COURSE SYLLABUS
GIS 5106 ADVANCED GIS
FLORIDA STATE UNIVERSITY/SPRING 2009

Instructor: Dr. Victor Mesev Thursday 2:00-4:30 Bellamy 317	**Office Hours** Monday 2-3, Tuesday 11-12 or by appointment in 323A Bellamy Building
Course Supported on Blackboard	

Course Rationale:
To give students a firm understanding of GIS in the commercial world, an appreciation of data and error handling, and the sensitivity of decision-based techniques of spatial analysis within GIS applications. The course divides into two complementary sections: (i) design, planning, legalities and error within GIS data management, and (ii) analytical decision making techniques, including decision support models. The intention is to build on skills and knowledge gained from introductory GIS by developing the various decision-making capabilities inherent in GIS, within both management and spatial data analysis. Planning, design, error handling, decision support techniques and advanced spatial analysis will be examined within the overall implementation of GIS projects, using lectures, prescribed computer-based assignments and projects, to enable students to gain an understanding of the potential value of GIS across a broad range of application areas. The course facilitates hands-on experience of the Idrisi software from Clark Labs.

Course Objectives:
- Recognize the theoretical and applied bases of data and project management, including design and planning considerations, along with data and software error and legalities.
- Critically evaluate established and contemporary research in data management and decision support by access to a comprehensive reading list.
- Plan analytical approaches to decision-making and problem solving.
- Appreciate how alternative techniques can determine outcomes.
- Apply theory and methods to an individual project and a number of case studies.
- Hands-on experience of Idrisi. Execute a variety of analytical techniques and programs.

Required Book
Longley PA Goodchild MF Maguire DJ and Rhind DW (2005) Geographic Information Systems and Science, 2nd Edition, Chichester: Wiley.

Recommended Books
Chou G (1998) GIS and the Law (Wiley)
Chrisman NR (2001) Exploring GIS (Wiley) (Part 3)
DeMers MN (2004) Fundamentals of GIS (Wiley) (Chapter 15)
Grimshaw D (1997) Bringing GIS into Business (Wiley)
Mesev V (Ed) (2007) Integration of GIS and Remote Sensing, Chichester (Wiley)
Mesev V (2003) Remotely Sensed Cities (Taylor & Francis)
Pickles J (1995) Ground Truth: Social Implications of GIS (Guildford)
Plus extensive research papers mainly from International Journal of Geographical Information Science, Computers, Environment and Urban Systems, Papers in Regional Science, Environment and Planning A and B, and Transactions in GIS.

Contents
Topics to be covered include GIS planning and management, legal and ethical issues of data access and implementation, error awareness and monitoring, macro data infrastructures and decision

support systems, criteria evaluation scenarios, GIS/remote sensing integration, cartographic modeling and visualization.

Evaluation
Final letter grade is derived from the following assessments:
Midterm: 25%; Assignments: 25%; Seminar: 25%; Exam: 25%
A (93-100) and A- (90-92) both demonstrate clear and perceptive understanding of all topics, well-written and articulated.
B+ (86-89) and B (83-85) are the minimum passing grades for graduate students and both signify general competence, relevance, and articulation in most topics.
B- (80-82) is an unsatisfactory grade for graduate students and is indicative of a below average level of understanding and grasp of most topics.
C+ (76-79) D+ (66-69), D (63-65) D- (60-62), C (73-75) and C- (70-72) are all unacceptable!

Midterm and Exam
Material will come primarily from lectures and prescribed reading material. The midterm will be composed of essay questions, the titles of which will be distributed to students approximately 2 to 3 weeks before the midterm. The midterm is designed to assess: a) an understanding of class lecture materials and assigned readings; b) relevance; c) critical balance; d) alternate viewpoints from additional reading material; e) punctuation and writing structure; and f) personal viewpoints. The exam will be a combination of multiple choice questions and short answers. The multiple choice section will assess technical issues, predominantly centered around the Idrisi software package, whilst the short answer section will evaluate principles, methodologies and student projects.

Assignments and Seminar
Computer-based assignments (using Idrisi Andes) will be distributed throughout the semester and are means of assessment that may be completed in class or between successive classes. Each is designed to reinforce and demonstrate specific skills and techniques introduced in class. Seminars will demand that each student provides a critical review of a piece of work and as such is an opportunity for students to explore topics in much greater detail by either evaluating theory or demonstrating techniques.

Class participation
Class participation is important for communicating and substantiating information. Remember the worst question a student could ever ask is the one that is never spoken!

Attendance and late class assignments
Roll may be taken unannounced at any time throughout the semester. Assignments submitted late will incur grade penalties.

Blackboard
Class notices, lectures notes and assignments will be uploaded on Blackboard.

Honor Code and Disabilities
All students are expected to uphold the Academic Honor Code published in The Florida State University Bulletin and the Student Handbook. The Academic Honor System of The Florida State University is based on the premise that each student has the responsibility 1) to uphold the highest standards of academic integrity in the student's own work, 2) to refuse to tolerate violations of academic integrity in the university community, and 3) to foster a high sense of integrity and social responsibility on the part of the university.
Please see the following web site for a complete explanation of the Academic Honor Code:
http://www.fsu.edu/Books/Student-Handbook/codes/honor.html
http://www.fsu.edu/Books/Student-Handbook/

Americans with Disabilities Act
During the first week of classes, students needing academic accommodations should: 1) Register with and provide documentation to the Student Disability resource Center (SDRC), and 2) Bring a letter to the instructor from the SDRC indicating your need for academic accommodations.

For more information about services available to FSU students with disabilities, contact the Student Disability Resource Center (850) 644-9566 (voice); (850) 644-8504 (TDD)
SDRC@admin.fsu.edu; http://www.fsu.edu/~staffair/dean/StudentDisability/

This syllabus and other class materials are available in alternative format upon request.

Tentative Schedule (may change without notice)

Week	Date	Lecture	Idrisi Andes Exercises	Longley Reading
1	Jan 8	Introduction & Managing GIS	None	385 – 404
2	Jan 15	Business & Knowledge Economy	Exercises 1-1 thru 1-11	405 – 424
3	Jan 22	Legal & Ethical Issues		425 – 446
4	Jan 29	GIS Partnerships		447 – 486
5	Feb 5	Analysis 1		261 – 382
6	Feb 12	Analysis 2	Exercises 2-1 thru 2-12	155 – 260
7	Feb 19	**Midterm**		
8	Feb 26	Techniques		
9	Mar 5	Integration Techniques	Exercises 3-1 thru 3-7	
	Mar 12	*Spring Break – No Class*		
10	Mar 19	Modeling		
11	*Mar 26*	*AAG Meeting – No Class*		
12	Apr 2	Presentations	Idrisi Exercises Due +15	
13	Apr 9	Presentations	Idrisi Exercises Due +10	
14	Apr 16	Presentations	Idrisi Exercises Due +5	
15	Apr 23	**Exam**	**Idrisi Exercises Due**	