

Course Type	Course Code	Name of Course	L	T	P	Credit
DC	ESC358	Geoinformatics Practical	0	0	2	2

Course Objective

- Hands on training on Remote Sensing and GIS applications

Learning Outcomes

Upon successful completion of this course, students will:

- Learn to use Remote Sensing and GIS data handling.
- Learn the application of RS & GIS for practical environmental problem solving.

Unit No.	Topics to be Covered	Practical Hours	Learning Outcome
1	Operational introduction to RS & GIS Software; Concept of Database Management System in GIS	2	Students will have a preliminary idea of working in RS & GIS data and useful software functions.
2	Georeferencing and Projection with Toposheet and Satellite Imagery	2	Students will learn how to associate geographical signature to a ordinary image data or even hardcopy data and how to operate those data in a geographical space.
3	Raster and Vector Data operations	2	Students will learn the basics of satellite image correction operation and vector data handling.
4	Vector Data Operation using Geoprocessing Tools	2	Students will learn how to integrate and disintegrate vector data for practical problem solving in GIS.
5	Image Correction, Enhancement, Mosaic and Subset.	2	Students will learn the intermediate level operation of satellite images.
6	Image Classification and Accuracy Assessment.	2	Students will learn the advanced level operation of satellite image for feature extraction.
7	Analysis of Digital Elevation Model (Slope and Aspect Map Generation).	2	Students will learn basic operations of Digital Elevation Model (DEM).
8	Watershed Delineation with Hydrology Tool.	2	Students will learn to use DEM for hydrological feature extraction.
9	RS & GIS based suitability analysis.	2	Students will learn to integrate various remote sensing data for GIS based suitability analysis.
10	RS & GIS based risk mapping.	2	Students will learn to map the environmental risk and vulnerability.
11	RS & GIS based geostatistical analysis.	2	Students will learn to use geostatistical analysis in GIS environment.
12	Hands on training on GPS Survey and Plotting	2	Students will learn to use GPS for Geographical data collection.