

Prerequisite status: Advanced geographic information system Database management Digital earth models	Unit Type: Theoretical/practical	The number of units: 2	Name of the lesson: <b>GIS modeling in urban and rural studies</b>
Type of additional practical training: Has it <input checked="" type="checkbox"/> does not have <input type="checkbox"/> Science travel <input type="checkbox"/> Laboratory <input checked="" type="checkbox"/> Workshop <input type="checkbox"/> Seminar <input type="checkbox"/>		The number of hours: 51	Expert professor to teach: GIS
<b>Goals:</b> Familiarizing students with geographic information system modeling in urban and rural studies and its use in location-based applications			
<b>Headlines</b>  1- Getting familiar with and using standard modeling languages such as UML and its various structures in location-based models  2- Modeling the expansion process of cities using a geographic information system  3- Zoning of natural hazards in cities and villages, including earthquakes, subsidence, etc.  4- Modeling the challenges in urban planning, including types of pollution (air, sound, etc.), traffic, etc.  5- Studying the types of models available in the discussion of health in cities and villages using Health GIS  6- Knowing and using how to store in location-based models, including Geodatabases			
<b>Reference</b>  1- Nyerges T. L. and Jankowski P., 2010, Regional and Urban GIS: a decision support approach, Guilford Press  2- Maantay J. and Ziehler J. and Pickles J., 2006, GIS for the urban environment, ESRI Press.			