

# Geographic Information Systems

C. I. D. T.  
Computer Information  
and Design Technologies

## Technician Level 1 Certificate

Course	Credit Hours	Contact Hours	Required Prerequisite Or *Co-requisite
1st Semester			
CRTG 1402 - Understanding Geographic Information Systems	4	6	None
CRTG 1444 - Using Geographic Information Systems	4	6	CRTG 1402
2nd Semester			
CRTG 2402- GIS Design with Raster Analysis	4	6	None
CRTG 2404- GIS Design with Vector Analysis	4	6	None
CRTG 2380 - Cooperative Education - Cartography	3	4	None
PROGRAM TOTAL:		19	

Some course prerequisites may include: Work experience or consent of instructor, please check with instructor.

The GIS Technician Certificate is designed to quickly get students in the basics of GIS. There are two introductory level courses followed by two courses focused on GIS analysis. Both raster and vector data analysis are covered.

An internship helps bridge the gap from formal training to full time employment.

# GIS Technician Level 1 Certificate

## CORE COURSE DESCRIPTIONS

**CRTG 1402. Understanding Geographic Information Systems.** This is an introductory course covering the theory and application of geographic information sciences (GIS). The course includes an overview of the general principles of GIS and experience in its use.

**CRTG 1444. Using Geographic Information Systems.** This course covers the theory and application of Geographic Information Science (GIS) and the relationship between the principles of cartography, geography and their use in geospatial analysis. Emphasis is on global reference systems (GPS technology). This course will use satellite and GPS technology for measurement and navigation.

Field Data collection required for this course.

Prerequisites: CRTG 1402, work experience or consent of the instructor

**CRTG 2402 – GIS Design with Raster Analysis.** This course is designed to familiarize the student with raster/remote sensing principles, technologies and applications. Students will learn how to process raster imagery into useful information to be used in a GIS. The student will also be instructed on geo-referencing and image classification. This class will utilize lecture, demonstration and hands-on training. Emphasis is placed on a final project in which students will present a project to the class that demonstrates raster and remote sensing techniques.

**CRTG 2404 – GIS Design with Vector Analysis.** The introductory course in GIS answered the basic question "What is GIS"? This continuation of that class will take the basics learned and begin to explore the question "Why use GIS"? Students will learn to use GIS as a problem solving tool from the first stages of designing an analysis project, through the data collection and manipulation phase to the final phase of presenting the project. Emphasis is placed on making the final project both thorough and presented in a good, graphic manner.

**CRTG 2380 – Cooperative Education - Cartography.** Co-op comprises Career related activities encountered in the student's area of specialization, offered through an individualized agreement among the college, employer and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. This course includes a lecture component..

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