0.5	1	1.5
2	CLO1: Lab Test (Problem Based Question)	10	0.5	1	1.5
3	CLO1: Midterm Test (Short Answer)	10	1	2	3
4	CLO2: Group project (Problem Based Question)	10	0.5	1	1.5
5	CLO2: Lab Test (Problem Based Question)	10	0.5	1	1.5
6	CLO3: Group project (Problem Based Question)	10	1	2	3
			4		
					Total 12

Final Assessment		Percentage (%)	F2F	NF2F	SLT
1	CLO1: Final Exam (Essay)	40	2.5	7.5	10
			2.5		
					Total 10
				TotalGL(F2F)	44.5
				GRAND TOTAL SLT	**120**

****Please tick (√) if this course is Latihan Industri/ Clinical Placement/ Practicum/ WBL using 2-weeks, 1 credit formula**

L = Lecture, T = Tutorial, P= Practical, O= Others, F2F=Face to Face, NF2F=Non Face to Face

	**Indicate the CLO based on the CLO's numbering in Item 8.*	
11	Identify special requirement to deliver the course (e.g: software, nursery, computer lab, simulation room, etc)	
12	References (include required and further readings, and should be the most current)	Daniel, L. Y. (2019) Introduction to Java Programming and Data Structures, Comprehensive Version (11th ed.). Pearson.
13	Other additional information :	