Course Title: Network Science			
Course Code: UDS 206	**No. of credits: 4**	**L-T-P:** 30-15-30	**Learning hours: 60**
			L: Lectures**; T:** Tutorials**; P:** Practicals
Pre-requisite (if any): Data Wrangling and Visualization (UDS 201)			
Department: Natural and Applied Sciences			
Course Coordinator:		**Course Instructor:**	
Contact Details:			
Course Type: Major		**Course Offered in:** Semester 4	

Course Description

This course on network science delves into the core principles and applications of analysing large-scale graphs within complex systems. Students will explore the significance of network structures, learning how to extract meaningful insights from vast datasets. The curriculum covers random network theory and its application to large graphs, emphasizing the role of heterogeneity within hyper-graphs and multi-graphs. Learners will also investigate diverse methods for handling and processing data, examining frameworks suited for interconnected structures. By the end, students will have designed and evaluated algorithmic solutions tailored to the dynamic, large-scale networks prevalent in modern data science applications.

Course Objectives
- Understand the structural properties and significance of graphs in real-world networks.
- Apply network science and analytical techniques to extract insights from complex data sources.
- Design solutions to model and analyze behaviour of networked entities in different types of interconnected structures.