MULTIMEDIA UNIVERSITY®

SUMMARY OF INFORMATION ON EACH COURSE

1.	Name of Course	Statistical Data Analysis
2.	Course Code	TDS2201
3.	Status of Course [Applies to (cohort)]	Specialization Core for BCS (DS) and Elective for All Other Specializations
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)	Current: June 2016
6.	Pre-Requisite	TMA1201 Discrete Structures and Probability
7.	Name(s) of academic/teaching staff	Khor Chia Ying Chua Sook Ling @ Linda Chua Foo Lee Kien
8.	Semester and Year offered	Trimester 2 (Gamma)
9.	Objective of the course in the programme : To instil students with statistical thinking for data exploration and analysis. Students are expected to apply the appropriate tools to explore and analyse different types of variables.	
10.	Justification for including the course in the programme : To provide basic knowledge of data exploration and statistical data analysis required for data science.	

11.	Course Learning Outcomes :	Domain	Level
	LO1: Interpret numerical and graphical summaries of univariate data.	Cognitive	3
	LO1: Interpret numerical and graphical summaries of multivariate data.	Cognitive	3
	LO3: Apply appropriate test of hypothesis and interpret results correctly.	Cognitive	3
	LO4: Identify the association between variables.	Cognitive	4

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
	LO2									X
	LO3									X
	LO4									X

13. Assessment Methods and Types :

Method and Type	Description/Details	Percentage
1. Assignments	Written	40
2. Test	Written	20
3. Final Exam	Written	40

14. Mapping of assessment components to learning outcomes (LOs)

Assessment Components	LO1	LO2	LO3	LO4
Assignment	√	√	√	√
Test	√	√	√	
Final Exam	√	√	√	√

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 (Hrs)	Lab (Hrs)
1. Introduction Quantitative variables; Categorical variables; Univariate, bivariate and multivariate data.	1	0
2. Analysis of Univariate Data Measures of central tendency; Measures of variability; Graphs of quantitative variable; Graphs of categorical variable.	5	6
3. Analysis of Multivariate Data Cross-tabulation; Joint distribution; Marginal distribution; Conditional distribution; Graphs of multivariate data.	5	6

SUMMARY OF INFORMATION ON EACH COURSE

	4. Confirmatory Data Analysis Introduction to statistical inference; p-value; Test of hypothesis on one and two population parameters; Chi-square test of independence; Type I and type II error; Power of test.	9	8
	5. Correlation and Regression Correlation analysis; Introduction to regression; Linear and non-linear regression models; Analysis of residual.	8	8

16.	Total Student Learning Time (SLT)	Face to Face / Guided Learning	Independent Learning
	Lecture	28	28
	Tutorials		
	Laboratory/Practical	28	28
	Presentation		
	Assignment		24
	Test	2	8
	Final Exam	2	12
	Sub Total	60	100
	Total SLT	160	
	Credit Value	4	

17.	Reading Materials :
	Textbooks
	Radziwill, N.M. (2015). *Statistics (The Easier Way) with R*, 1st ed. Lapis Lucera, San Francisco, California.
	Reference Material
	Dalgaard, P. (2008). *Introductory Statistics with R (Statistics and Computing)*. 2nd ed. Springer.

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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 0utcomes)	Bloom's Taxonomy Domain		
		Affective	Cognitive	Psychomotor
Statistical Data Analysis	Learning Outcome 1		3	
	Learning Outcome 2		3	
	Learning Outcome 3		3	
	Learning Outcome 4		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