

UPP 460: Introduction to Visualization and Geospatial Analysis

Spring 2012

Mondays 3 – 5:50 p.m. CRN 32371, 32372
Tuesdays 6 – 9 p.m. CRN 30274, 30275
Classroom ADH 2232, Computer Lab SEL 2249

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ADH 263
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Course Syllabus

“...visualization has many possible meanings including concrete physical representations, mental images, and the process involved in generating either. For some, it is not visualization unless a computer is involved, for others any drawing tool can produce visualization...”

(MacEachren 2004).

Course Overview

Planners rely on the visualization of data, drawings, and maps to communicate complex information to their audience. Although charts and graphs, sketches, and paper maps are still important ways of visualizing space, place, numbers, and narratives, new developments in geographic visualization are providing planners with an array of tools to make their message clearer, more dynamic, and more inclusive.

This course is broken up into three parts. The first part will familiarize students with basic principles of composition and design, concepts which students will apply to an urban visualization project using the Adobe Suite. The second part of the course will introduce spatial visualization techniques, including map design and geographic information systems. Finally, the third part will include a survey of information visualization presentation tools, including the use of Google Earth and other free software applications. Themes of cultural representation and interpretation, public participation, and the power of technology will be woven throughout the course, and students are encouraged to consider these important planning dilemmas in the development of their course projects. It is the instructor's hope that students will apply the theoretical and technical skill set they develop in this course to the study of advanced visualization tools for the purpose of improving planning practice.

Course Objectives

By the end of the semester, students in this course should have accomplished the following:

- Students should understand visualization theory and visualization tools and recognize when, how, and with which audience they will be most appropriately used.
- Students should leave the course with knowledge of design, charts and graphs, map design, cartography, and other presentation tools, and should be able to apply these concepts clearly and effectively to the visualization of major themes and challenges in the field of urban planning.
- Students should have basic skills in computer visualization tools covered by the course: Excel, Adobe Suite, ArcGIS and Google Earth.
- Students should have produced several professional-quality printed pieces, suitable for presentation in a portfolio.

Course Expectations

Attendance and Class Preparedness points will be earned for attending class and completing the assigned reading. Visually based pop quizzes will be given at the beginning of some class periods, and students who incorrectly answer 3 or more of the 5 questions will lose half an attendance point for that day.

All students will be required to sign the Coursework Requirements Contract, which outlines specific instructions for submitting assignments in UPP460.

Assignments are due weekly and build on one another. When assignments are given, instructors will communicate their expectations for the assignment both in class and in the assignment handout. Read the assignment handouts. Students who fail to complete assignments, miss class, or mismanage their time will likely fall behind in the course. Students should approach instructors sooner rather than later if they begin to struggle with the course material or work load. Instructors can meet with students one-on-one to give specific feedback on how assignments can be improved. Although the course can be challenging, by the end, students will have developed a body of work that can be used for the final project, or as part of a professional portfolio.

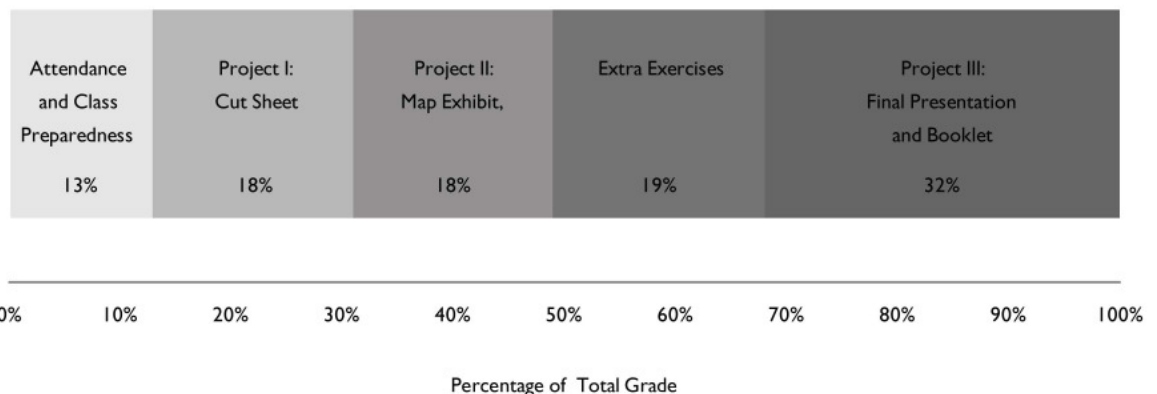
Team work is essential to each student's success in the course. Team members will assist one another with assignments and projects throughout the course, but will turn in separate, individual work. The final

The final grade is calculated as follows:

Attendance and Class Preparedness	13 points
EE01: Excel Exercise	2 points
EE02: Illustrator	4 points
EE03: Sketching Exercise	3 points
EE04: Photoshop Exercise	4 points
EE05: Map Design Presentations	3 points
EE06: GIS/Illustrator Exercise	3 points
Project I: Cut Sheet	18 points
Project II: Map Exhibit	18 points
Project III: Final Presentation and Booklet	32 points
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Total	100 points

Or, to put it another way:

UPP 460 Coursework as a Percentage of Total Grade, Fall 2011



created by Sarah J. Barr, 11 Aug 2011

Note that course content, assignments, and readings are subject to revision. Any revisions will be announced in class and/or via email.

Required Texts

Few, Stephen. 2009. *Now You See It: Simple Visualization Techniques for Quantitative Analysis*. Oakland: Analytics Press.

Krygier, John and Denis Wood 2011, 2nd Edition. *Making Maps: A Visual Guide to Map Design for GIS*. New York: Guilford Press. (The 1st Edition is also acceptable.)

Lupton, Ellen and Jennifer Cole Phillips. 2008. *Graphic Design The New Basics*. New York: Princeton Architectural Press.

Additional articles posted to the Blackboard website.

Recommended Texts (available for loan from instructor library)

Brewer, Cynthia. 2005. *Designing Better Maps: A Guide for GIS Users*. Redlands, California: ESRI Press.

Buster, Kendall and Paula Crawford. 2007. *The Critique Handbook*. Upper Saddle River, New Jersey: Pearson Education, Inc.

Dent, Borden, Jeff Torguson, and Thomas Holder. 2008. *Cartography: Thematic Map Design*. McGraw-Hill.

Finlay, Victoria. 2004. *Color*. Random House.

Hanks and Belliston. 1990. *Rapid Viz*. Menlo Park, CA: Crisp Publications.

Lockhard, William Kirby. 1982. *Design Drawing*. Pepper Publishing.

Krause, Jim. 2002. *Color Index*. Cincinnati: How Books.

Krause, Jim. 2001. *Layout Index*. Cincinnati: How Books.

Marks, Terry. 2009. *Color Harmony Compendium, 25th Anniversary Edition*. Beverly, MA: Rockport Publishers.

Meggs, Philip B. 1998. *A History of Graphic Design*. John Wiley & Sons.

Reynolds, Garr. 2008. *Presentation Zen*. Berkeley: New Riders Press.

Speikermann, Erik and E.M. Ginger. 2002. *Stop Stealing Sheep and Find Out How Type Works*. Adobe Press.

Tufte, Edward. 2001. *The Visual Display of Quantitative Information*. Ann Arbor: Graphics Press.

Required Materials

- Paper – 1 pad of bond or newsprint no smaller than 11" x 14."
The bookstore has a Seth Cole Sketch "Big Book" at \$10.99 that is sufficient.
- Pencils – 2H, HB
- Eraser
- Straight Edge – This can be a ruler, stick, anything that's 18" – 24" and has a true enough edge to draw a straight line. At around \$5, the 24" steel ruler may be the best value in the campus bookstore.

Students should be prepared to bear the cost of having their assignments professionally printed.

Optional Materials (recommended if you plan to get serious about visualization)

- Tracing Paper - 1 pad of translucent rag tracing paper or 1 roll of "bum wad" tracing paper.
The bookstore has a pad of Seth Cole Regular Tracing paper at \$9.99. The roll stock is even cheaper.
- Pencils – Expand the hardnesses with F, 2B and a couple of colored pencils.
- Eraser – Staedtler Mars Plastic