

Programme	Semester 3	Course Code	GES-203	Credit Hours	3
Course Title	Cartography				
Course Introduction					
<ul style="list-style-type: none"> Introduction to cartography and its history. 					
Learning Outcomes					
<p>On the completion of the course, the students will:</p> <ol style="list-style-type: none"> Thematic Maps Map Design Maps Types Map Production 					
Course Content				Assignments/Readings	
Week 1	Introduction to Cartography and its history				
Week 2	Nature of Cartography				
Week 3	Map Types (Choropleth, Proportional Symbol, Dot, Cartograms Flow, and Graduate Color Maps), Symbols, Lettering, Scale and direction				
Week 4	Map Projections, Datum and Coordinate Systems, Generalization				
Week 5	Land Use/Land Cover Schemas: standards for land cover/land use classification schemes Survey of Pakistan, Food and Agriculture Organization (FAO)				
Week 6	Thematic Maps				
Week 7	Descriptive Statistics, Class Intervals				
Week 8	Map Compilation, Map Design, Cartography and Ethics				
Week 9	Map Production.				
Week 10	Map reading, Assignment on Types of Maps				

Week 11	Understanding of Survey of Pakistan (SOP) symbology and Development of Symbol Charts,	
Week 12	Development of Graphical Map Projections, Development of at least two map projections each from conical, cylindrical, and plane projection	
Week 13	Large to small scale map conversion	
Week 14		
Week 15		
Week 16		

Textbooks and Reading 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. Liffé, 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

Teaching Learning Strategies

1. Lectures
2. Written Assignments
3. Quizzes
4. Lab Work

Assignments: Types and Number with Calendar

1. Practical
2. Quiz
3. Presentation
4. Assignment