



GEOGRAPHIC INFORMATION SYSTEM

PROF. BHARATH H AITHAL

Department of Design Engineering
IIT Kharagpur

TYPE OF COURSE : Rerun | Elective | PG

COURSE DURATION : 12 weeks (26 July' 21 - 15 Oct' 21)

EXAM DATE : 23 Oct 2021

PRE-REQUISITES : Set theory basics, Remote Sensing basics [Not Mandatory]

INTENDED AUDIENCE : Geoinformatics, Urban planning, Civil, Electronics

INDUSTRIES APPLICABLE TO : ESRI, Hexagon Geospatial, SkyMap Global, GISDATA, Digicollect GIS, GIS Maps,

COURSE OUTLINE :

This course targets to introduce and teach students basics of GIS using free and open software. Starting with basics, it would discuss analyzing various issues and criticalities in producing accurate data. The concepts are illustrated with appropriate examples.

ABOUT INSTRUCTOR :

Dr Bharath H. Aithal is currently a faculty at Indian Institute of Technology Kharagpur. He has published 50 Journal papers, 8 Book chapters, 1 Book, 80 Conference proceedings, and 40 Technical reports. He has delivered 18 invited guest lectures in various Indian academic Institutions, Universities, and R and D Organizations.

COURSE PLAN :

Week 1: Introduction to GIS

Week 2: Representing a real world in digitalscape

Week 3: Data types and data models

Week 4: Advanced data models in GIS and Data Generation/Collection/Surveys

Week 5: GIS data quality

Week 6: Global positioning system

Week 7: Database and Database Management System– Introduction

Week 8: Database query and Spatial analysis

Week 9: Basic and Advanced Spatial analysis of data

Week 10: Quantum GIS introduction, Hands on working with maps, data integration, collection, digitization and extraction

Week 11: Hands on data generation and analysis using various sources

Week 12: Data standards and Interoperability WEBGIS through GEOSERVER hands-on tutorials