EXPANDED COURSE DESCRIPTION, Fall 2008

Course Title & Units:	Course Number & Quarter:	
Introduction to Geographic Information Systems (4)	ABT-PLS 180	I

Course Goals: To provide an introduction to the application of spatial data analysis and cartographic modeling. To teach the basic use of geographic information system software.

Texts: LECTURE TEXT: Concepts and Techniques of Geographic Information Systems, C.P. Lo and A.K.W. Yeung, Prentice Hall, Second Ed., 2007
LAB TEXT: Getting to Know ArcGIS. ESRI. 2006

Web Site: http://smartsite.ucdavis.edu

Entry Level: MAT 16A, ASE 21 or equivalent computer skills, introductory statistics class such as STA 13 or AMR 120.

Grading:

Midterm exam:	25%
In-lab worksheets	20%
Weekly homework:	20%
Final exam:	35%

Topics:
Introduction to GIS (Ch. 1)
Map projections and scale (Ch. 2)
Global positioning systems (Ch 2.9.3)
Data structures (Ch. 3)
Raster GIS operations (Ch. 5)
Vector GIS operations (Ch. 6)
Visualization and display (Ch. 7)
Remote Sensing (Ch. 8)
Digital terrain analysis (Ch. 9)
Geostatistics (Ch. 9)
Data analysis and modeling (Ch. 10)
Data quality (Ch. 4)
Network analysis (Ch. 6)
Example Applications
Other topics in GIS (if time permits)

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References

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Geng, S., and F.J. Hills. (1989). *Biometrics in Agricultural Science*. Dubuque, Iowa: Kendall Hunt.

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MacGuire, D. J., Goodchild, M. F., Rhind, D. W. (1991). Geographical Information Systems Principles and Applications. Vol. 1: Principles. Vol.2: Applications Longman Scientific and Technical, Essex, UK.

Masser, I., Blakemore, M. (1991). Handling geographical information: methodology and potential applications. Longman, Esses, England.

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