STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI
COURSE PLAN June - November 2024

Department : Mathematics
Name/s of the Faculty : Dr. Chinthamani. S
Course Title : Data Analysis using R
Course Code : 23MT/PE/DR23
Shift : I

COURSE OUTCOMES (COs)

COs	Description	CL
CO1	Recall and understand the basics of statistics and the scientific software R	K1,K2
CO2	Demonstrate solution to real world problems through statistical concepts using R	K3
CO3	Analyse the real-world datasets, solve them using the statistical concepts implemented through R	K4

Week	Unit No.	Content	Cognitive Level	Teaching Hours	COs	Teaching Learning Methodology	Assessment Methods
Jun 24 – 26, 2024 (Day Order 4 - 6)	1	**Basic Statistics – Theory** Introduction	K1- K4	1	CO1-3	Lecture on Presentation using Prezi with online tools on statistics	Group Discussion
Jun 27 – July 4, 2024 (Day Order 1 - 6)	1	**Basic Statistics – Theory** 1.1 Measures of Central Tendency 1.2 Measures of Dispersion 1.3 Graphical Representations	K1- K4	3	CO1-3	Lecture & Problem solving using Mind map	Project based Assignment
July 5 – 12, 2024 (Day Order 1 - 6)	1	**Basic Statistics – Theory** 1.4 Normal Distribution 1.5 Correlation 1.6 Regression	K1- K4	3	CO1-3	Lecture & Problem Solving	Quiz using ICT tool Lumi
July 15 – 23, 2024 (Day Order 1 - 6)	1 & 2	**Basic Statistics – Theory** 1.7 Testing of Hypothesis **Data Types in R** -Introduction	K1- K4	3	CO1-3	Lecture & Problem Solving	Practical test
July 24 – 31, 2024 (Day Order 1 - 6)	2	**Data Types in R** 2.1 Numeric, Integer, Complex, Logical 2.2 Character, Vectors, Matrices & Arrays 2.3 Lists	K2- K3	3	CO2-3	Lecture, Practical exercise and Hands on training	**III COMPONENT TEST :** Written Test – 20 marks on Unit 1
Aug 1 – 5, 2024 (Day Order 1 - 3)	2	**Data Types in R** 2.4 Factors 2.5 Strings	K2- K3	2	CO2-3	Lecture, Practical exercise and Hands on training	Slip test
Aug 6 – 10, 2024	**C.A. Test – I [Unit 1 & Unit 2: Sec 2.1 & 2.3]**						
Aug 12 – 14, 2024	3	**Graphical Visualizations in R**	K2- K3	1	CO2-3	Instructional talk, Practical exercise and skill	Practical Test

(Day Order 4-6)		3.1 Pie Chart 3.2 Scatter Plot 3.3 Line Plot				development	
Aug 16 – 23, 2024 (Day Order 1-6)	3	**Graphical Visualizations in R** 3.4 Histograms 3.5 Box Plot	K2- K3	3	CO2-3	Instructional talk, Practical exercise and skill development	Assignment
Aug 27 – Sep 3, 2024 (Day Order 1-6)	3 & 4	**Graphical Visualizations in R** 3.6 Bar Plot **Basic Data and Computations** 4.1 Data Frames 4.2 Operators: Arithmetic, Comparison, Logic	K2- K3	3	CO2-3	Instructional talk, Practical exercise and skill development	Practical Test
Sep 4 – 11, 2024 (Day Order 1-6)	4	**Basic Data and Computations** 4.3 Computations on Numeric Data 4.4 Matrix Computations	K2- K3	3	CO2-3	Instructional talk, Practical exercise and skill development	Quiz using ICT tool Kahoot
Sep 12 - 20, 2024 (Day Order 1-6)	4	**Basic Data and Computations** 4.5 Fitting Statistical Models 4.6 Programming Random Simulations	K2- K3	3	CO2-3	Lecture, Practical and Hands on training	**III COMPONENT TEST :** Practical Test – 30 marks on Units 2,3,4
Sep 23 - 26, 2024 (Day Order 1-4)	4	**Basic Data and Computations** 4.6 Programming Random Simulations	K2- K3	2	CO2-3	Instructional talk, Practical exercise and skill development	Quiz
Sep 27 – Oct 3, 2024	**C.A. Test – II [Unit 3 & Unit 4: Sec 4.1 – 4.5]**						
Oct 4 – 5, 2024 (Day 5 & 6)		**Statistical Analysis using R** 5.1 Measures of Central Tendency	K2- K3	1	CO2-3	Instructional talk, Practical exercise and skill development	Group Discussion
Oct 7 - 15, 2024		**Statistical Analysis using R** 5.2 Measures of Dispersion	K2- K3	3	CO2-3	Instructional talk, Practical exercise and skill	Group Discussion

(Day Order 1 to 6)		5.3 Graphical Representations 5.4 Normal Distribution				development	
Oct 16 - 22, 2024 (Day Order 1 to 6)		**Statistical Analysis using R** 5.5 Correlation 5.6 Regression 5.7 Testing of Hypothesis	K2- K3	3	CO2-3	Instructional talk, Practical exercise and Summary using ICT tool LUMI	Slip Test
Oct 23 - 24, 2024 (Day Order 1 to 2)	**REVISION**						