## Certificate of Achievement: Applied GIS and Spatial Studies

Applied GIS & Spatial Studies uses multi-dimensional representations of information to help structure problems, find answers, and express solutions. The ability to visualize and interpret relationships through space is essential for understanding content and solving problems across a wide spectrum of disciplines in the earth sciences, environmental sciences, social sciences, business, urban planning, public safety and health sciences. With this certificate, students will use spatial thinking, analysis, modeling, and mapping skills to interpret and present information.

## Certificate Student Learning Outcome:

Students will apply principles of Spatial Science and GIS to solve spatial problems and inquiries in their field of study.

		Units:
Programs Requirement	nts:	
Units Required: 19 - 2	22	
omis required. 17		
GIS-101	Introduction to Geographic Information Systems	3.0
GIS-101 GIS-102	Applied Techniques for GIS	3.0
GEOGRPH-110	Maps and Spatial Reasoning	3.0
GEOGIA II IIV	Maps and Spanial Reasoning	5.0
MATH-140	Introductory Statistics	4.0
OR		
MATH-140H	Introductory Statistics - Honors	4.0
OR		5.0
MATH-140X	Statistics with Support	5.0
OR PSCYH-104	Statistics for the Behavioral Sciences	4.0
OR	Statistics for the Denavioral Sciences	4.0
SOCI-137	Statistics for the Social Sciences	4.0
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Plus six to eight units	from one of the following focus areas:	
Administration of Jus	stice Focus	
ADMJUS-101	Introduction to Administration of Justice	3.0
ADMJUS-155	Criminal Investigation	3.0
Anthropology and Ar		2.0
ANTHRO-101	Physical Anthropology	3.0
OR	Dhariaal Authornalaan Hanan	2.0
ANTHRO-101H ANTHRO-103	Physical Anthropology – Honors Cultural Anthropology	3.0 3.0
OR	Cultural Alluliopology	3.0
ANTHRO-103H	Cultural Anthropology – Honors	3.0
ATNHRO-1051	Introduction to Archeology	3.0
ANTHRO-210	Indigenous People of California	3.0
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Architecture Focus		
ARCHT-120	Design I Flaments of Architectural Drafting	3.0
ARCHT-120 ARCHT-200A	Design I – Elements of Architectural Drafting Sustainable Development & Environmental Design	3.0
ARCIII-200A	Sustamable Development & Environmental Design	3.0
Biology Focus		
BIOSCI-106	Organismal & Environmental Biology	4.0
OR	Organisma & Environmental Biology	7.0
BIOSCI-106H	Organismal & Environmental Biology – Honors	4.0
BIOSCI-10011 BIOSCI-115	General Zoology	4.0
BIOSCI-115 BIOSCI-116		4.0
BIOSCI-110 BIOSCI-130	General Botany	3.0
DIOSCI-130	Contemporary Issues in Environmental Biology	3.0
Business Focus		
BUS-100	Introduction to Business	3.0
BUS-117A	Introduction to Eutrepreneurship	3.0
BUS-117B	Developing a Business Plan for Entrepreneurs	3.0
	1 0	3.0
BUS-140	Principles of Marketing	
BUS-141	Principles of Advertising	3.0
Environment Focus		
ENVRMT-101	Introduction to Environmental Studies	3.0
ENVRMT-101	Introduction to Environmental Science	4.0
ENVRMT-103	Energy Resources Conservation	3.0
EN V KWH-104	Ellergy Resources Conservation	3.0
Fire Technology Focus		
FIRETC-101	Principles of Emergency Services	3.0
FIRETC-102	Fire Prevention	3.0
FIRETC-102 FIRETC-110	Wildland Fire Behavior	3.0
FIRETC-110 FIRETC-123		3.0
FIRE IC-123	Fire Investigation	3.0
Geography Focus		
GEOGPRH-100	Physical Geography	3.0
GEOGPRH-101	Physical Geography with Lab	4.0
GEOGPRH-102	Human Geography  Human Geography	3.0
GEOGPRH-103	Weather and Climate	3.0
GEOGPRH-104	World Regional Geography	3.0
GEOGPRH-105	California Geography	3.0
Geology Focus		
GEOLOGY-100	Physical Geology	3.0
GEOLOGY-101		4.0
	Physical Geology with Lab	
GEOLOGY-102	Historical Geology	4.0
GEOLOGY-104	Environmental Geology	3.0
GEOLOGY-105	California Geology	3.0
Global Studies Focus		
GLST-101	Introduction to Global Studies	3.0
GLST-101 GLST-102	Global Issues	3.0
GEOGRPH-104		
POLISC-270	World Regional Geography International Relations	3.0
FULISC-2/U	international Relations	3.0

Marine Sciences Focus BIOSCI-119	Marine Biology	4.0			
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OCEAN-101	Introduction to Oceanography	4.0			
Public Health Science	Public Health Science Focus				
HLHSCI-100	Health Education	3.0			
HLHSCI-140	Introduction to Public Health	3.0			
Real Estate Focus					
REAL-100	Real Estate Principles	3.0			
REAL-101	Real Estate Practices	3.0			
REAL-120	Real Estate Appraisal	3.0			
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Sociology Focus					
SOCI-101	Introduction to Sociology	3.0			
OR					
SOCI-101H	Introduction to Sociology – Honors	3.0			
SOCI-102	Introduction to Sociological Research	3.0			
SOCI-104	Introduction to Social Justice Studies	3.0			
SOCI-207	Social Problems	3.0			
SOCI-210	Sociology of Deviance	3.0			
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SOCI-250	Introduction to Criminology	3.0			