Course Title: Data Wrangling and Visualization			
Course Code: UDS 201	**No. of credits:** 3	**L-T-P:** 20-16-18	**Learning hours:** 45
			L: Lectures**; T:** Tutorials**; P:** Practical
Pre-requisite Course Code and Title (if any): None			
Department: Natural and Applied Sciences			
Course Coordinator:		**Course Instructor:**	
Contact Details:			
Course Type: Major		**Course Offered in:** Semester 3	

Course Description

Data Wrangling is a crucial part of data science, encompassing methods like data pre-processing, exploratory analysis, and feature engineering. This course will provide a comprehensive understanding of cleaning raw data, handling missing values, removing data ambiguities, and transforming data into a usable format. The course aims to demonstrate the different exploratory techniques to help in understanding the underlying patterns and relationships within the data. The learners will explore various data preparation techniques such as data imputation, outlier detection, and normalization, that are employed to prepare data for further analysis. The students will gain insights on exploring the data with different types of visualizations. Finally, the students will perform feature engineering which includes feature extraction, selection, and ranking.

Course Objectives

- Understand the need for data wrangling in data science.
- Perform data pre-processing with exploratory analysis.
- Apply data wrangling techniques and perform data visualization.
- Study impact of feature engineering on data science applications.