



SSCI 585 – Geospatial Project Management (Section 35757) Course Syllabus – Fall Semester 2014 (Tentative as of 8/16/14)

Instructor: Dr. Robert O. Vos

Location: Los Angeles, CA

E-mail: vos@usc.edu

Adobe Connect: <http://usccollege.adobeconnect.com/vos>

Campus Phone: 213-821-1311

Office Hours: Monday's 11 a.m. -1 p.m. (PST) and by appointment

I am generally most available via email. Also, available to schedule for chats via phone or we can meet in my Adobe Connect room. Just get in touch!

Course Scope and Purpose

This course is an elective course for both the GIST Graduate Certificate and Master of Science degree programs and provides a practitioner's perspective of geospatial project management. Although many people believe GIS project management is about software design and development, computer hardware and geospatial data, experienced GIS project managers understand that there is much more. This course takes a systematic approach to explore the management issues and methods necessary for developing a successful geospatial technology project. We will cover several topics, such as:

Geospatial Project Management Principles – The course begins by focusing on building support for geospatial technology projects by examining critical topics associated with geospatial project management, including the typical project life cycle, program planning and development, popular (i.e. potential) organizational structures, financial management, human resources, the technical and operational environment, and communications.

Running a Geospatial Technology Project – Here we examine the fundamentals involved in completing a successful project on time and on budget, by examining a variety of topics associated with funding, financial management, monitoring and reporting, risk management, multi-organizational agreements (collaborations), and the various approaches needed to manage the technical design (system configuration, data, applications) and the development and maintenance of these technical components.

Human Resources – Next, we consider the various roles played by people in geospatial technology projects, covering topics associated with project leadership, team building and capacity building, among others. We also examine the opportunities for geospatial technology certification and some of the legal and ethical considerations that may influence geospatial technology projects and their outputs (i.e. deliverables).

Current and Emerging Trends – Throughout the semester we consider some of the current and emerging trends that may modify the ways in which geospatial technology projects are conceptualized and implemented in the coming years. Potential topics include the consequences of choosing open source vs. proprietary software solutions and the contributions of geospatial standards, spatial data infrastructures, web-based geoprocessing service architectures, and volunteered geographic information to present-day and future geospatial project workflows.



Learning Outcomes

When you have completed this course, you will be able to:

- Identify and critically analyze the issues involved in organizing, planning, monitoring and controlling a geospatial technology project;
- Initiate a small-scale geospatial technology project by developing project plans and financial budgets, assembling project costs and benefits, develop investment appraisal methods and using authorization, monitoring and control processes;
- Discuss the role, significance and impact of people in a project management setting, and evaluate and implement strategies for managing people in geospatial technology projects;
- Review current geospatial technology project management methodologies and appraise their effectiveness and efficacy for managing different types of geospatial projects.

Course Formats

As a graduate course you should expect this class to be both academically robust and intellectually challenging. You will be expected to engage with the information you are learning and to explore the heady cauldron of ideas, opinions, and analyses that describe our collective effort to examine the subject at hand. Learning arises from active engagement with the knowledge found in our reading materials and with one another. As in any graduate-level class, the instructor's role is that of a guide who keeps you on this path of discovery and you will find that you will learn much from your fellow classmates. The challenge for us is to replicate such an academic experience within the milieu of "online learning".

All course materials will be organized through BlackBoard. The main theoretical concepts will be provided through course notes and assigned readings and the assignments will give students an opportunity to internalize and apply the concepts and theory learned from readings. Some assignments require student interaction, all will benefit from it.

We have several technologies that will facilitate our course work and our interactions, which include:

BlackBoard – All course materials and correspondence will be posted on the course BlackBoard site. As a registered student you will find this course will show up in your available courses at noon Pacific Time on the first day of classes. It is here that the day-to-day flow of the course will be recorded.

Discussion boards – We will use the BlackBoard site to post a number of discussion threads relevant to various sections of the course. I may or may not participate in these threads but they are vitally important when we get to some of the "hands-on" work as we expect students to work "together" on these exercises, sharing hints and help as you would do in a common laboratory classroom. Additional discussion threads may be used to organize asynchronous discussions.

Live meetings and presentations - At USC, we use a browser-based service called Adobe Connect to create synchronous interaction sessions. With voice and webcam capabilities Adobe Connect can be used to share presentations and even our desktops between two or more people.



Assessment

Your grade in this class will be determined on the basis of several different assessment tools:

Resume Assignment – 1 for a total of 2 points. We require all current students to post an maintain a public resume, short biography and recent photo on our shared GIST Student Community Blackboard site. With your permission, your photo and resume will be posted to the Spatial Sciences Institute website and your resume will be included in the GIST Resume Book. The latter is compiled annually and along with our web presence used to promote our programs and more importantly, your skills, experience, and professional aspirations.

Reading Assignments – 6 for a total of 18 points. These will focus on the theory portion of the course as presented in the weekly readings. Their objective is to help you evaluate and integrate the information you have acquired from the course readings. Some of these will involve discussions and collaborative work and some will be individual efforts. The first reading assignment is required and from there, you are free to choose any five of the 10 subsequent assignments. However, you must complete and submit them for grading in the weeks specified in the Tentative Schedule at the end of this syllabus.

Discussion Forums – 4 for a total of 8 points. These will focus on varying combinations of theory and practice and anticipate that you will post a minimum of four new messages and at least two replies to messages posted by your classmates at designated times throughout the semester.

Exercises – 5 for a total of 25 points. In order to demonstrate that you understand the basic concepts and skills learned in the class, you will complete five exercises that will integrate key concepts and ideas and take some independent thought. The first exercise is required and from there, you are free to choose any four of the five subsequent exercises. However, you must complete and submit them for grading in the weeks specified at the end of this syllabus.

Presentations – 1 for a total of 12 points. This assignment will require some independent thought and synthesis and allow you to explore a case study of your choice. The results will be presented over the Web in Week 10 with the help of a PowerPoint slideshow.

Research Reports – 2 for a total of 35 points. The first report (10 points) will provide you with an opportunity to explore one of a suite of management challenges in more depth and the final report (25 points) will afford you the opportunity to integrate all that you have learned in the semester for a specific application that I will designate when the guidelines for the final reports are distributed.

Careful planning and a serious, consistent commitment will be required for you to successfully navigate the various deliverables in this and other GIST courses. A table will be provided in the final syllabus at the top of the next page summarizes the assignments and their point distributions.



Requirements

Textbooks – There are three books required for this course. The most important of the three books by Crowell needs to be purchased (from either the USC Bookstore or online outlets such as Amazon (<http://www.amazon.com>)). The other two books are optional since we will use parts of them and will provide these parts online. We will need the Crowell book from the first day of class.

- Crowell, Peter L. 2009. *The GIS Management Handbook*. Des Plaines, IL, Kessy Dewitt Publications in association with URISA.
- Obermeyer, Nancy J. and Pinto, Jeffrey K. 2008. *Managing Geographic Information Systems* (Second Edition). New York, The Guilford Press
- Tomlinson, Roger 2007 *Thinking About GIS: Geographic Information System Planning for Managers* (Fourth Edition). Redlands, CA, Esri Press

These textbooks will be supplemented with Course Notes and a mixture of readings from academic journals, professional reports and authoritative websites.

Readings – To be posted to Blackboard under Course Documents:

- Tulloch, D.L. and Epstein, E. (2002) Benefits of community MPLIS: Effectiveness and equity. *Transactions in GIS* 6: 195-212.
- Ramasubramanian, L. (1999) GIS implementation in developing countries: Learning from organizational theory and reflective practice. *Transactions in GIS* 3: 359-369.
- Karikari, I. and Stillwell, J. (2005) Applying cost/benefit analysis to evaluate investment in GIS: The case of Ghana's Lands Commission Secretariat, Accra. *Transactions in GIS* 9: 489-506.
- Anbari, F.T. (2003) Earned value project management method and extensions. *Project Management Journal* 34(4): 12-23.
- Tulloch, D.L. (2008) Institutional GIS and GI partnering. In Wilson, J.P. and Fotheringham, A.S. (eds) *The Handbook of Geographic Information Science*. Oxford, Blackwell: 449-465.
- Wang, S. (2010) A cyberGIS framework for the synthesis of cyberinfrastructure, GIS, and spatial analysis. *Annals of the Association of American Geographers* 100: 535-557.
- Goodchild, M.F., Fu, P., and Rich, P. (2007) Sharing geographic information: An assessment of Geospatial One-Stop. *Annals of the Association of American Geographers* 97: 250-266.
- Sieber, R. (2006) Public Participation Geographic Information Systems: A literature review and framework. *Annals of the Association of American Geographers* 96: 491-507.
- Bian, L. (2007) Object-oriented representation of environmental phenomena: Is everything best represented as an object? *Annals of the Association of American Geographers* 97: 267-281.
- Lopez, C. (2002) Watermarking of digital geospatial datasets: A review of technical, legal, and copyright issues. *International Journal of Geographical Information Science* 16: 589-608.



- Poore, B.S. and Chrisman, N.R. (2006) Order from noise: Toward a social theory of geographic information. *Annals of the Association of American Geographers* 96: 508-523.

Technology – There are several technology requirements:

- Every student must have a computer with a fast Internet connection (DSL at a minimum).
- Every student **MUST** have a functional webcam for use whenever a presentation or meeting is scheduled.

Communications – This is a distance learning course, so most of our interactions will be asynchronous (not at the same time). All materials to be handed in will be submitted via the BlackBoard Assessment link. I will also create BlackBoard discussion forums at the start of the semester through which you can use to discuss course assignments, exercises, and projects.

I will send via e-mail through BlackBoard any notices that are time sensitive. Please be sure that you read as soon as possible all e-mail sent from BlackBoard or from me. Also double check to be sure that mail sent from both the USC blackboard accounts and my USC domain (vos@usc.edu) do not go into your junk mail!

While I am usually on-line and will probably respond to e-mails from students relatively quickly, I will endeavor to respond to all e-mail within 24 hours of receipt, aiming for no more than 36 hours delay. In the rare case when I expect to be off-line for more than 24 hours, I will post an announcement on the BlackBoard site.

Your responsibility: It is each student's responsibility to stay informed about what is going on in our course. In addition to e-mail about time-sensitive topics, any important announcements will be posted on the Announcement page in BlackBoard. Be sure to check these each time you log onto BlackBoard.

Workload – This is a four credit, one semester course. Students should expect to spend 10-12 hours per week completing the work in this course.

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to an instructor as early in the semester as possible. DSP is located in STU 301 and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Statement on Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in University Governance: http://scampus.usc.edu/wp-content/uploads/2011/07/university_governance.pdf. Students



will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

*Important Administrative Dates**

8/25: Fall semester classes begin

9/1: Labor Day, university holiday

9/12: Last day to register and add classes

9/12: Last day to change enrollment option to Pass/No Pass or Audit

9/12: Last day to drop a class without a mark of "W" and receive a 100% refund

11/14: Last day to drop a class with a mark of W

11/26-29: Thanksgiving recess, university holiday

12/5: Fall semester classes end

12/6-9: Study days

12/17: Final Examinations end

12/18-1/11: Winter Recess

*<http://classes.usc.edu/term-20143/calendar/>



Tentative Schedule (see next page)

Week #	Week Begins	Theme	Week's Readings and Practice		Assignments Due Monday Following	
			Main Readings	Supp. Readings	Reading Assignments	Exercises & Papers
1	25-Aug	Introduction	Croswell 1		1	Exercise 1
2	2-Sept*	Geospatial program development	Croswell 2		2	Exercise 2
3	8-Sept	Continued ...		Tom. 10	3	Exercise 3
4	15-Sept	Geospatial organization structure, governance, and coordination	Croswell 3		4	Individual Meetings
5	22-Sept	Continued ...		O & P 3, 4		Exercise 4
6	29-Sept	Human resources	Croswell 4			Paper 1
7	6-Oct	Funding, financial management, and collaboration	Croswell 5		5	Exercise 5
8	13-Oct	Continued...			6	
9	20-Oct	Geospatial program legal issues	Croswell 6		7	Exercise 6
10	27-Oct	Management of geospatial program technical elements	Croswell 7			
11	3-Nov	Continued...		Tom. 11, O & P 6		Presentation
12	10-Nov	Geospatial office operations, service delivery, and support	Croswell 8		8	
13	17-Nov	Geospatial projects and project management	Croswell 9		9	Exercise 7
14	24-Nov	Wrap-up	Croswell 10		10	
15	1-Dec	Final Report Due (12/5)			11	Paper 2