



MANGALORE UNIVERSITY
DEPARTMENT OF MARINE GEOLOGY
MSc GEOINFORMATICS

GIH 401: DATA ACQUISITION AND DATA PROCESSING

Course Outcome:

CO1: Students will understand the mechanism of data collection and information extraction, historical evolution and need for information, Basic Concepts of Spatial Data and a spatial data, spatial information

CO2: Spatial data: Vector and Raster data format. Advantage and disadvantage of vector data and Raster data

It is a basic component in computer science and GIS companies or teaching field in computer science.

Unit 1	Definition of data and information, historical evolution and need for information, Basic Concepts of Spatial Data and a spatial data, spatial information	06 hrs
Unit 2	Primary data: Map data, data from aerial photos, satellite data, surveys.	06 hrs
Unit 3	Secondary data: Source of secondary data, advantages and limitations of secondary data.	06 hrs
Unit 4	Spatial data: Vector and Raster data format. Advantage and disadvantage of vector data and Raster data.	06 hrs
Unit 5	Extraction of data: Data from Toposheets, aerial Photos, Satellite Data (Hard copy & Digital Data products, thematic maps)	06 hrs
Unit 6	Data capture: Digitization and Scanning, Digitization Tablet, Scanners-Flat bed Scanner, Drum Scanner, limitations of Scanned data	06 hrs

Unit 7	Attribute Data: Source of attribute Data (need, methodology and relevance), Data input, Data Storing and Data Structuring	06 hrs
Unit 8	Analog and digital data: introduction, analogue to digital data conversion, digital to analogue data conversion.	06 hrs

References

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2. Betnstein, R. 1978, *Digital Image processing for remote Sensing*, IEEb Press, New York, 26-64.
3. Bruno Marcolongo and Franco Mantovani, 1997, *Photogeology, Remote sensing Applications in Earth science*, Oxford and IBH Pub. Co Pvt. Ltd., New Delhi, 12-108.
4. Drury, S. A. 1987, *Image Interpretation in Geology*, Allan & Unwin (Publishers) Ltd, 23-67.
5. Kenneth R, Castle man, 1979, *Digital Image Processing*, Prentice Hall, 24-98.
6. Falls Church, 1980, *Manual of Remote sensing Vol I and II*, American Society of Photogrammetry, 4th Ed, 39-58.
7. Miller and Miller, 1961, *Photogeology*, Mc Graw-Hill Book Company, New York,.
8. P. M. Mather, *Computer Processing of Remotely Sensed Images- An Introduction*, John. Wiley and Sons, 1999.
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