

URBP 179/278: GIS Planning Applications

A combined undergraduate/graduate GIS course
in the Department of Urban and Regional Planning at San José State University
Course Details, Fall Semester 2007

Course Details.

- ◆ Undergraduate: URBP 179 "Urban GIS Technology", Course Code 54868, Section I
- ◆ Graduate: URBP 278 "GIS Planning Applications", Course Code 46555, Section I
- ◆ Class is held on Mondays, 7:15 pm to 10:00 pm in WSQ 208

Instructor Information.

- ◆ Instructor: Rick Kos, AICP
- ◆ Office Hours: Monday, 6:30 pm - 7:15 pm in WSQ 216D, or by appointment
- ◆ Email (*preferred method of communication*): rickkos@mindspring.com
- ◆ Personal Phone: (510) 504-5064 (you may call me anytime between 8:00 a.m. and 9:00 p.m.)
- ◆ Department Phone: (408) 924-5882
- ◆ Department Fax: (408) 924-5872

Course Objectives.

This combined undergraduate/graduate course will teach you how to use ESRI's ArcView software as a tool to address a variety of urban and regional planning issues. The class is taught mainly as a computer laboratory course using ESRI's ArcView software in a hands-on style. The primary objective is to learn the core GIS skills that employers are looking for today.

The course provides a balance between "how-to" and "why". During the first half of the course, you will learn the specific steps necessary to acquire and manage geographic data layers, query the data to answer typical planning-related questions, and produce high-quality maps. The second half of the course will focus more on GIS project design, case studies about how planners use GIS in a government planning office or private firm, and a guest speaker panel. We will also discuss considerations that need to be addressed for the responsible depiction of spatial information on maps. For many exercises, you will use real GIS data from Bay Area cities. A final project will allow you to further develop your GIS skills by framing an urban planning issue, developing a GIS program to address the issue, and producing a report and maps of your findings. There is also the possibility during the semester to conduct GIS analyses for an actual client in southern California.

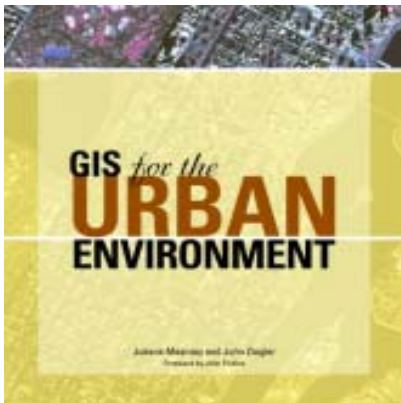
During the course, you will be encouraged to think about integrating GIS into your other courses and Master's project.

Prerequisites.

- ◆ Familiarity with Windows and Microsoft Excel
- ◆ An e-mail account
- ◆ Students are not expected to have prior experience with GIS, but a strong motivation to learn and explore is essential. This course will require a large amount of independent work and relies heavily on student initiative.

Required Textbooks and Software.

In keeping with the "how-to" and "why" orientation of this course, two textbooks are required, and are listed below. The first, *GIS and the Urban Environment*, will explain the many roles of GIS in an urban context. The second book, *Getting to Know ArcGIS*, will serve as a reference throughout the course and provides detailed, step-by-step instructions in the use of ArcGIS. A few purchase options for each book are listed below; the prices for each book are significantly less costly on Amazon.com, but you can also purchase them directly from the publisher or from the campus bookstore. Note that if you purchase a used textbook online, you are responsible for obtaining the book from the seller in a timely manner for use in this course.

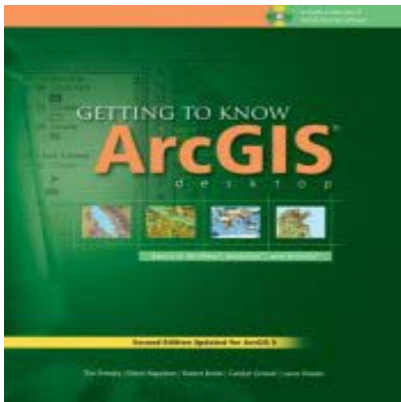


Required Textbook #1:

GIS for the Urban Environment, by Juliana Maantay and John Ziegler

Options for purchase:

- ◆ San Jose State University bookstore
- ◆ ESRI Press
- ◆ Amazon.com



Required Textbook #2:

Getting to Know ArcGIS Desktop, by Tim Ormsby et al

Options for purchase:

- ◆ San Jose State University bookstore
- ◆ ESRI Press
- ◆ Amazon.com



Required Software: ESRI's *ArcView 9.2 and Extensions*

- ◆ This software will be installed on each computer in the laboratory. On the first day of class, you will receive a free copy of ArcGIS 9.2 software for use on your personal computer. Therefore, if you purchase a used copy of "Getting to Know ArcGIS" that does not contain a copy of ArcGIS that normally comes with it, don't worry.
- ◆ Please note that ArcView software only runs on the Windows operating system and that Windows Vista is not supported by the manufacturer, ESRI, at this time. Windows XP is preferred.
- ◆ In order to run ArcView on a Macintosh computer, an Intel-based system is necessary along with software to allow applications to run in Windows (non-Vista) mode, such as BootCamp or Parallels.
- ◆ The copy of ArcView you will receive on the first day of class is a fully-functioning Student Edition and will expire one year after installation.

Recommended Hardware and Software.

The computer laboratory and mini-lab are available to you to complete in-class assignments and homework. If you plan to use your personal computer to complete assignments started in class, a USB Flash Drive and/or a rewriteable CD-ROM is strongly recommended for saving your in-class work and transferring it to your personal computer.

To take full advantage of the course resources, you should have access to a computer with an internet connection and have access to the following software:

- ◆ Microsoft Internet Explorer (or Firefox)
- ◆ Adobe Acrobat Reader (available free at www.adobe.com)
- ◆ Microsoft Word
- ◆ Microsoft Excel
- ◆ Microsoft Powerpoint

Course Outline.

The course outline is subject to change with reasonable notice. Please visit the Syllabus page on the course web site regularly for updates and new information. The basic course outline is listed below; a detailed outline with readings, exercises and assignments will be distributed to students on the first day of class.

PART I: Using ArcView

August 27: Introduction to GIS and ArcView software

September 3: No Class (Labor Day)

September 10: Focus on ArcMap and ArcCatalog; Basic Mapping Concepts; GIS Data Types; Introduction to the Course Final Project

September 17: Analyzing Spatial Relationships

September 24: Displaying Geographic Data

October 1: Projections and Coordinate Systems; Querying Geographic Data

October 8: Creating and Editing Geographic Data

October 15: Cartographic Techniques and Responsible Map-Making;
Draft Final Project Description Due

October 22: Georeferencing and Geocoding;
Final Project Description Due

PART II: GIS Project Design; Mid-Term

October 29: GIS Data Sources; GIS Project Design and Implementation

November 5: MID-TERM

The exam will be a hands-on demonstration of the skills you've acquired in all course sessions to date. You will be asked to work with real GIS data from the City of Santa Cruz, CA to answer questions and perform tasks common to local planning offices. You will query the city's geographic data to answer specific questions, prepare a number of maps related to existing and General Plan (i.e. future) land use, create new data layers, and georeference at least one CAD or raster layer. You will also acquire GIS data layers from the Web and integrate them into your analysis. Finally, you will produce a series of basic maps and charts to document your work.

The exam will be "open book", meaning that you will be able to consult your notes and textbooks during the exam. However, the exam will be thorough and intensive, so preparation will be important so that you can complete the exam during the class period.

November 12: No Class (Veteran's Day)

PART III: GIS in Practice; Final Project; Final Exam

November 19: Guest Speaker Panel; GIS Applications for Urban Planning in the Bay Area

November 26: Final Project Work

December 3: Final Project Due 7:15 p.m.
Final Project Presentations, Part I

December 10: Final Project Presentations, Part II

December 17: FINAL EXAM, 7:45 - 10:00 pm

The exam will be similar to the mid-term exam in terms of being an open-book test, but with a greater emphasis on GIS problem-solving and GIS project planning.

Grading.

Your final grade will be determined by your performance in the following weighted areas:

ArcView tutorial assignments	20%
Mid-term Exam	20%
Final Project	30%
Final Exam	20%
Engagement in the class	10%
Total	100%

This scheme will not be followed strictly. Upward adjustment of the final grade will be made if performance on one activity is an outlier (e.g. exceptionally low) or if the pattern of scores shows a significant improvement. If such adjustments are made, they usually result in about a half-letter grade improvement. Grades on your work will be assigned as follows:

90% and above	A	69%-62%	C
89% - 87%	A-	61%-60%	C-
86%-83%	B+	59%-55%	D+
82%-78%	B	54%-52%	D
77%-73%	B-	51%-50%	D-
72%-70%	C+	Below 50%	F

Assignments are due at the time indicated in the full course syllabus, to be distributed on the first day of class. Late assignments will receive no credit.

University, College or Department Policies.

◆ Academic integrity statement (from Office of Judicial Affairs)

Your own commitment to learning, as evidenced by your enrollment at San José State University and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty are required to report all infractions to the Office of Judicial Affairs. The policy on academic integrity can be found at http://www.sa.sjsu.edu/download/judicial_affairs/Academic_Integrity_Policy_F06-I.pdf

◆ Campus policy in compliance with the Americans with Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with the Disability Resource Center (DRC) to establish a record of their disability. Students requesting accommodation of disabilities must do so through the DRC at <http://www.drc.sjsu.edu/>. Accommodations will be provided only to those students who are registered with the DRC, and who have requested accommodation pursuant to policies of the DRC.

◆ Academic Honesty

Faculty will make every reasonable effort to foster honest academic conduct in their courses. They will secure examinations and their answers so that students cannot have prior access to them and proctor examinations to prevent students from copying or exchanging information. They will be on the alert for plagiarism. Faculty will provide additional information about other unacceptable procedures in class work and examinations. Students who are caught cheating will be reported to the Judicial Affairs Officer of the University, as prescribed by Academic Senate Policy S04-12.

◆ Eating

Eating and drinking (except water) are prohibited in the classroom. Students with food will be asked to leave the building. Students who disrupt the course by eating and do not leave the building will be referred

to the Judicial Affairs Officer of the University. There will be at least two, short scheduled breaks during the class period during which you may eat or drink in the appropriate locations near the classroom.

◆ **Cell Phones & Other Audible Devices**

Students will turn their cell phones and other audible devices off or put them on vibrate mode while in class. They will not answer their phones in class. Students whose phones disrupt the course and do not stop when requested by the instructor will be referred to the Judicial Affairs Officer of the University. There will be at least two, short scheduled breaks during the class period during which you may take calls outside of the classroom.

◆ **Computer Use**

Using your laboratory computer during class time for non-course related activities is disrespectful and distracting to the instructor and to your fellow students. In the classroom, faculty allow students to use computers only for class-related activities. These include activities such as taking notes on the lecture underway, following the lecture on Web-based PowerPoint slides that the instructor has posted, and finding Web sites to which the instructor directs students at the time of the lecture. Students who use their computers for other activities or who abuse the equipment in any way, at a minimum, will be asked to leave the class and will lose participation points for the day, and, at a maximum, will be referred to the Judicial Affairs Officer of the University for disrupting the course. (Such referral can lead to suspension from the University.) Students are urged to report to their instructors computer use that they regard as inappropriate (i.e., used for activities that are not class related).

◆ **Attendance**

According to University policy F69-24, "Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading."

Odds and Ends.

◆ **Adds/Drops**

The student is responsible for understanding the policies and procedures about add/drops, academic renewal, withdrawal, etc. found at <http://www2.sjsu.edu/senate/S04-12.pdf>

◆ **Incomplete Grade**

An incomplete grade will only be assigned for a documented serious non-academic reason.

◆ **Students Adding the Class after the First Day of Class**

Students who add the class after the first day of class are responsible for completing all work in the course on the same schedule as students who were registered from the first day of the semester.

◆ **Level of Effort**

This course requires 2 to 3 hours of study for each hour of lecture. This works out to between 5 and 7.5 hours per week not including class time.