



# CASE STUDY: CANADIAN FORCES AND ALGONQUIN COLLABORATE TO EXPAND ORGANIZATIONAL CAPACITY

In 2006, Algonquin College, a recognized leader in the field of Geospatial and Geographic Information Systems (GIS) and GIS training, was approached by the Canadian Forces Support Training Group (CFSTG) to explore the feasibility of developing and delivering a program to satisfy the training requirements exclusively for Canadian Forces (CF) Geomatics Technicians. The goal was to increase the number of CF graduates produced by the School of Military Mapping (SMM).

## The Need

The Canadian Forces was seeing an increasing demand for specialized GIS resources needed to perform spatial analysis and produce specialized maps that assist and advise planners and commanders in the geospatial elements which influence and affect military operations. The CF Geomatics Technician occupation was seeking to nearly triple the annual intake of personnel in order to meet its operational requirements. CFSTG and SMM were looking to collaborate and partner with an institution that was recognized as a leader in the field of Geospatial and Geographic Information Systems and GIS training, and could accommodate their unique training needs.

Geomatics Technicians are members of the CF Military Engineering Branch and are known as 21<sup>st</sup> century "Military Mappers". They capture, store, process, present, disseminate and manage geospatial information. A Geomatics Technician at the Qualification Level 5A, journeyman equivalent, has the following primary duties:

- a. Collect geospatial data using imagery (from satellite, aerial and hand-held cameras, global positioning system devices and survey equipment);
- b. Manage and fuse digital geospatial data and products from a wide range of sources;
- c. Produce digital and hard-copy maps, charts, three-dimensional visualizations and other geospatial products to assist commanders and their staff understand and move in the battlespace; and
- d. Generate and reproduce digital geospatial products.

## The Solution

Algonquin College had been actively teaching geomatics for many years, including surveying, photogrammetry, remote sensing and GIS.

The College recently offered both two- and three-year undergraduate diploma programs in GIS, and currently offers a one-year graduate program in Geographic Information Systems.

In collaboration with CFSTG, Algonquin College leveraged its GIS programs and subject matter experts to develop a two-year program exclusively for CF personnel. The program was designed to meet the Qualification Standard requirements and provide successful students with a provincially approved post-secondary community college level certificate in geomatics, leading to a provincially approved diploma in geomatics or geospatial studies.

## The Implementation

In the spring of 2007, the CF entered into a multi-year agreement with Algonquin College to deliver the specialized two-year Geomatics training program in partnership with the CF School of Military Mapping.

The CF and Algonquin College entered into a unique collaborative partnership, combining content, expertise and delivery. Algonquin would deliver the academic training, while the CF provided military-specific instruction unique to the CF Geomatics occupation.

Algonquin College provided classrooms and an access-controlled geomatics computer laboratory, with peripheral geomatics hardware and an information support network configuration that could remotely access the Department of National Defence (DND) network.

Instructors were able to incorporate practical work sessions that developed student skills for the commonly used geomatics software applications in the public/private sectors, and that were also common to CF Geomatics Technicians. The College's on-site accommodations were also offered to personnel who required them.

## The Outcome

Students in the Geomatics Technician program earn a college-approved certificate in Geomatics. Algonquin College also grants a provincially approved Geomatics Technician Diploma to students who successfully graduate from the Geomatics Technician Training and have completed a small number of approved additional courses.

*"I continue to be impressed by the responsiveness of Algonquin College in ensuring our training needs are being met. The level of service and support provided by Algonquin College towards our training initiatives has been nothing short of remarkable."*

Major Mark Russell  
Canadian Defence Academy  
Community College Programs Coordinator

## Conclusion

Algonquin College Corporate Training Centre was able to assist the Canadian Forces in developing a new pool of GIS resources that address the increasing demand for these key personnel. The training provided students with core geomatics skills and knowledge foundations, including geodesy, remote sensing, photogrammetry, geographic information systems, and related database manipulation. Performance-oriented training and student evaluation procedures focused on the knowledge and skills required to achieve the Performance Objectives detailed in the CF Qualification Standard.

