

**SUMMARY OF INFORMATION ON EACH COURSE**

1.	Name of Course	Database Design and Management								
2.	Course Code	TDB2121								
3.	Status of Course [Applies to (cohort) ]	Specialisation core for B.Sc (Hons) Bioinformatics								
4.	MQF Level/Stage	Bachelor – 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: August 2016								
6.	Pre-Requisite	TDB1131 Database Systems								
7.	Name(s) of academic/teaching staff	Dr Michael Goh Dr Kalaiarasi SMA								
8.	Semester and Year offered	Trimester 2, Year 2								
9.	Objective of the course in the programme : To strengthen students' understanding for database systems and provide broader aspects of management (data mining and warehousing) and development of databases.									
10.	Justification for including the course in the programme : This course will enable students' to design, manipulate and manage databases. The course enables them to make viable choices from different type of data management system. Also, it will encourage the usage of database management systems for effective data management.									
11.	Course Learning Outcomes :								Domain	Level
	LO1- Use advanced SQL command effectively.								Cognitive	3
	LO2- Develop a good database based on database development life cycle.								Cognitive	5
	LO3- Describe the concepts of various databases								Cognitive	6
	LO4- Design, implementation and management of various databases.								Cognitive	5
12.	Mapping of Learning Outcomes to Programme Outcomes :									
	Learning Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
	LO1	X	X							
	LO2	X		X						
	LO3		X							
LO4	X	X	X		X					
13.	Assessment Methods and Types :									
	Method and Type	Description/Details							Percentage	
	1 Final Exam	Written examination							50%	
	2 Test	Written examination							20%	
	3 Lab/Tutorial	Written examination							10%	
4 Assignment	Assignment							20%		
14.	Mapping of assessment components to learning outcomes (LOs)									
	Assessment Components	%	LO1	LO2	LO3	LO4				

**SUMMARY OF INFORMATION ON EACH COURSE**

	Final Exam	50	50		83.3	
	Test	20	20			
	Lab/Tutorial	10	10	33.3	16.7	
	Assignment	20	20	66.7		100
15.	Details of Course					
	Topics			Mode of Delivery		
				Lec	Lab	
	<b>1. Advanced SQL</b> Data Definition, Queries, Update Statements, Creating Views, Additional Constraints, Indexes, Embedded SQL.	8	10			
	<b>2. Data Warehousing and Data Mining</b> Basic Concept, Characteristics of Data Warehouse data, Data Warehouse Architecture, Online Analytical Processing, Star Schemas, Data Warehouse Implementation, Data Mining.	6	2			
	<b>3. Object Oriented Database</b> Object Identity, Object Structure and Type Construct, Encapsulation of Operations, Methods and Persistence, Type and Class Hierarchies, Inheritance.	6	3			
	<b>4. Web Database</b> Web Technology and DBMS, XML Database, XML Data Model, Querying XML with SQL, Querying XML with XQuery, Managing XML	4	2			
	<b>5. Database Administration and Security</b> Data integrity, backup and recovery, Database Administrator (DBA) role and techniques, DBA strategy, DBA tools, Security	4	3			
	<b>Total</b>	<b>28</b>	<b>20</b>			
	Total Student Learning Time (SLT)	Face to Face / Guided Learning		Independent Learning		
	Lecture	28		28		
	Tutorials	-		-		
	Laboratory/Practical	20		10		
	Presentation	0.5		1.5		
	Assignment	-		10		
	Mid Term Test	1		4		
	Final Exam	2		15		
	Sub Total	51.5		68.5		
	Total SLT	<b>120</b>				
16.	Credit Value	<b>3</b>				
17.	Reading Materials :					
	Textbooks					

**SUMMARY OF INFORMATION ON EACH COURSE**

1. Carlos Coronel and Steven Morris, "Database Systems: Design, Implementation and Management", 11th Edition, Cengage Learning, 2014.				
Reference Material (including 'Statutes' for Law)				
1. Hoffer, J.A., Venkataraman, R., Topi, H., "Modern Database Management", 11th Edition, Prentice Hall, 2012. 2. Connolly, T., and Begg, C., "Database Systems: A Practical Approach to Design, Implementation and Management", 6th Edition, Addison-Wesley, 2014. 3. Ramakrishnan, R., and Gehrke, J., "Database Management Systems", 3rd Edition, McGraw Hill, 2003. 4. Kroenke, D., Auer, D.J. "Database Processing: Fundamentals, Design, and Implementation", 13th Edition, Prentice Hall, 2013.				
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			
	Learning Outcome 3			
	Learning Outcome 4			
DEF5678	Learning Outcome 1			
	Learning Outcome 2			
	Learning Outcome 3			
	Learning Outcome 4			
6. Summary of LO to PO measurement 7. Measurement and Tabulation of result for LO achievement 8. Measurement Tabulation of result for PO achievement				