GIS 189 : GIS, Mapping, and Society

Credits: 3
Class Hours: 3 lecture
Prerequisites: Qualified for ENG 100.
Description: Geographic Information Systems (GIS) is a computerized system used to design, capture, store, manipulate, analyze, manage, and present geographically referenced information or data. It combines cartography, statistical analysis, and databases to manipulate spatial areas for a given application. This introductory course will cover the use and application of GIS combining an overview of general principles of GIS and practical experience in the analytical use of spatial information. Students will gain an overall knowledge of GIS, analyze the social context of mapping and knowledge production, examine the diverse range of GIS applications, and complete a final project with a practical component involving the use of an analytical software package: ArcGIS by ESRI (Environmental System Research Institute).
Semester Offered: Fall, Spring
Designation:
Diversification: Social Sciences — DS
Course Student Learning Outcomes (CSLOs):
1. Identify the advantages and disadvantages of geospatial information technologies in relation to geographic and social representation of place.
2. Analyze and discuss sustainability planning in relation to GIS and advanced mapping technologies.
3. Describe and analyze basic geospatial information technologies including GIS, GPS (Global Positioning Systems), and Remote Sensing.
4. Identify, analyze, and describe geographic applications using GIS technologies in multiple disciplines, including environmental science, marine science, anthropology, health, agroecology, and landscape ecology, among others.
5. Explain and illustrate concepts, techniques, and software tools of GIS with emphasis on geovisualization, data management, geospatial analysis, and case-study applications.
6. Analyze and identify political influences in human geography and mapping including the effects of the past on current maps.
7. Identify components of strategies for complex problem solving that include geospatial information using GIS.