

**SUMMARY OF INFORMATION ON EACH COURSE**

1.	Name of Course	Database Design and Management																
2.	Course Code	TDB 2121																
3.	Status of Course [Applies to (cohort) ]	Specialisation core for B.Sc (Hons) Bioinformatics																
4.	MQF Level/Stage Note : Certificate – MQF Level 3 Diploma – MQF Level 4 Bachelor – MQF Level 6 Masters – MQF Level 7 Doctoral – MQF Level 8	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 : May 2016 June 2012																
6.	Pre-Requisite	TDB1131 Database Systems																
7.	Name(s) of academic/teaching staff	Dr Michael Goh Ms Goh Pey Yun																
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													
12.	Mapping of Learning Outcomes to Programme Outcomes :		PO1		PO2		PO3		PO4		PO5		PO6		PO7		PO8	
	Learning Outcomes		PO1		PO2		PO3		PO4		PO5		PO6		PO7		PO8	
	LO1		X		X													
	LO2		X				X											
	LO3				X													
LO4		X		X		X				X								

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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		10%	
4. Assignment	Assignment		20%		
14.	Mapping of assessment components to learning outcomes (LOs)				
	Assessment Components	LO1	LO2	LO3	LO4
	Final Exam	50		83.3	
	Test	20			
	Lab/Tutorial	10	33.3	16.7	
	Assignment	20	66.7		100
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		
	<b>1. Advanced SQL</b> Data Definition, Queries, Update Statements, Creating Views, Additional Constraints, Indexes, Embedded SQL.	8	12		
	<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.	5	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.	3	3			

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	<b>4. Web Database</b> Web Technology and DBMS, XML Database, XML Data Model, Querying XML with SQL, Querying XML with XQuery, Managing XML	3	5
	<b>5. Database Administration and Security</b> Data integrity, backup and recovery, Database Administrator (DBA) role and techniques, DBA strategy, DBA tools, Security	5	2
	<b>Total</b>	<b>24</b>	<b>24</b>
	<b>Total Student Learning Time (SLT)</b>	<b>Face to Face / Guided Learning</b>	<b>Independent Learning</b>
	Lecture	24	24
	Tutorials	-	-
	Laboratory/Practical	24	12
	Presentation	1	3
	Assignment	-	10
	Mid Term Test	1	4
	Final Exam	2	15
	Sub Total	52	68
	<b>Total SLT</b>	<b>120</b>	
16.	Credit Value	3	
17.	Reading Materials :		
	<b>Textbooks</b>		
	Carlos Coronel and Steven Morris (2016). Database Systems: Design, Implementation, and Management, 12 <sup>th</sup> Ed. Cengage Learning.		
	<b>Reference Material (including 'Statutes' for Law)</b>		
	1. Jeffrey Hoffer, V. Ramesh, Heiki Toppi, (2012). Modern Database Management, 11th Ed. Prentice Hall.		
	2. Connolly, T., and Begg, C. (2014). Database Systems: A Practical Approach to Design, Implementation and Management, 6th Ed., Addison-Wesley.		

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	3. Ramakrishnan, R., and Gehrke, J. (2003). Database Management Systems, 3rd Edition, McGraw Hill, 2003.
	4. Kroenke, D., Auer, D.J. (2013). Database Processing: Fundamentals, Design, and Implementation. 13th Ed, Prentice Hall.

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