

	4 SH	4 SH	4 SH	3sh	Course Cluster 1 (3 SH) (Students Select One)	Course Cluster 2 (3 SH) (Students Select One)	Course Cluster 3 (3 SH) (Students Select One Course)	
Program SLOs	GIS 4043/L or GIS5050/L Geographic Information Systems	GIS 4006/L or GIS5007/L Computer Cartography	GIS 4035/L or GIS5027/L Photo Interpretation and Remote Sensing, Aerial Photography and Remote Sensing	GIS 5103 GIS Programming	GIS 5100 Applications in Geographic Information Systems	GIS 5935 Special Topics in Geographic Science	GIS 5945 GIS Internship	GIS 6905 Directed Study
Design maps that are fit-for-purpose and effectively convey the information they are intended to by following fundamental cartographic principles	Introduced	Mastered	Reinforced		Reinforced	Reinforced		
Effectively communicate processes and solutions to the intended audience using appropriate media	Introduced	Introduced	Introduced	Reinforced	Reinforced	Mastered		
Demonstrate a theoretical knowledge of techniques for spatial data analysis	Introduced	Introduced	Introduced	Reinforced	Reinforced	Mastered	Mastered	Mastered

Department Name: Earth and Environmental Sciences
[Department URL](#)

Program Name: Graduate Geographic Information Science Certificate
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