GEOG. 104 INTRODUCTION TO CARTOGRAPHY

Credit/Hours: 3(2+1)

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	35%	Written Assessment at the mid-point of the semester.
2.	Formative Assessment	25%	Continuous assessment includes Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc.
3.	Final Assessment	40%	Written Examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.