



## SSCI 585 – Geospatial Technology Project Management Course Syllabus – Summer Semester 2014

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**Office Hours:** Tuesdays, 9-10 a.m. and Thursdays, 3-4 p.m., PT

I am always available asynchronously via e-mail. I am also available for synchronous chats via phone or Skype or IM text, audio or video most days and times *by prior arrangement* via e-mail. 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 M.S. and Graduate Certificate programs and provides a practitioner's perspective of geospatial technology 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 to it. This course takes a systematic approach to explore the management issues and methods necessary for developing a successful geospatial technology office and/or project. We will cover several topics:

*Geospatial Project Management Principles* – We start 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 organizational structures, financial management, human resources, the technical and operational environment, and communications, among others.

*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* – We next take up the various roles played by people in geospatial technology projects, covering topics associated with project leadership, team building and capacity building, among others. We will 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* – We will throughout the semester consider some of the current and emerging trends that may modify the ways in which geospatial technology projects may be conceptualized and implemented in the next 5-10 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, developing 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***

This is a graduate level course, so you should expect this class to be both academically robust and intellectually challenging. As graduate students you are expected to engage with the information you are learning and to explore the heady cauldron of ideas, opinion, and analysis that describe our collective effort to thoroughly interrogate 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, despite our dispersed locations. These 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 no later than 12:00 noon PT on the first day of classes. It is here that the day-to-day flow of the course will be recorded.

*Discussion boards* – On the Blackboard site, we will post a number of discussion forums and threads relevant to various sections of the course. I may or may not participate in these components 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 forums and threads may be used to organize asynchronous discussions.

*Live meetings and presentations* – 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.

*Individual meetings* – While Adobe Connect can be used for one-on-one meetings, we sometimes find it is easier to use the free VOIP and chat technology, Skype (<http://www.skype.com/>), for individual chats.



### ***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 and 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 six 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. The table at the top of the next page summarizes the *SSCI 585* course assignments and their point distribution.



Assignments	Number	Points Per Assignment	Total Points
Discussion Forums	4	2	8
Exercises	5	5	25
Presentations	1	12	12
Reading Assignments	6	3	18
Resume Assignment	1	2	2
Research Reports:			
First Report	1	10	10
Second Report	1	25	25
<b>Totals</b>	<b>19</b>	<b>-</b>	<b>100</b>

Grades in this and other GIST courses will use the standard USC grading criteria, as follows:

A	≥ 93 points	B-	80-82 points	D+	67-69 points
A-	90-93 points	C+	77-79 points	D	63-66 points
B+	87-89 points	C	73-76 points	D-	60-62 points
B	83-86 points	C-	70-72 points	F	< 60 points

And finally, it is important to note from the outset that: (1) late postings and assignments will be docked one grade and no grade will be given for postings or assignments turned in more than one week late; and (2) no written work will be accepted for grading after 5:00 p.m. PT on the last day of classes (i.e. 8/15/14).

### Requirements

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

1. Croswell, P.L. 2011. *The GIS Management Handbook*. Des Plaines, IL, Kessey Dewitt Publications in association with URISA.
2. Obermeyer, N.J. and Pinto, J.K. 2008. *Managing Geographic Information Systems* (Second Edition). New York, The Gilford Press
3. Tomlinson, R. 2007 *Thinking About GIS: Geographic Information System Planning for Managers* (Fifth 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:

1. Tulloch, D.L. and Epstein, E. (2002) Benefits of community MPLIS: Effectiveness and equity. *Transactions in GIS* 6: 195-212.



2. Ramasubramanian, L. (1999) GIS implementation in developing countries: Learning from organizational theory and reflective practice. *Transactions in GIS* 3: 359-369.
3. 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.
4. DiBiase, D., Corbin, T., Fox, T., Francica, J., Green, K., Jackson, J., Jeffress, G., Jones, B., Mennis, J., Schuckman, K., Smith, C., and Van Sickel, J. (2010) The new Geospatial Technology Competency Model: Bringing workforce needs into focus. *URISA Journal* 22(2): 55-72.
5. Tullock, 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.
6. Wang, S. (2013) CyberGIS: Blueprint for integrated and scalable geospatial software ecosystems. *International Journal of Geographical Information Science* 27: 2119-2121.
7. Fan H., Zipf, A., Fu, Q., and Neis, P. (2014) Quality assessment for building footprints data on OpenStreetMap. *International Journal of Geographical Information Science* 28: 700-719.
8. Sieber, R. (2006) Public Participation Geographic Information Systems: A literature review and framework. *Annals of the Association of American Geographers* 96: 491-507.
9. Wright, D.J. (2012) Theory and application in a post-GISystems world. *International Journal of Geographical Information Science* 26: 2197-2209.
10. Skarlatidou, A., Cheng, T., and Haklay, M. (2013) Guidelines for trust interface design for public engagement Web GIS. *International Journal of Geographical Information Science* 27: 1668-1687.
11. 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** – Every student must meet several technology requirements:

- An up-to-date computer with a fast Internet connection.
- A functional Web camera together with a microphone or headset for tele-sessions.
- A modern Web browser (Firefox recommended) in case you need and/or wish to use ArcGIS, which is provided online via the GIST Server; you do not need to install ArcGIS on your own computer.

**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 one Blackboard discussion forum at the start of the semester and I may create and/or monitor additional Blackboard discussion forums through which we can discuss issues and comments on the course assignments, exercises and reports as the need arises.

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





While I am usually online and will probably respond to emails from students relatively quickly, I will endeavor to respond to all email within 24 hours of receipt, aiming for no more than 48 hours delay. In the rare case when I expect to be offline for more than 72 hours, I will post an announcement on the Blackboard site.

That said, it is each student's responsibility to stay informed about what is going on in our course. In addition to email 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 10-15 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 Appendix A: [http://web-app.usc.edu/scampus/wp-content/uploads/2009/08/appendix\\_a.pdf](http://web-app.usc.edu/scampus/wp-content/uploads/2009/08/appendix_a.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***

5/21:	Summer semester classes begin
5/26:	Memorial Day, university holiday
6/4:	Last day to drop a class without a mark of "W" and receive a 100% refund; last day to register and add classes
7/4:	Independence Day, university holiday
7/14-7/18:	Esri International User Conference, San Diego, California
7/29:	Last Day to Drop with a mark of "W"
8/15:	Summer semester classes end



### Tentative Schedule

Week #	Week Begins	Theme	Week's Readings and Practice		Assignments Due Monday Following	
			Main Readings	Supp. Readings	Reading Assignments	Exercises & Papers
1	5/21	Introduction	Croswell 1			Exercise 1
2	5/27	Geospatial program development	Croswell 2		1	Exercise 2
3	6/2	Continued ...		Tom. 11	2	Exercise 3
4	6/9	Geospatial program organizational structure, governance, & coordination	Croswell 3		3	
5	6/16	Continued ...		O & P 3, 4	4	Exercise 4
6	6/23	Human resources	Croswell 4			Report 1
7	6/30	Funding, financial management, and collaboration	Croswell 5		5	Exercise 5
8	7/7	Continued ...			6	
9	7/14	Geospatial program legal issues	Croswell 6		7	Exercise 6
10	7/21	Management of geospatial program technical elements	Croswell 7		8	Presentation
11	7/28	Geospatial office operations, service delivery, and user support	Croswell 8		9	
12	8/4	Geospatial projects and project management	Croswell 9		10	Exercise 7
13	8/11	Continued ...	Croswell 10		11	
	8/15	Final Report Due Date				Report 2