

Course No: NRG 171
 Course Title: **Principles of Cartography**
 Number of Credits: 3
 No. of Lectures-Tutorial-Practical: 22-13-14
 Course Coordinator: Dr Chander Kumar Singh

Aim

- Apply principles of map preparation techniques that is coherent and convincing.
- Critically analyze a map to understand its scientific, social and political utility.
- Use different thematic mapping techniques accurately and appropriately to represent spatial phenomena, and to design maps for effective communication

Course Outline

In this course, we study the art, science, politics, and technologies of cartography, to understand how maps are created and used to represent and communicate spatial phenomena and their relationships. Course lectures, readings, discussions and lab activities will introduce to the concepts, techniques, hardware, and software used for cartography.

Pre-requisite

No pre-requisite required

Evaluation Procedure

- 2 minor tests: 10% each
- Tutorials: 20%
- Practical: 20%
- Major exam: 40%

Details of course content and allotted time

SNo	Topic	Time (Hrs)		
		L	T	P
1.	Introduction to Cartography, Basics of Map	2		
2.	Fundamentals of direction, scale, types, sources	2	4	3
3.	Details of Datum, Geodetics, Spheroid	4	2	
4.	Concepts of map Projections (Basics, Overview and types -Cylindrical, Conic, Azimuth)	4	4	3
5.	Map Preparation Techniques	2		3
6.	Modern Techniques in Cartography and Computers	2		3
7.	Cartography and GIS	2	1	

8.	Introduction to perception, visualization, topographic and thematic mapping and color coding	2	1	
9.	Evaluation Criteria	2	1	2
	Total	22	13	14

Textbooks

1. ESRI (2004) ESRI Cartography: Capabilities and Trends, Redlands, CA, White Paper.
2. Imus D. and Dunlavey P. (2002) Back to the Drawing Board: Cartography vs the Digital Workflow, MT, Hood, Oregon.
3. MacEachren A.M. (1994) Some Truth with Maps: A Primer on Symbolization and Design, University Park: The Pennsylvania State University.

Suggested Readings

1. Monmonier M. (1991) How to Lie with Maps, Chicago: University of Chicago Press.
2. Monmonier M. (1993) Mapping It Out, Chicago: University of Chicago Press.
3. Pickles J. (2003) A History of Spaces: Cartographic Reason, Mapping and the Geo-Coded World, Taylor & Francis.
4. Sircar D.C.C. (1990) Studies in the Geography of Ancient and Medieval India, Motilal Banarsidass Publishers.
5. Slocum T. (2003) Thematic Cartography and Geographic Visualization, Upper Saddle River, New Jersey: Prentice Hall.
6. Wilford J.N. (2000) The Mapmakers, Vintage Books.

Magazines

1. Coordinates
2. Geospatial today
3. GIM International
4. GIS World
5. GIS@development
6. GPS World

Journals

1. Asian Journal of Geoinformatics
2. Cartographic Journal
3. Geocarto International
4. International Journal of Geoinformatics
5. International Journal of Remote Sensing
6. ISPRS Journal of Photogrammetry and Remote Sensing
7. Journal of Historical Geography
8. Journal of Indian Society of Remote Sensing
9. Remote Sensing of Environment