NOTICE OF
UNIVERSITY ORAL

GEODESY AND GEOMATICS ENGINEERING
Master of Science in Engineering

Ojaswa Sharma

May 4, 2006
@ 10:00 am
Room E-11 - Head Hall

Board of Examiners:	**Co-Supervisors:**	**Dr. Darka Mioc, GGE**
		Dr. Francois Anton, GGE
	Examining Board:	**Dr. David Coleman, GGE**
		Dr. Yun Zhang, GGE
		Dr. Brad Nickerson, Computer Science
	Chair:	**Dr. Marcelo Santos, GGE**

A Methodology for Raster to Vector Conversion of Colour Scanned Maps

ABSTRACT

Digital maps are considered better than paper maps because they allow quick analysis of complex queries. Even today, a large volume of maps are in paper form and converting all the paper maps to digital maps by digitizing is a tedious process. This research work is an attempt to automate some portion of the conversion process. This includes replacing the manual digitization process by computer assisted skeletonization using scanned paper maps. In colour scanned paper maps, various features on the map can be distinguished based on their colour. There has been a good amount of work already done as far as skeletonization is concerned, but this research work is different from the previous ones in the way that it uses the Delaunay triangulation and the Voronoi diagram in order to extract the skeletons that are guaranteed to be topologically correct. The features thus extracted as object centrelines can be stored as vector maps in a Geographic Information System after labelling and editing. Furthermore, map updates are important in any Geographic Information System. Therefore, this research work can also be used for updates from sources that are either hardcopy maps or digital raster images. A prototype application implementing a complete methodology of the skeletonization process from colour scanned maps has been developed during this research.

Faculty Members and Graduate Students are invited to attend this presentation.