**Cartography**

**Course Code: GIS-122**

Credit Hours: 3(2+1)

**Objectives:**

* Providing basic knowledge of portraying spatial features from reality by using cartographic techniques.
* Providing training in coordinates and projection systems and map classification techniques.

**Course Outline:**

Introduction to Cartography and its history, Nature of Cartography, Map Types (Choropleth, Proportional Symbol, Dot, Isarithmic, Cartograms Flow, and Graduate Color Maps), Symbols, Lettering, Scale and direction, Map Projections, Datum and Coordinate Systems, Generalization, Land Use/Land Cover Schemas: standards for land cover/land use classification schemes Survey of Pakistan, Food and Agriculture Organization (FAO), United States Geological Survey (USGS), Coordination of Information on the Environment (CORINE). Thematic Maps, Descriptive Statistics, Class Intervals, Map Compilation, Map Design, Cartography and Ethics, Map Production, Project.

**Lab Outline:**

Map reading, Assignment on Types of Maps, Understanding of Survey of Pakistan (SOP) symbology and Development of Symbol Charts, Development of Graphical Map Projections, Development of at least two map projections each from conical, cylindrical, and plane projection, Large to small scale map conversion, Data classification and Thematic Mapping, Map composite development, Assignment on misleading cartography, Visit to SOP, seminar

**Reference Material:**

1. Cromley, R. G. (1991) “Digital Cartography”. Prentice Hall Inc.

2. Jones, C. (1997), “Geographical Information Systems and Computer Cartography”, 1st Edition, Prentice Hall. ISBN-10:0582044391

3. Kraak, M.J. and Ormeling, F.J. (1996), “Cartography- Visualization of Spatial Data”, Longman Publishing Group. ISBN-10:0582259533.

4. Lliffe, J.C., and Lott, R. (2008), “Datum and Map Projections: For Remote Sensing, GIS and Surveying”, 2nd Edition, Whittles Publishing, Scotland UK. ISBN: 142007041X

5. Robinson, A.H., Morrison,J.L., Muehrcke, P. C., Kimerling, A.J., and Guptil,S.C. (1995), “Elements of Cartography”, 6th edition, John Wiley & Sons, New York, ISBN-10: 0471555797

6. Slocum, T. A.,, McMaster, R. B., Kessler, F. C. and Howard. H. H. (2009), “Thematic Cartography and Geographic Visualization”, 3rd Edition, Upper Saddle River, NJ: Pearson Prentice Hall. ISBN:0-13-229834-1