

Introduction to ArcGIS 9
GIS applications in public health and health policy
Geography 119A, Fall 2008

Class Time: September 13 and September 20, Saturday 8:00 am- 4:50pm
Location: Butte 501
Office hour: 4:50-5:30 after class in lab - Butte 626, T/Th, 11:00-noon, or by appt.
Instructor: Chris Lewis **Contact:** Email Address: cclewis@csuchico.edu phone: 898-4774

Course Description

GIS provides an effective way to visualize, organize and manage a wide variety of information including administrative and medical data, social services, and patient data. GIS is used to identify disease clusters, identify vulnerable populations for disaster planning, to investigate environmental health problems, to understand the spread of communicable and infectious disease and better locate health services to the population served.

ESRI's ArcGIS software is used by many federal, state and local agencies, as well as educational institutions, private industries and businesses, throughout the world. Many health care executives and public health professionals are now seeing the benefits of managing their organizations through the use of GIS. Managing health care costs by efficiently meeting patient needs with available resources is an activity that is central to every health care organization.

This course provides an overview of ArcGIS software capabilities and functionality. Learning how to use ArcGIS software is embedded in the context of visualizing and analyzing health-related data. Through lecture, case study discussion and hands-on activities, students will not only begin to learn how to use the software but will also learn the many distinctive advantages of using GIS for health care policy making and planning. Data issues, such as where and how to obtain GIS data, projections and scale and privacy will be discussed.

Prerequisites

Familiarity with a "windows" type computer environment is highly recommended.

Course objectives: After completing this course students will:

- understand what GIS is
- understand basic GIS concepts
- Demonstrate how GIS can be used for health applications
- Be able to use basic navigation and query tools in ArcGIS 9
- Be able to manipulate map layers in ArcGIS 9
- be able to use ArcGIS's presentation tools to create maps with associated map elements
- know how to change data from one projection to another
- Prepare a basic map with essential map elements for output.

Required Text

"GIS Tutorial for Health" Second Edition, Updated for ArcGIS 9.2, by Kristen S. Kurland and Wilpen L. Gorr. ESRI Press 2007. This book is used throughout the U.S. for training by many public health organizations.

Assignments

- GIS assignments build upon each other, so it is important to be up to date on your assignments.
- No assignment will be accepted after the due date unless previously arranged with the instructor.
- No assignments will be accepted after one week past the due date. Late assignments will be dropped one letter grade.

Grading

In class Tutorials (1-6)	80% (responsible to complete outside of class if don't finish in class)
Homework assignments	<u>20%</u> (exercise 3-1, page 107, Web data access - TBA)
	100%