Montgomery County Community College
GEO 230
GIS Applications
3-2-2

COURSE DESCRIPTION:
This workshop teaches advanced geographic analysis with Geographic Information Systems. Students will learn each of the advanced data import skills, standard symbol systems, specialized geographic analysis and pseudo-3d displays specific to their discipline, and be exposed to problems in other disciplines. Specific tracks are available for emergency management/criminal justice, business & marketing, social sciences & human services, and environmental science.

PREREQUISITE(S):
Students must have successfully completed or tested out of:
GEO 210 - Introduction to Geographic Information Systems or
GEO 220 - Map Design in Geographic Information Systems

CO-REQUISITE(S):
None

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Identify standard symbols used in their discipline.	Assigned Readings AV/Multimedia Materials Case Study	Map Design & Production Student Presentation Written Examination
2. Perform GIS geocoding as used in their discipline.	Assigned Readings AV/Multimedia Materials Demonstration and Practice Lecture/Discussion Student Presentations	Map Design & Production Student Presentation Written Examination

3. Perform cluster analysis in GIS.

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
4. Determine travel time distances with GIS.	Assigned Readings AV/Multimedia Materials Case Study Demonstration and	

      5.   emergency routing
      6.   floodplain prediction
      7.   resource location
      8.   infra-red imagery
B.   "Environmental Science"
      1.   course introduction
      2.   raster analysis
      3.   slope analysis
      4.   incorporating satellite imagery
      5.   habitat prediction
      6.   advanced surface interpolation
      7.   stream and air flow mapping
      8.   pseudo-3d displays
C.   "Social Sciences"
      1.   course introduction
      2.   census resources
      3.   demographics
      4.   segmentation
      5.   market analysis
      6.   epidemiology and public health mapping
      7.   mapping change through time
      8.   incorporating historical maps
D.   "Business & Marketing"
      1.   course introduction
      2.   census resources
      3.   demographics
      4.   segmentation
      5.   market analysis
      6.   market area determination – gravity models
      7.   market area determination – geocoded drive times
      8.   market share surfaces

LEARNING MATERIALS:
Students will select a textbook on GIS applications specific to their field of study from
      ESRI's publication library

Lab Exercises provided by the instructor.

Other learning materials may be required and made available directly to the student
and/or via the College's Libraries and/or course management system.