



Introduction to Geographic Information Systems

ABOUT THE COURSE

The proposed course provides basic understanding about GIS Technology. Presently, GIS is being used extensively in various domains including in civil engineering, water resources, earth sciences, transportation engineering, navigation etc. Google Earth and Google Map are very popular custom designed user friendly GIS products which are widely used for various purposes including in navigation etc.

COURSE LAYOUT

Week-1:

- What is Geographic Information Systems?
- Different components of GIS
- Different types of vector data
- Raster data models and their types
- TIN data model

Week-2:

- Advantages and disadvantages associated with vector, raster and TIN
- Non-spatial data (attributes) and their type
- Raster data compression techniques
- Different raster data file formats
- Spatial database systems and their types

Week-3:

- Pre-processing of spatial datasets
- Different map projections
- Spatial interpolation techniques
- Different types of resolutions
- Digital Elevation Model (DEM)

Week-4:

- Quality assessment of freely available DEMS
- GIS analysis-1
- GIS analysis-2 and applications
- Errors in GIS
- Key elements of maps