

INTRODUCTION TO CARTOGRAPHY

Credit/Hours: 3(2+1)

GEOG-104/GEOG-104L

Course Brief:

Cartography or mapmaking is the study and practice of making representations of the Earth on a flat surface. The discipline of cartography combines science, aesthetics, and technical ability to create a balanced and readable representation that can communicate information effectively and quickly.

Course Learning Objectives:

Cartography is a complex, an ever-changing field, but at the center of it is the map-making process. Viewed in the broadest sense, this process includes everything from the gathering, evaluation and processing of source data, through the intellectual and graphical design of the map, to the drawing and reproduction of the final document. As such, it is a unique mixture of science, art and technology and calls for a variety of in-depth knowledge and skills on the part of the cartographer.

Course Contents

I. Introduction to Cartography

- i. Nature and Scope of Cartography
- ii. History of Cartography

II. Basic Geodesy

- i. Spherical, Ellipsoidal and Geoidal Earth.
- ii. Geographical Coordinates.
- iii. Properties of the Graticule.
- iv. Geodetic position determination

III. Scale, Reference and Coordinate Systems

- i. Map Scale
- ii. Reference Systems
- iii. Coordinate systems
- iv. Datum

IV. Cartographic Symbols

- i. Symbol types and graphic variables,
- ii. The symbolization problem.
- iii. Symbolizing graphic features

V. Mapping Statistical Surfaces

- i. Form, Dimension and colour, Texture
- ii. Classification and generalization

VI. Lettering

- i. Native of typography
- ii. Lettering methods
- iii. Types and type characteristics
- iv. Photo lettering and automatic Control lettering

VII. Map Design

- i. General Design problems
- ii. Principles of Cartographic design
- iii. Design of map symbols

VIII. Basic procedure and designing of the following maps

- i. Topographic
- ii. Climatic
- iii. Economic
- iv. Settlements
- v. Urban Morphology

IX. Map Production

- i. Form of map output
- ii. Construction material
- iii. Output options
- iv. Composing separations
- v. Proofing

Books Recommended:

- Kraak, M.J. & Ormelling, F.J.; 1996 Cartography: Visualization of Spatial Data Longman, Harlow.
- Keats, J.S.; 1973 Cartographic Design and Production Longman, London.
- Lawrence, G.R.P.; 1971 Cartographic Methods, Methuen & Co., London.
- Bygot, J. (revised by Money); 1960 An Introduction to Map Work & Practical Geography, Tutorial Press London.
- Usil, G.W. & Hearn G.; 1947 Practical Surveying, Technical Press London.
- Threlfall, H.; 1946 A Textbook on Surveying and Leveling-Map Charles, Riffin London.
- Garnet, A.; 1935 Geographical Interpretation of Topographical Maps, London
- Debenham, F. Exercises in Cartography, Black Blackie & Sons London.
- Monkhouse F.J. & Wilkinson, H.R. Maps and Diagrams, Methuen London.
- Riasz Erwin General Cartography, McGraw Hill New York.
- Robinson, A. N. Elements of Cartography, John Wiley New York.
- Steers, J.A. An Introduction to the Study of Map Projections, London, University of Press London.

Assessment			
Sr. No.	Elements	Weightage	Details
1.	Midterm Assessment		
2.	Formative Assessment		
3.	Final Assessment		