ACC GIS

TX SAGE 2YC: Workforce Programs

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# ACC GIS

Austin Community College District

The ACC GIS Program

Interested in learning Geographic Information Systems (GIS)? The Austin Community College GIS Department offers 13 GIS courses, two GIS certificates and an Associate of Applied Science degree. Whether you're interested in launching a new GIS career or simply retooling, ACC GIS can support your professional goals.

What is GIS?

A GIS is any system that captures, stores, analyzes, manages, and presents data that are linked to location. In the simplest terms, GIS is the merging of cartography and database technology.

Learn GIS

GIS Level I Certificate

GIS Level II Certificate

Associate of Applied Science
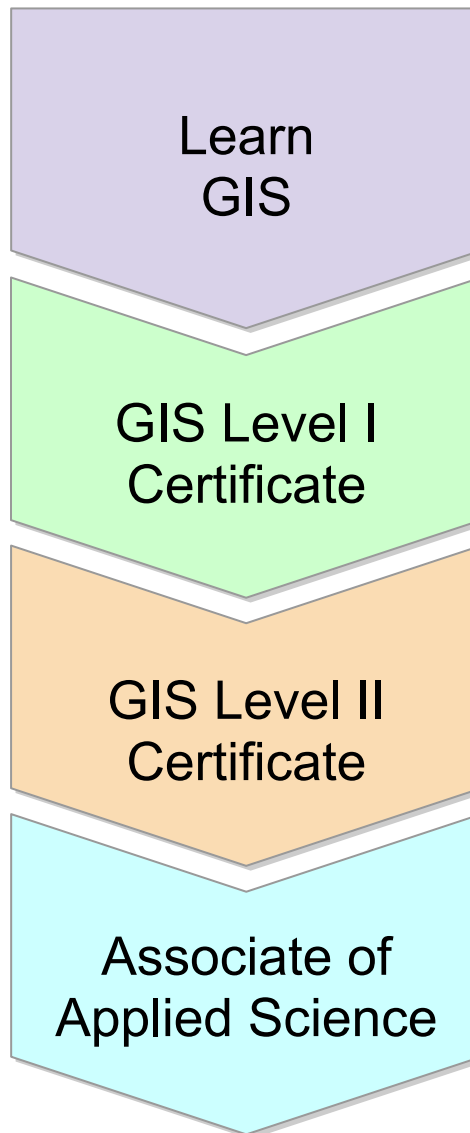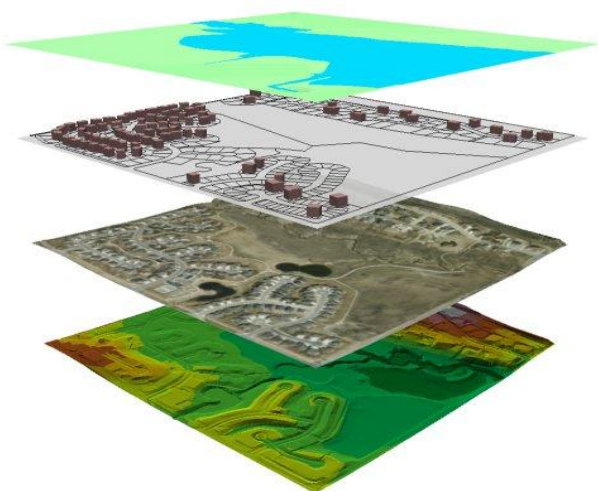
Learn GIS

Take our Introduction to GIS and Intermediate GIS courses and master basic geospatial concepts and analyses using ESRI's ArcGIS 10.1 Desktop and Extensions.

GIS Level I Certificate

A 1-year workforce certificate designed for:
- New students seeking skills they need for an entry-level GIS Tech job; or
- Existing GIS professionals seeking to update or expand their skills

GIS Level II Certificate

A 2-year workforce certificate designed for:
- New students seeking skills they need for an entry-level GIS Analyst job; or
- Existing GIS professionals seeking to update or expand their skills

Associate of Applied Science

A 2-year workforce degree designed for:
- New students seeking skills they need for an entry-level GIS job; and
- Wanting to transfer 30% of their course credit to a 4-year public college or university in Texas

See the GIS Degree Matrix for a course list.

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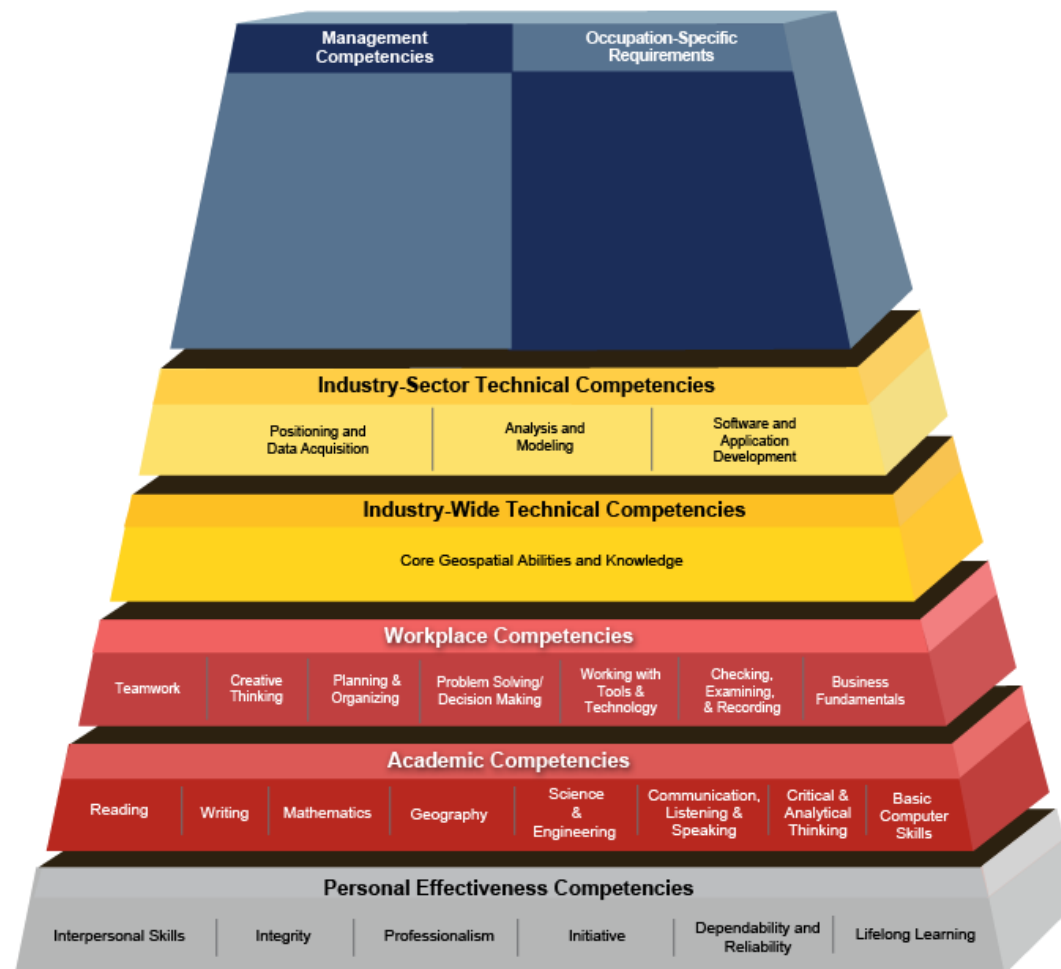| Course				GIS Award				Semester	
Number	Name	Description	Prerequisite(s)	Learn GIS	Level I Certificate	Level II Certificate	AAS Degree	Award Plan	Student Plan
GEOG 2470	Introduction to GIS	Master basic geospatial concepts and ESRI's ArcGIS Desktop software	None	✓	✓	✓	✓	First	
GISC 2420	Intermediate GIS	Master geodatabases and perform advanced geospatial analysis utilizing ESRI's ArcGIS Network, Spatial, and 3D Analyst Extensions	GEOG 2470	✓	✓	✓	✓	Second	
GISC 1491	Introduction to Cartography	Design intuitive and informative maps using cartographic conventions and ArcGIS	None		✓	✓	✓	First	
ITSW 1307	Introduction to Database: Access	Understand Relational Database Management Systems (RDBMS) and how to create, query, and manage them using Microsoft Access	COSC 1300 or dept. approval		✓	✓	✓	First	
GISC 2401	GIS Data Acquisition and Analysis	Manage a GIS project and present your analysis at an end-of-semester poster session	GEOG 2470		✓	✓	✓	Second	
	GIS Capstone	Complete an independent study (GISC 1391), internship (GISC 2164 or GISC 2264), or work study (GISC 2280) GIS project	GEOG 2470		✓	✓	✓	Final	
GISC 1401	GIS & GPS	Perform data collection in the field and integrate with GIS utilizing ArcPad, Mobile ArcGIS, Garmin, and Trimble software and hardware	GISC 2420			✓	✓	Second	
GISC 1421	Introduction to Raster-Based GIS	Analyze aerial and satellite imagery utilizing ERDAS Imagine and ArcGIS Desktop Software	GISC 2420			✓	✓	Second	
GISC 2231	Advanced Problems in GIS	Learn a new GIS technology and apply it to a real-world project	GISC 2420			✓	✓	Third	
GISC 2250	Scripting for GIS	Automate tasks and geospatial processes using ESRI's ArcGIS ModelBuilder	GISC 2420			✓	✓	Third	
GISC 2435	Programming for GIS	Learn fundamental programming principles and automate tasks and geospatial processes using Python programming language	GISC 2420			✓	✓	Final	
GISC 2459	Web-Served GIS	Publish geospatial data via the Internet using ESRI's ArcGIS Server	GISC 2420			✓	✓	Third	
GISC 2479	Geospatial Data Management	Geospatially enable and manage large datasets using file and enterprise geodatabases	GISC 2420 ITSW 1307			✓	✓	Third	
	GIS Elective	Technical Drafting (DFTG 1405), Intro to Surveying (SRVY 1301), Fundamentals of Programming (COSC 1315), Intro to Physical Geography (GEOG 1301), or Technical and Business Writing (ENGL 2311)				✓	✓	Final	
ENGL 1301	English Composition I	Study the principals for composition with emphasis on language, writing, discourse, research, and documentation					✓	First	
GEOG 1301	Introduction to Physical Geography	Study the nature and characteristics of the physical environment					✓	First	
ENGL 2311	Technical and Business Writing	Learn to write reports, letters, and related business documents					✓	Second	
	Social and Behavioral Science Elective	Select a Social an Behavioral Science general education course					✓	Third	
	Math Elective	College Algebra (MATH 1314) or Elementary Statistics (MATH 1342)					✓	Third	
	Humanities/Visual and Performing Arts	Select a Humanities/Visual and Performing Arts general education course					✓	Final	
	Oral Communication	Select a Oral Communication general education course					✓	Final	

Select two of these three

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Geospatial Technology Competency Model

Summary-Level	ID	Program-Level Student Learning Outcome	GEOG 2470	GEOG 2471	GISC 1491	GISC 2401	GISC 1401	GISC 1421	GISC 2231	GISC 2250	GISC 2459	GISC 2479	GIS CAP	Level I Certificate	Level II Certificate	AAS Degree	AA Degree	Student 1	Student 2	Student 3	Student 4	Student 5	Average Points	Total Points	Question Numbers
			GIS Courses											GIS Awards				GIS Level I Assessment					Exam Questions		
Manage Data	1	Develop conceptual, logical, and physical geospatial data models in response to user requirements and within the life cycle of a GIS project or work-flow of a GIS program.				X						X	X	X	X	X		3	5	3	5	5	4.2	5	1-5
	2	Identify and perform data management activities required to clean, normalize, integrate, automate, geospatially enable, and administer data. (GIS Level II and AAS only)					X					X	X		X	X									N/A
Generate Data	3	Select, evaluate, and document primary and secondary data according to original scale, coordinate system, precision, accuracy, completeness, currency, source, and fitness for use.				X	X	X					X	X	X	X		5	5	2	2	5	3.8	5	6-10
	4	Identify, create, and assimilate sources of primary data, such as: GPS, imagery, and field data into a GIS. (GIS Level II and AAS only)					X	X							X	X									N/A
Process Data	5	Identify, collect, and assimilate sources of secondary data, such as: clearinghouse data, digitized data, classified data, COGO, and geocoded data into a GIS.		X		X						X	X	X	X	X	X	4	4	4	4	5	4.2	5	11-15
	6	Edit, query, convert, rectify, georeference, project, transform, geoprocess, validate, import, export, backup, and archive data while utilizing file and data standards and assuring quality.	X	X		X		X				X	X	X	X	X	X	4	5	4	4	5	4.4	5	16-20
Analyze Data	7	Query spatial and attribute data by location and utilizing query languages.	X	X	X	X	X	X		X	X	X	X	X	X	X	X	5	5	4	5	4	4.6	5	21-25
	8	Perform proximity, overlay, density, surface, 3D, network, image, and geostatistical analyses on spatial data.		X		X		X				X	X	X	X	X	X	2	5	3	3	5	3.6	5	26-30
Manage Software	9	Interpret user requirements to select, install, maintain, and license desktop GIS and GIS-related software.		X				X	X	X	X	X	X	X	X	X	X	4	5	5	5	5	4.8	5	31-35
	10	Interpret user requirements to select, install, maintain, and license server GIS and GIS-related software. (GIS Level II and AAS only)								X	X				X	X									N/A
Manage Projects	11	Implement a GIS project by collecting, creating, assimilating, analyzing, synthesizing, and presenting data and results that satisfy the project goal.	X	X	X	X		X	X	X	X	X	X	X	X	X	X	5	5	5	4	5	4.8	5	36-40
	12	Manage GIS projects utilizing a project management framework that includes documenting the project goal, scope, work breakdown structure, statement of work, defined deliverables, project summary, and project archive.				X						X	X	X	X	X		3	5	1	4	1	2.8	5	41-45
Generate Projects	13	Interpret user needs to generate GIS products with a defined purpose, target audience, and appropriate medium.		X	X	X	X	X	X	X	X	X	X	X	X	X	X	4	5	4	4	3	4	5	46-50
	14	Create data, maps, and reports with GIS-industry recognized data standards, cartographic conventions, and reporting methods.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	4	3	2	1	3	2.6	5	51-55
Professional Development	15	Practice continuing GIS education utilizing formal instruction; academic, professional, and industry publications; software documentation; online resources; peer professionals; on-the-job experiences; and professional certifications.	X	X	X	X		X		X	X	X	X	X	X	X		3	3	3	3	3	3	3	56-58
	16	Participate in professional GIS organizations, workshops, and conferences.										X	X	X	X	X		2	2	2	2	2	2	2	59-60
Programming	17	Utilize programming and query languages, scripts, models, and APIs to automate GIS processes. (GIS Level II and AAS only)							X	X	X				X	X									N/A
	18	Interpret user requirements to select and implement technology that automates the collection, processing, modeling, analysis, and presentation of GIS data. (GIS Level II and AAS only)							X	X	X				X	X									N/A
		View, locate, query, geoprocess, and analyze spatial data utilizing GIS software.																15	15	14	12	14	14	15	61-75
		TOTAL																63	72	56	58	65	62.80	75	
		WEIGHTED TOTAL																84%	96%	75%	77%	87%	84%		

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