Course Designers		
Experts from Industry	**Experts from Higher Technical Institutions**	**Internal Experts**
Mr. S. Karthik, IT Analyst, Tata Consultancy Services	Dr. Neelanarayanan,, Professor, School of Computer Science and Engineering, VIT Chennai	1. Dr.S.Umarani 2. Mr.U.Udayakumar

Course Code	UCS20S04L	Course Name	VISUALIZATION TOOL	Course Category	S	*Skill Enhancement Elective*	L	T	P	C
							0	0	2	1

Pre-requisiteCourses	Nil	Co-requisiteCourses	Nil	Progressive Courses	Nil
Course Offering Department		Computer Science	Data Book / Codes/Standards		Nil

Course Learning Rationale (CLR):	*The purpose of learning this course is to:*	**Learning**			**Program Learning Outcomes (PLO)**														
		1	2	3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLR-1 :	Analyze and visualize data	Level of Thinking (Bloom)	Expected Proficiency (%)	Expected Attainment (%)	Fundamental Knowledge	Application of Concepts	Link with Related Disciplines	Procedural Knowledge	Skills in Specialization	Ability to Utilize Knowledge	Skills in Modeling	Analyze, Interpret Data	Investigative Skills	Problem Solving Skills	Communication Skills	Analytical Skills	ICT Skills	Professional Behavior	Life Long Learning
CLR-2 :	Navigate to data sources. Download data in proper format																		
CLR-3 :	Create visualizations that accurately represent the source dataset																		
CLR-4 :	Use Tableau to perform various types of analysis on data sets																		
CLR-5 :	Data visualizations that demonstrates an understanding of data																		
CLR-6 :	*Use various methods for data visualization*																		
Course Learning Outcomes (CLO):	*At the end of this course, learners will be able to:*																		
CLO-1 :	Design effective data visualizations in order to provide new insights	*3*	*80*	*70*	*L*	*H*	-	*H*	*L*	-	-	-	*L*	*L*	-	*H*	-	-	-
CLO-2 :	Find and select appropriate data visualization in order to create a better understanding of the data	*3*	*85*	*75*	*M*	*H*	*L*	*M*	*L*	-	-	-	*M*	*L*	-	*H*	-	-	-
CLO-3 :	Create Heat map, word cloud and different type of charts as visualization	*3*	*75*	*70*	*M*	*H*	*M*	*H*	*L*	-	-	-	*M*	*L*	-	*H*	-	-	-
CLO-4 :	Cite data from other sources in visualizations and documentation	*3*	*85*	*80*	*M*	*H*	*M*	*H*	*L*	-	-	-	*M*	*L*	-	*H*	-	-	-
CLO-5 :	Properly document and organize data and visualizations	*3*	*85*	*75*	*H*	*H*	*M*	*H*	*L*	-	-	-	*M*	*L*	-	*H*	-	-	-
CLO-6 :	*Create dashboard for data visualization*	*3*	*80*	*70*	*L*	*H*	-	*H*	*L*	-	-	-	*L*	*L*	-	*H*	-	-	-

Duration (hour)		06	06	06	06	06
S-1	SLO-1	Introduction to Tableau What is Tableau	Data Connection Details – Connecting to various data source	Top 10 Chart Types – Bar chart	Tableau maps –Geocoded Fields – Geographic Hierarchies and Ambiguity	Creating Dashboards- Creating a simple Dashboards – Tiled Placement
	SLO-2	Tableau User Interface –The data window	Adding multiple tables from the same database	Line / Area chart – Tableau forecasting	Custom Geocoding	Floating Placement, Associated Dashboard elements
S-2	SLO-1	Shelves & Cards	Joining multiple tables from the same database	Pie chart, text table / cross tab	Background Maps and Layers : Maps options	Advanced Dashboard elements – Layout Container, Blank
	SLO-2	Basic Tableau Design Flow	Customizing your view of the data	Scatter plot , Bubble Chart	Web map Services	Text , Image , Webpage
S-3	SLO-1	Basic Visualization Design using show me	Modifying Tableaus default field	Bullet Group, Box Plot	Mapping and Mark types	Setting Dashboards and Element size
	SLO-2	Choosing Mark Types	Assignments	Tree map	Custom Background Images	Dashboards Actions
S-4	SLO-1	Color,Size,Shapes and Label options – Choosing color options	Hiding, Renaming and Combining fields	Word cloud	Calculating fields, Table Calculations and Statistics – Creating Calculate fields	Distributing and Sharing your Visualization – Exporting worksheets and Dashboards- Printing to PDF format
	SLO-2	Setting Mark Size Text tables Mark Labels	Changing default field appearance	Interacting with the viewer - Filtering data, Basics of filtering, Interactive filtering	Numeric calculations, String Manipulations, Date calculations	Exporting Worksheet Data
S-5	SLO-1	Choosing shapes	Using Hierarchies , Groups and Sets	Quick filtering , Parameters – Creating parameters	Logic Constructs, Creating Binned fields	Exporting Worksheet Image
	SLO-2		Saving and Sharing Metadata	Displaying a parameters – Using a parameter in a worksheet	Table Calculations	Exporting Dashboards Images
S-6	SLO-1	Formatting Options	Extracting data, Data Blending	Worksheet Actions – Filter Actions	Reference Lines, Bands & Distributions	Using Tableau Reader
	SLO-2		Moving from text to production databases	Highlight Actions , URL Actions	Trend Lines	Publishing to the Web

Learning Resources	1.George Peck," Tableau 8 : The Official Guide ",First edition, McGraw Hill Professional, 2013.,	1.Website: www.tableaureferenceguide.com

Learning Assessment					
Level	Bloom's Level of Thinking	Continuous Learning Assessment (100% weightage)			
		CLA-1 (20%)	CLA-2 (20%)	CLA-3 (30%)	CLA-4 (30%) #
		Practice	Practice	Practice	Practice
Level 1	Remember	10%	10%	30%	15%
	Understand				
Level 2	Apply	50%	50%	40%	50%
	Analyze				
Level 3	Evaluate	40%	40%	30%	35%
	Create				
Total		100 %	100 %	100 %	100 %

CLA – 4 can be from any combination of these: Assignments, Seminars, Short Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc.,

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		Dr.S.Kanchana

Course Code	*UES20AE1T*	Course Name	ENVIRONMENTAL STUDIES	Course Category	AE	Ability Enhancement Courses	L	T	P	C
							3	0	0	3

Pre-requisite Courses	*Nil*	Co-requisite Courses	*Nil*	Progressive Courses	*Nil*
Course Offering Department	*Computer Science*		Data Book / Codes/Standards	*Nil*	