

# Geographic Information Systems



## GENERAL INFORMATION

GIS stands for Geographic Information System. It is a computer-based system for the storage, management, analysis, and display of geographic data. GIS is widely used in the private sector, all levels of federal, state, and local government, and by nearly every academic discipline at the university level. It is a powerful tool for decision-making, managing information, and conducting extensive analysis, in relation to almost any business or interest.

## PREPARATION

Potential applicants should possess strong communication skills (in working with people and generating reports), a working knowledge of mathematics in how they apply to Geography, and the ability to understand different computer operating, software, and file systems. Good English grammar and punctuation skills are required, as well as familiarity with personal computers and word processing software. For Geographic Information Systems positions, understanding geographic terminology and the technical implementation of these concepts is essential.

## CAREER OPTIONS

The GIS/mapping industry is a burgeoning market and one of the fastest growing segments of the computer industry. As a result, GIS-trained professionals have never been in greater demand. Opportunities for certificate holders can be found in several areas within the GIS industry including applications development, database creation, sales and marketing, software development and training, data conversion, and public, retail, or commercial project management. Many state agencies have created new positions for GIS analysts, technicians, and managers. Some Washington agencies that employ persons with GIS training include the Department of Ecology, Department of Forestry, and Department of Transportation. In addition, Native American tribal governments, city planning departments, and regional planning agencies have created new positions for GIS specialists. At a time when the federal government workforce is being scaled back, there continues to be a high demand for GIS analysts in agencies such as the U.S. Fish and Wildlife Service, National Park Service, Bureau of Land Management, U.S. Forest Service, Natural Resource Conservation Service, and the Environmental Protection Agency.

## PROGRAM DESCRIPTION

The GIS Certificate Program provides students with broad exposure to principles and applications of GIS. A student who has earned the Certificate in GIS will be well-versed in general GIS theory and will have knowledge and/or practical exposure to the following:

- 1) hardware and software used in GIS,
- 2) planning and construction of spatial databases,
- 3) GIS analyses (performed on data related to the student's area of interest), and
- 4) generation of professional-quality end products

Upon completion of the certificate, students will also have a working knowledge of general geographic foundations upon which GIS is based. The program is designed to allow a high degree of flexibility, allowing for personal interests and backgrounds, while providing a powerful and marketable set of skills that can be used in contemporary work settings. Through elective courses, students can focus on one of several areas of specialization at both an applied and a technical level.

A Certificate is awarded upon successful completion of the 45-credit, 3-quarter program. Although many of the courses in the certificate program are transferable to baccalaureate institutions, pursuit of the GIS certificate does not lead to a transferable degree. Students who wish to pursue a bachelor's degree should consult the program advisor.

## PROGRAM ADVISOR

It is essential to follow advisor guidance for this program. Please contact:

Kerry Lyste, Gray Wolf 350, (425) 388-9381  
klyste@everettcc.edu

Or contact the Division Office at 425-388-9387.

## GETTING STARTED AT EVCC

Our Enrollment Services Office provides information about application, advising, orientation, and registration for new and continuing students. Though advising is voluntary, all prospective and current students are invited to contact the Enrollment Services Office or the Counseling Advising and Career Center (CACC) if they would like to speak one-to-one with an advisor about getting started.

- ◆ Enrollment Services, Jackson Center, 425-388-9219  
admissions@everettcc.edu
- ◆ Counseling, Advising and Career Center, Third Floor, Parks, 425-388-9263

# GEOGRAPHIC INFORMATION SYSTEMS CERTIFICATE- 45 credits

Students should meet with the program advisor and maintain this checklist while at Everett Community College. Students must bring this checklist to all advising sessions. The quarter before expected completion, this checklist (signed and dated by the advisor) should be submitted with a diploma application to the Enrollment Services Office. A full description of the College's requirements for earning a certificate or degree is contained in the College catalog.

Courses listed with an ampersand in the course number (e.g. ENGL&101) reflect the new Common Course Numbering System.  
 Courses in [brackets] are the "old" course numbers and may be used to satisfy requirements. For more information, go to [www.everettcc.edu/ccn](http://www.everettcc.edu/ccn)

Student Name: \_\_\_\_\_ Advisor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Prior to beginning Geographic Information Systems courses, students should have a working knowledge of file management and Geometry, as well as good writing skills. The prerequisites for enrolling in GIS 200 and GIS 201 are: Completion of ENGL 098 or placement scores indicating readiness in ENGL& 101; CL 101 or program advisor approval; and MATH 095 [059] or equivalent Geometry skills.

<u>Course Number</u>	<u>Course Title</u>	<u>Credits</u>	<u>Quarter Completed</u>	<u>Grade</u>
<b>TECHNICAL CORE REQUIREMENTS</b>				
GIS 200	Introduction to Computer Cartography	5	_____	_____
GIS 201	Introduction to GIS	5	_____	_____
GIS 205	Applications in GIS	5	_____	_____
GIS 250	Internship (can be repeated for credit)	3-5	_____	_____
Select one of:	GEOG 101, 102D, 201D, or 205: _____	5	_____	_____

**ELECTIVES. Select a minimum of 20-22 credits, including at least 5 credits from each Track from the Electives list below.**

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**TOTAL:** \_\_\_\_\_

**A minimum of 45 credits is required, with a cumulative GPA of at least 2.0.**

**APPLIED TRACK ELECTIVES**

ANTH& 215 [201]	Bioanthropology with Lab
ATM S 101	Weather
ENVS& 100 [101]	Survey of Environmental Science
ENVS 150	Land Use Planning and Regulation
ENVS& 101 [165]	Intro to Environmental Science: with Lab
GEOL& 110 [113]	Environmental Geoscience
GEOL 190	Regional Geoscience Field Exploration
GEOL& 208	Geology of Pacific NW
GS 186D	Pacific Island Cultures
HUM 247D	Introduction to World Religions
MATH& 146 [281]	Intro to Statistics
OCEA& 101	Intro to Oceanography
POLS 205	State and Local Politics
SOC 240	Social Psychology
SOC 230	Human Ecology
CMST 204D [SPCH 204D]	Intercultural Communication
CJ& 112 [SOC 271]	Criminology

*Substitution may be permitted on the above electives based on program advisor approval.*

**TECHNICAL TRACK ELECTIVES**

ENGR 143	Computer Programming for Engineers
ENG T 100	Fundamentals of Drawings; 2D AutoCAD
ENG T 105	Dimensioning and Tolerancing; 2D AutoCAD
ENG T 203	Intermediate 2D AutoCAD
ENG T 210	Civil Planning
CS 108	Introduction to Operating Systems
CS 110	Computer Programming I (Visual Studio.Net)
CS 124	Intro to Database Design
CS 126	Relational Database Management Systems
CS 128	Advanced Database Programming
CS 161/162	PC Technician I, II
CS 280	System Analysis and Design
GIS 299	Independent Study in GIS (Visual Basic, etc.)

Everett Community College does not discriminate on the basis of race, religion, creed, color, national origin, age, sex, sexual orientation, marital status, the presence of any physical, sensory or mental disability, or status as a disabled or Vietnam era veteran in its program and activities, or employment. The Vice President of Student Services has been designated to handle inquiries regarding student-related non-discrimination policies and can be reached at 2000 Tower Street, Everett, WA 98201, or by phone at (425)388-9589. The Vice President of Human Resources has been designated to handle employment-related inquiries regarding the non-discrimination policies and can be reached at 2000 Tower Street, Everett, WA 98201, or by phone at (425)388-9232. This publication is effective **NOVEMBER 2009**. The College reserves the right to change courses, programs, degrees and requirements. It is the student's responsibility to be aware of correct information by routinely checking with Enrollment Services and/or the advisors listed in this publication. Requirements applicable to all certificates and degrees are published in the College Catalog. Nothing contained herein shall be construed to create any offer to contract or any contractual rights.