

# Course Outcome Guide (COG)

Approved 13 September 2012

<b>Course:</b>	GIS 299 – Special Topics in GIS	<b>Credits:</b>	3	<b>Instructor:</b>	TBD
<b>Course Description:</b>	Permits students to pursue a special GIS topic, under the guidance of an instructor. Possible topics include <a href="#">applying</a> various GIS course operations to specific regional databases, analyzing the data, making inferences, and producing mapped data; collecting local or regional data, analyzing the data and producing conclusions; doing a library and computer search of published materials on a specific topic and designing a database system to incorporate that data and expand the area of research. PREREQUISITE: Instructor's permission.				
Concepts and Issues	Process Skills	Assessment Tasks	Intended Outcomes		
			Course	General Education or Program	Institutional
<ul style="list-style-type: none"> <li>* GIS</li> <li>* Maps and Cartography</li> <li>* ArcGIS</li> <li>* ArcGIS Extensions</li> <li>* Use of ArcGIS to geocode addresses</li> <li>* Use of ArcGIS to create and manage geodatabases</li> <li>* Spatial analysis with ArcGIS</li> <li>* Statistical analysis with ArcGIS</li> <li>* Creation of TINs for three-dimensional analysis</li> </ul>	<ul style="list-style-type: none"> <li>* Use ArcGIS to select, buffer, clip, dissolve, or otherwise prepare data for analysis.</li> <li>* Use ArcGIS to perform spatial &amp; statistical analysis</li> <li>* Identify the processes involved in creating and maintaining geodatabases in ArcGIS.</li> <li>* Identify the steps involved in geocoding and georeferencing data.</li> <li>* Identify the current trends in GIS research by analyzing professional journals.</li> <li>* Identify the statistical techniques used for performing spatial analysis.</li> <li>* Use ArcGIS to create vector, raster, and TIN data.</li> <li>* Use ArcGIS to create and animate three-dimensional models.</li> </ul>	<ul style="list-style-type: none"> <li>*Participate in class discussions and activities demonstrating knowledge of subject matter.</li> <li>*Complete examinations demonstrating acceptable skill level of concept and process.</li> <li>*Complete textbook readings, questions and problems (both individually and collaboratively) demonstrating acceptable skill levels of concept and process.</li> <li>* Design, construct and test your final project.</li> </ul>	<p>Demonstrate an advanced understanding of data preparation and manipulation.</p> <p>Demonstrate an advanced understanding of map principles and map design.</p> <p>Demonstrate an understanding of geodatabase design and management</p> <p>Demonstrate a basic understanding of statistical processes behind data analysis.</p>	<ol style="list-style-type: none"> <li>1.Mathematics-including numeration literacy and the knowledge and use of statistical and logical processes.</li> <li>2.Analytical-gathering, organizing, and evaluating information</li> <li>3.Analogical-using former knowledge to help comprehend and explain new situations</li> <li>4.Critical Thinking-the ability to identify ad define criteria, understand biases, and construct objective judgments.</li> <li>5.Problem solving-the ability to analyze situations and synthesize solutions.</li> </ol>	<ol style="list-style-type: none"> <li>1. Students will demonstrate effective communication skills.</li> <li>2. Students will use reasoning skills to analyze and solve problems.</li> </ol>