

SUMMARY OF INFORMATION ON EACH COURSE

1.	Name of Course	Object Oriented Programming
2.	Course Code	TOP 2121
3.	Status of Course [Applies to (cohort)]	Common Core for B.IT (Hons) Data Communications and Networking B.IT (Hons) Information Technology Management B.IT (Hons) Artificial Intelligence B.IT (Hons) Security Technology
4.	MQF Level/Stage Note : <i>Certificate – MQF Level 3</i> <i>Diploma – MQF Level 4</i> <i>Bachelor – MQF Level 6</i> <i>Masters – MQF Level 7</i> <i>Doctoral – MQF Level 8</i>	Bachelor Degree – MQF Level 6
5.	Version (State the date of the Senate approval – history of previous and current approval date)	Date of previous version : June 2012 Date of current version : June 2014
6.	Pre-Requisite	TCP1121 Computer Programming
7.	Name(s) of academic/teaching staff	Dr. Md. Shohel Sayeed Chong Lee Ying Dr. Tan Syh Yuan
8.	Semester and Year offered	Trimester 1, Year 2

SUMMARY OF INFORMATION ON EACH COURSE

9.	<p>Objective of the course in the programme :</p> <p>To provide a good understanding of the key features of object-oriented technology as well as an industry standard methodology (UML) for Object-Oriented Analysis and Design. Students will be expected to analyze and design an Object-Oriented system in UML and implement it using Java.</p>									
10.	<p>Justification for including the course in the programme :</p> <p>The purpose of this course is to introduce students to a disciplined approach to computer programming and problem solving, utilizing a high level programming language such as java, with an emphasis on procedural abstraction and good programming style. Syntax, overall program design, testing and debugging will be intensively examined.</p>									
11.	Course Learning Outcomes :					Domain		Level		
	LO1 Describe the key features of object-oriented technology					Cognitive		1		
	LO2 Explain different programming structures and executions for both standalone and applet application					Cognitive		3		
	LO3 Describe the representation of an industry standard methodology (UML) for Object-Oriented Analysis and Design					Cognitive		2		
	LO4 Demonstrate the basic notions and techniques for algorithm development					Cognitive		3		
	LO5 Develop both standalone and applet program					Cognitive		5		
12.	Mapping of Learning Outcomes to Programme Outcomes :									
	Learning Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9

SUMMARY OF INFORMATION ON EACH COURSE

	LO1	X	X						
	LO2		X						
	LO3		X	X					
	LO4			X		X			
	LO5					X			
13.	Assessment Methods and Types :								
	Method and Type		Description/Details				Percentage		
	Mid-term Test		Written examination				20%		
	Assignment		Written report and Presentation				20%		
	Lab Test		Practical Exam				20%		
	Final Examination		Written examination				40%		
14.	Mapping of assessment components to learning outcomes (LOs)								
	Assessment Components	LO1	LO2	LO3	LO4	LO5			
	Mid-term Test	33.33	33.33						
	Assignment			25	50	50			
	Lab Test			25	50	50			
	Final Examination	66.67	66.67	50					
15.	Details of Course								
	Topics				Mode of Delivery (eg : Lecture, Tutorial, Workshop, Seminar, etc.) Indicate allocation of SLT (lecture, tutorial, lab) for each subtopic				
					Lecture		Lab		
	1. Introduction to Object-Oriented Programming Classes and Objects, Abstraction, Encapsulation, Inheritance, Polymorphism, Message Passing, OOAD Methodologies, introducing UML				4		4		

SUMMARY OF INFORMATION ON EACH COURSE

	2. Object-Oriented Analysis Syntax and Semantic (with examples) of Use Case Diagrams, Package Diagrams, Class Diagrams, Collaboration Diagrams, Sequence Diagrams, State Diagrams, Activity Diagrams	6	6
	3. Object-Oriented Design Syntax and Semantic (with examples) of Component Diagrams and Deployment Diagrams.	6	6
	4. Implementation in an Object-Oriented Language Comparing How Object-Oriented Languages (like C++, Java, Eiffel, Smalltalk), implement Object-Oriented Concepts.	4	4
	5. Case Studies Analyzing, Designing two Systems (A Business Information System and a Real-Time or Control System) using UML and Implementing Them Using a Chosen OOPL (Preferably Java).	4	4
	Total	24	24
15.	Total Student Learning Time (SLT)	Face to Face / Guided Learning	Independent Learning
	Lecture	24	24
	Tutorials		
	Laboratory/Practical	24	12
	Presentation		
	Assignment		10
	Mid Term Test	1	5
	Lab Test	1	2
	Final Exam	2	15

SUMMARY OF INFORMATION ON EACH COURSE

	Sub Total	52	68	
	Total SLT	120		
	Credit Value	120/40 = 3		
16.	Reading Materials :			
	Textbooks			
	1. John Lewis and William Loftus, (2014). Java Software Solutions, 8th Edition, Pearson International Edition.			
	Reference Material (including 'Statutes' for Law)			
	1. James Rumbaugh, Ivar Jacobson, Grady Booch, (2004). Unified Modeling Language Reference Manual, The (2nd Edition) (Addison-Wesley Object Technology Series), Addison-Wesley.			
	2. Ivar Jacobson, Grady Booch, James Rumbaugh, (1999). The Unified Software Development Process, Addison-Wesley.			
	3. Martin Fowler, Kendall Scott, (2003). UML Distilled: A Brief Guide to the Standard Object Modeling Language, Third Edition, Addison-Wesley.			
	4. Eriksson, H., Penker, M., (1998). UML Toolkit, John Wiley & Sons.			
	5. Eriksson, H., Penker, M., Brian Lyons, David Fado, (2003). UML 2 Toolkit, John Wiley & Sons.			
	6. Rumbaugh, J., Blaha, M., Premerlani, W., Eddy, F., Lorensen, W., (1991). Object-Oriented			
	7. Rumbaugh, J., Blaha, M., (2004). Object-Oriented Modeling and Design with UML (2nd Edition), Prentice Hall.			
	8. Jacobson, V., (1992). Object-Oriented Software Engineering, Addison Wesley			
	9. Booch, G., (2004). Object-Oriented Analysis and Design with Applications, Benjamin Cummings, 3/E.			
	10. Grady Booch, James Rumbaugh, Ivar Jacobson, (1998). The Unified Modeling Language User Guide, Addison-Wesley.			
Appendix (to be compiled when submitting the complete syllabus for the programme) :				
1. Mission and Vision of the University and Faculty				
2. Programme Objectives or Programme Educational Objectives				
3. Programme Outcomes (POs)				
4. Mapping of POs to the 8 MQF domain				
5. Summary of the Bloom's Taxonomy's Domain Coverage in all the Los in the format below :				
Subject	Learning Outcomes (please state the learning Outcomes)	Bloom's Taxonomy Domain		
		Affective	Cognitive	Psychomotor
ABC1234	Learning Outcome 1			
	Learning Outcome 2			

SUMMARY OF INFORMATION ON EACH COURSE

	Learning Outcome 3			
	Learning Outcome 4			
DEF5678	Learning Outcome 1			
	Learning Outcome 2			
	Learning Outcome 3			
	Learning Outcome 4			
<p>6. Summary of LO to PO measurement 7. Measurement and Tabulation of result for LO achievement 8. Measurement Tabulation of result for PO achievement</p>				