

# HEALTH GEOINFORMATICS (HGIS)

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## Courses

### **HGIS 422. Principles of Geographic Information Systems. 4 Units.**

Comprehensive overview of the concepts, functions, applications, technologies, and trends pertaining to automated geographic information systems (GIS). Framework for understanding the design, development, implementation, and management of GIS. Topics include: GIS hardware and software considerations, data resources, technical issues and applications in GIS.

### **HGIS 424. Desktop GIS Software Applications. 4 Units.**

Introduces state-of-the-art, PC-based GIS applications. Student acquires the conceptual knowledge as well as the hands-on experience needed to optimally utilize available functions within desktop GIS technology for display, editing, analysis, and presentation of spatial and thematic data. Focuses on ArcView GIS and its analytical extensions.

### **HGIS 522. Principles of Geographic Information Systems and Science. 2 Units.**

Comprehensive overview of the concepts, functions, applications, technologies, and trends pertaining to automated geographic information systems (GIS). Topics include: GIS hardware and software considerations, data resources, technical issues and applications in GIS.

### **HGIS 524. GIS Software Applications and Methods. 3 Units.**

Project-oriented course introduces state-of-the-art, PC-based GIS technology and applications. Provides the conceptual knowledge and hands-on experience needed to optimally utilize available functions within desktop GIS technology for modeling, displaying, editing, analyzing, and presenting spatial and thematic data. Focuses on ArcGIS and its analytical extensions, as well as Leica Geosystems ERDAS Imagine.

### **HGIS 535. Integration of Geospatial Data in GIS. 2 Units.**

Surveys capturing, processing, integrating, and displaying GIS data. Focuses on public health applications of global positioning systems, satellite digital imagery, image processing, aerial photography, digital orthophotography, GIS applications for the World Wide Web, and GIS data sources on the Internet.

### **HGIS 536. Spatial Analytic Techniques and GIS. 3 Units.**

Modeling and analyzing complex spatial relationships through GIS technology. Selective retrieval of spatial information and computation or mapping of statistical summaries. Advanced methods of analysis using spatial statistics. Prerequisite: HGIS 522 or HGIS 524; or consent of instructor.

### **HGIS 547. GIS for Public Health Practice. 2 Units.**

Community health assessment and planning, chronic disease prevention, public health, health disparities analysis, and immunization. Prerequisite: HGIS 522 or HGIS 524.