CE432A: Geographical Information System **3-0-2-0 [11]**

Course Contents:

Introduction; GIS data: spatial and non-spatial, spatial data model: raster, tessellation, vector, 2.5D model; Topology and topological models; Spatial referencing using coordinates and geographic identifiers, metadata; Spatial data acquisition; Attribute data sources; Spatial and attribute data input; Data storage, RDBMS, database operations; Spatial and non-spatial data editing functions; Quality of spatial data; GIS analysis functions: Retrieval, classification, measurement, neighborhood, topographic, interpolation, overlay, buffering, spatial join and query, connectivity, network functions, watershed analysis, view shed analysis, spatial pattern analysis, spatial autocorrelation, trend surface analysis; GIS presentation functions: Visual communication theory, design theory, data visualization methods, exporting data; Modern trends: Internet GIS, 3D GIS, physical modeling under GIS environment.