



**Geographic Information Systems Applications Certificate
Advanced Geographic Information Systems Applications Certificate
2016 – 2018**

These certificates are designed for students majoring or working in related fields who wish to enhance their employment prospects or future graduate work with skills in geographic information systems (GIS). Such skills are in demand in economics, education, geosciences, government, planning, landscape architecture, public health, public safety, recreation, humanities, graphic design and marine, earth and life sciences.

Coursework stresses hands-on service learning along with relevant theory, giving students practical experience in addressing real world problems and questions.

At least one-third of all credits used toward the GIS certificates must be taken at UMM.

Certificate in GIS Applications

Certificate Requirements	15-16 cr
<ul style="list-style-type: none"> • GIS 230 GIS Applications I • GIS 330 GIS Applications II • GIS 204 Global Positioning Systems (GPS) 	<p>4</p> <p>4</p> <p>1-2</p>
<i>Select additional six or more credits of GIS elective courses at the 300-level or higher</i>	6

Advanced Certificate in GIS Applications

Certificate Requirements	24-25 cr
<ul style="list-style-type: none"> • GEO 101 Intro to Geography • GIS 230 GIS Applications I • GIS 330 GIS Applications II • GIS 204 Global Positioning Systems (GPS) 	<p>3</p> <p>4</p> <p>4</p> <p>1-2</p>
<i>Select additional nine or more credits of GIS elective courses at the 300-level or higher</i>	9
<i>Select additional three credits from one of the following areas: GIS, Graphic or 2-D Design, Computer Applications Development, CADD, surveying methods, or others as approved by Division of Environmental & Biological Sciences</i>	3