
Mesa Community College
**Geographic Information Systems
Technician Certificate**
(GISTC)

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Overview

- Program in brief
- Program development
- Original Program
- Current Program
- Challenges

GISTC Program in Brief

- Designed to introduce students to and educate students in GIS concepts
- Core GIS courses with four optional paths
- Minimum of 22 credits with a maximum of 27 credits
- Can be completed within two years

History of the Project

- Early Coursework
- GISTC Program
 - Rationale
 - Research
 - Goals
- Original Program
- Current Program

Early Coursework

- Developed ArcView courses in the mid-1990s
- Attended GIS user group meetings to promote the program
- Produced / distributed promotional materials
- Lack of faculty expertise
- Current program proposed in 2000
- Expert faculty hired in October 2001
- Program formally launched in Fall 2002

GISTC Program: *Rationale*

- Serve the community of GIS users in the greater Phoenix area
- Develop a core curriculum to benefit state agencies & private industries
- Emphasize the development of a “fundamental understanding of GIS concepts as opposed to training in GIS software only”.
- Three groups of students
 - Students seeking a skill that will get them a good job with advancement in their future without a four-year degree
 - 10 per year
 - Students who already work in the field of GIS and wish to advance their positions with further education
 - 30 per year
 - Students who are looking for a career path at the community college and plan to continue their study toward a four-year or higher degree
 - 10 per year

GISTC Program: *Research*

- November 2000 survey
 - Government & private agencies
 - 20% response rate
 - 95% recognized the need for workforce educated in GIS concepts
 - 65% would encourage their employees to complete the program
 - 95% would definitely consider hiring GISTC Program graduate
- Institutes of Higher Education
 - University Consortium for Geographic Information Science (UCGIS)
 - Arizona State University
 - Emphasis with a B.S. in Geography
- ESRI
 - Software
 - Extend geospatial technologies throughout the MCC

GISTC Program: *Goals*

- Dedicated computer and classroom space
 - Computer laboratory at MCC
 - Software
- Expert faculty member
 - Continued program / curriculum development
- Continued funding
 - NSF grants
 - Curriculum expansion
 - Increased enrollment

The Original GISTC Program

- Core GIS coursework
 - Introduction to GIS (GPH217)
 - Introduction to ArcView (GPH219)
 - Map Skills & Geographic Technology (GPH270)
 - Internship / Service Learning (GPH298A/B/C)

Option A: Analyst

- Survey of Computer Information Systems
- Visual Basic Programming
- Microsoft Access
- Advanced ArcView

Option B: Developer

- Intro to Computer Science
- Applied Problem Solving w/Visual Basic
- Microsoft Access
- Advanced ArcView

Option C: Transfer

- Intro to Computer Science
- Applied Problem Solving w/Visual Basic
- Principles of Computer Science (Java)
- Analytical Geometry & Calculus I

The Current GISTC Program

- Core GIS coursework
 - Introduction to GIS Using ArcGIS (GPH219)
 - Intermediate GIS Using ArcGIS (GPH220) *was GPH217*
 - Introduction to Cartography and Geospatial Technologies (GPH270)
 - Internship / Service Learning (GPH298A/B/C)
- Advanced GIS Using ArcGIS (GPH273) *was Advanced ArcView*

Option A: Analyst

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- Microsoft Access
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Option B: Developer

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- Applied Problem Solving w/Visual Basic
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Option C: Transfer

- Intro to Computer Science
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- Principles of Computer Science (Java)
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Recent & Upcoming Changes

- New Coursework
 - Spatial Database I & II
 - Introduction to Remote Sensing Using ERDAS
 - Introduction to Internet Map Servers Using ArcIMS
- New Options
 - Engineering track with CAD coursework
- Software upgrades
 - ArcInfo
 - SQL Server
 - ArcSDE
 - ArcIMS
 - Visio
- Hardware upgrades
 - Plotter
 - Printer

Challenges

- Program promotion
 - Flyers
 - Outreach
- Lack of technical skills
 - Students
 - Faculty
- Funding the program
 - Course fees
 - Software licenses
 - Hardware

Future of the GISTC Program

- Benefit the needs of the community
- Remain grounded in GIS concepts
- Extend GIS throughout MCC