

Geographic Information Systems Career Focus

What is the Geographic Information Systems Career Focus?

The Geographic Information Systems Career Pathway focuses on preparing students for careers in the continually evolving and expanding Spatial Information Technology Industry. GIS is a powerful computer-based technology that allows trained users to create, map, merge, analyze and manipulate spatial information as well as other types of data. This data is represented as different layers on maps. GIS uses technologies such as Global Positioning Systems (GPS) and Remote Sensing (RS), to gather information all over the world. This is a highly skilled computer based field. Students in the Pathway will learn the basics of GIS, related software and its applications.

Why get involved with Geographic Information Systems?

Nationally, GIS is a rapidly growing fields with applications in many areas of business and industry. A GIS user in natural resources will utilize one or more data layers for a given study area in order to answer a particular question, such as where are there contiguous tracts of protected lands, or what type of wildlife habitat exists at a given location. A GIS user in health care may use data layers and information to analyze the spread of a disease, or to analyze population statistics to locate a new health clinic. A GIS user in transportation may use data to strategize truck delivery routes or recommend road construction based upon accident sites. GIS is used in forestry applications on a daily basis. The limits to GIS applications are endless. GIS Professionals are appearing on the staff of a variety of companies ranging from advertising, health care, governmental agencies, law enforcement, engineering firms, and colleges and universities. There are many GIS applications in the newly emerging area of Homeland Security. Typical careers in GIS would be, Cartographer, GIS Technician, Civil Engineer, Community Planner, or Forester.

What are the connections to Business and Industry?

Many towns and cities have GIS projects that would be excellent work-based learning projects for a community or school partnership. Trail mapping, 911 mapping, water supply projects, and conservation and land protection projects are all a part of providing and creating GIS database information. Businesses are willing to create internships for students with GIS Technology skills. Much of the work that goes on in Conservation and Natural Resource Inventories, Forestry, and municipal and private planning is based on and utilizes GIS technology.

Who are our Business and Industry Partners?

A wide range of groups and agencies throughout the state are involved with Geographic Information Systems school programs. Some of the groups involved are NH Office of State Planning, NH GRANIT Project at UNH, UNH County Extension, NH Fish and Game Department, US Forest Service, Appalachian Mountain Club, and the US Geodetic Survey. Many municipal and regional planning agencies are involved on a local basis. Private corporations such as Geographic Data Technology in Lebanon, serve clients globally and nationally whom are interested in helping schools develop their GIS expertise. Environmental Systems Research Institute and Trimble Engineering, both nationally recognized GIS developers, give exceptional discounts to K-12 schools.

What is the role of postsecondary education?

Continuing education in a two-year or four-year program leading to an Associates or Bachelors degree is critical to a student's credentials and future advancement. Articulation Agreements between NH High Schools and The NH Community Technical Colleges in Berlin will allow students to transfer credits from their High School courses, or will carry transferable credit with the NHCTC Running Start Program, to their GIS-based degree programs. Several other schools in the state, including Plymouth State, Keene State, and UNH offer Bachelors degrees in GIS-based fields of study. Nationally, advanced degrees are also available in GIS based fields.

How many programs are available that are Geographic Information Systems Related related?

Many schools in NH are developing project based learning programs. We currently have one Spatial Information Technology Program and are developing a several other Geographic Information Systems Programs.

What resources are available to help schools implement the Geographic Information Systems pathway?

Professional Development Training programs for educators in a variety of GIS-related fields, as well as technical assistance are available through our partnership with the University of NH Cooperative Extension in Durham and at many locations throughout the State. Technical assistance is also available from the Staff at the GIS program at the NHCTC Berlin Campus. Various statewide GIS-based groups such as the NH Arc View Users Group, are interested in working with schools to develop programs. Additionally the NH GIS Database, GRANIT, provides data and information to schools and municipal groups free of charge. Environmental Systems Research Institute, a nationally known developer of GIS software, has special discounts, and K-12 lesson plans curriculum and software for schools interested in implementing GIS programs. The North Country Region also has a private GIS Educator Consultant that is available to schools in the state.

For More Information

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