School of Library and Information Science
University of Tennessee

Syllabus

INSC 590-002 Problems in Information Sciences
IS 590 Geographic Information Librarianship – Fall 2013
Monday, 6:30 – 9:10 PM EST
Dates of Semester: August 21 – December 10, 2013

Instructor: Dr. Wade Bishop
Office: 442 Communications Building
Availability: Monday, 2:00-6:00; or by appointment
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Graduate Teaching Assistant: Zach Johnson

Course Description:

This course is an introduction to the management and preservation of geographic information created by an array of geospatial tools. Topics will include (1) geographic and cartographic competencies, as well as information agency services related to (2) collection development/records appraisal and collection maintenance; (3) reference and instruction; and (4) metadata/cataloging.

Prerequisites

None.

Background

IS590 is a *new* elective developed for the '*Geographic Information Librarianship*' project (GIL) with funding by the Laura Bush 21st Century Librarian Program Grant via the Institute of Museum and Library Services (IMLS) in their "programs to build institutional capacity" category. The IMLS GIL project surveyed practicing GIS and map librarians, archivists, and other information professionals to validate the core competencies established by the Map and Geographic Information Round Table (MAGIRT) (http://www.ala.org/magirt/publications). Professionals with real-world experience weighed the importance of knowledge, skills, and abilities and informed the topics covered in this course. The following student learning outcomes derive from MAGIRT Core Competencies that averaged 2.3 or higher on a scale from 0 (not important) to 3 (very important).

The Knowledge Areas of Cartography and Visualization (CV) and Geospatial Data (GD) from the University Consortium for Geographic Information Science (UCGIS) Body of Knowledge (BoK) provide additional course content. The BoK provides educators with knowledge areas, units, topics, and learning objectives that are, "applicable across the undergraduate, graduate, and post-baccalaureate/professional sectors of GIS&T education infrastructure" (DiBiase et al., 2006).

Student learning outcomes

1. Geography and Cartography

1.1 Students will demonstrate geographic and cartographic principles, including geographic and cartographic scale, projection, grids, and geographic coordinate systems

2. Collection development/Records appraisal/Collection maintenance

2.1 Students will demonstrate knowledge of local, state/provincial, federal and international mapping agencies and private map publishers, map series and similar publication patterns, and gazetteers, data portals, volunteered geographic information, and aspects of the Federal Depository Library Program

2.2 Students will select strategies to obtain different types of maps, imagery, and other geospatial data

2.3 Students will describe copyright considerations and the ability to negotiate licensing agreements for databases and collections of geographic information

2.4 Students will explain how to assess the strengths and specialties in a collection and the needs of users to inform collection development

2.5 Students will describe proper materials handling, especially for rare and fragile materials

3. Reference and Instruction

3.1 Students will demonstrate the ability to locate geospatial data and software support

3.2 Students will gain awareness of GIS tutorials & training

3.3 Students will develop and deliver geographic information consultations

4. Metaloging – Spatial data infrastructures/Content standards/Metadata/Cataloging

4.1 Students will explain metadata standards, schemas, and issues

4.2 Students will understand and interpret existing metadata in geospatial records

4.3 Students will define projections, coordinate systems, and other physical characteristics of cartographic items to create metadata records

4.4 Students will interpret and calculate cartographic scale

Course Materials
Readings are available on course reserve, and each week's readings appear in the course schedule.

Assignments and Evaluation Criteria

Format: All assignments should be typed and handed-in via Blackboard.

- **Usability Comparison Assignment** 60 points (20%)
- **Geospatial Data Discovery Assignment** 30 points (10%)
- **Cartographic Metadata Record** 60 points (20%)
- **Final Paper/Presentation** 120 points (40%)
- **Participation** 30 points (10%)

More detailed directions for each assignment will appear in Bb. Assignment due-dates are in the following course schedule.

Participation 30 points (10%)

It is important to note that class participation is ten percent of your grade because participation is an important component of facilitating learning in this class. Participation points come from attending class. It is assumed that each student will miss no more than one session and will speak in class -- the equivalent of a "B" grade for "participation." Missing more classes or failing to participate will lower your grade; frequent participation will raise the grade. Regular attendance is required and necessary.

Unexplained absences will affect your grade. Contact me as soon as possible if you cannot attend class. If you must be absent from class, you must:

- Inform me in advance or as soon as possible after class
- Submit any work due from the missed class period
- Watch/listen to the archive of the class you missed

Acceptable reasons for absence from class include:

- Illness
- Serious family emergencies
- Special curricular or job requirements (e.g., field trips, professional conferences) or participation in official university activities such as music performances, athletic competition or debate
- Military obligation
- Severe weather conditions
- Religious holidays
- Obligations for court imposed legal obligations (i.e., jury duty, subpoena)

Other reasons may also be approved.

Missing more than one class meeting for reasons other than those listed above will have a negative impact on your course participation grade.

Final Paper/Presentation 120 points (40%)

1. Select and describe a topic, with a clear purpose and some literature review for consideration. Please select a topic that will benefit your future and that you will enjoy.
   – *Due 9:00 AM EST Monday, September 23.*
2. Find research articles on the topic, and use your interpretation and evaluation of the research to inform important aspects of the future of geographic information related to your topic; DO NOT simply summarize what has been researched, but relate the research articles to each other and synthesize a theme out of the articles you find.
3. Discuss future implications for the field related to your topic and specifically for your career.
4. Finally, you will prepare a 15 minute presentation of your paper to inform the class.
5. As a semester long assignment, I have high expectations for the quality of this work. You should produce a paper that is of publishable quality. I am indifferent about structure or citation style; however, be consistent and do not hesitate to ask for clarification. In fact, you may want to take this opportunity to produce work that would lead to an actual presentation, paper, or poster. Your scholarship will help address the final outcome of the IMLS grant during an exciting time in this emergent field --- *A plethora of groundbreaking GIL research will lay the foundation for the continued and growing role of the library and archives workforce in the facilitation of geospatial data management, which empowers our national economy, renews our infrastructure, and protects our environment.*

The other assignment instructions will be made available in Bb.

Grades

At the end of the course, I will convert the points earned into a percentage:

93% and above	=	A
85% to 92%	=	B+
79% to 84%	=	B
75% to 78%	=	C+
70% to 74%	=	C
60% to 69%	=	D
below 60%	=	F

I -- A temporary grade indicating that the student has performed satisfactorily in the course, but, due to unforeseen circumstances, has been unable to finish all requirements. An "I" will not be give to enable a student to do additional work to raise a deficient grade. All incompletes must be removed within one semester, excluding the summer term.

Reading Materials

Reading materials will be available online, either on the Internet or UT library. Readings for each week will be given in advance and it will be the responsibility of the student to complete the readings and contribute to the class discussions based on the readings.

Course schedule (subject to change due to unforeseen circumstances)

Week	Begins	Read	Pages in Textbook
1	Aug 26	Geographic Information Librarianship	
		Watch the Geospatial Revolution videos: http://geospatialrevolution.psu.edu/	
2	Sep 2	**Labor Day**	
1. General Geographic and Cartographic Competencies			
3	Sep 9	A Brief History of Geography	
4	Sep 16	0° -- Scale, Projection, and Coordinate Systems	
+Final Paper/Presentation Topic is due 9:00 AM EST Monday, September 23.			
5	Sep 23	The Power of Maps	
2. Collection development and maintenance			
6	Sep 30	GeoWeb	
7	Oct 7	Collection Maintenance	
8	Oct 14	Collection Development	
Fall Break Oct 17-18			
+Usability Comparison Assignment is due 9:00 AM EST Monday, October 21.			
3. Reference and Instruction			
9	Oct 21	Geospatial Data Discovery -- Imagery, Geospatial data, and Maps	
10	Oct 28	Geospatial Data Discovery – Basic Spatial Analyses	
+Geospatial Data Discovery Assignment is due 9:00 AM EST Monday, November 4.			
4. Metaloging			
11	Nov 4	Geographic Information Policy and Spatial Data Infrastructures	
12	Nov 11	Geospatial Metadata (FGDC)	
		http://biblioteca.uam.es/cartoteca/documentos/larsgaard_english.pdf	
13	Nov 18	Map Cataloging	
		RDA and Cartographic Materials: Mapping a New Route	
		http://www.ala.org/alcts/confevents/upcoming/webinar/cat/092811	
+Cartographic Metadata Record is due 9:00 AM EST Monday, November 25.			
14	Nov 25	Review / Final Presentations	
Thanksgiving Nov 28-29			
15	Dec 2	Final Presentations	
+Final paper is due 9:00 AM EST Monday, Dec 2.			

Academic Integrity: "The responsibility for learning is an individual matter. Study, preparation and presentation should involve at all times the student's own work, unless it has been clearly specified that work is to be a team effort. Academic honesty requires that all work presented be the student's own work, not only on tests, but in themes, papers, homework, and class presentation. …" (Hilltopics 2004-2005 Student Handbook, The University of

Tennessee, Knoxville, p. 40). Cheating, plagiarism, providing unauthorized help and other acts of dishonesty violate the rule of academic honesty; the offender will be subject to penalties as set forth in Hilltopics.

Special Needs: If you need course adaptations or accommodations because of a documented disability or if you have an emergency, please contact the Office of Disability Services at 2227 Dunford Hall, Knoxville, or at (865) 974-6087. This will ensure that you receive adequate services to meet your needs. Policy on Inclement Weather & Unforeseen Circumstances: If the university is officially closed, classes will be canceled. I may revise the schedule after the missed session. Any type of arrangements will be discussed with you in advance and announced in class or via e-mail.

CCI Diversity Statement (College of Communication and Information Bylaws, Section II-C): The College of Communication and Information recognizes that a college diverse in its people, curricula, scholarship, research, and creative activities expands opportunities for intellectual inquiry and engagement, helps students develop critical thinking skills, and prepares students for social and civic responsibilities. All members of the College benefit from diversity and the quality of learning, research, scholarship and creative activities is enhanced by a climate of inclusion, understanding and appreciation of differences and the full range of human experience. As a result, the College is committed to diversity and equal opportunity and it recognizes that it must represent the diversity inherent in American society. The College is acutely aware that diversity and fairness are foundations that unite the College's faculty, staff, students, and the larger communication and information community (see http://www.cci.utk.edu/diversity-statement for CCI's full Diversity Statement).

Additional recommended readings

Abresch, J., Hanson, A., Heron, S. J. and Reehling, P. J. (2008). *Integrating Geographic Information Systems into Library Services: A Guide for Academic Libraries*. Hershey, PA: Information Science Pub.

Aufmuth, J. (2006). Centralized vs. distributed systems: Academic library models for GIS and remote sensing activities on campus. *Library Trends, 55*(2), 340-348.

Boxall, J. (2002). Geolibraries, the global spatial data infrastructure and digital Earth: A time for map librarians to reflect upon the moonshot. *INSPEL, 36*(1), 1-21.

Clinton, W. (1994, April 13). *Coordinating geographic data acquisition and access*: *The National Spatial Data Infrastructure*. Executive Order 12906. Retrieved April 28, 2008, from http://govinfo.library.unt.edu/npr/library/direct/orders/20fa.html.

Crampton, J.W. (2009). Cartography: maps 2.0. *Progress in Human Geography, 33*(1), 91-100.

DiBiase, D., University Consortium for Geographic Information Science., Model Curricula Task Force., & Body of Knowledge Advisory Board. (2006). *Geographic information science and technology body of knowledge*. Washington, D.C: Association of American Geographers.

Donnelly, F. P. (2010). Evaluating open source GIS for libraries. *Library Hi Tech, 28*(1), 131-151.

Erwin, T., and Sweetkind-Singer, J. (2009). The National Geospatial Digital Archive: A Collaborative Project to Archive Geospatial Data. *Journal of Map & Geography Libraries, 6*(1), 6-25. doi: 10.1080/15420350903432440

Federal Geographic Data Committee. (1997). *Framework introduction and guide*. Retrieved April 30, 2008, from http://www.fgdc.gov/framework/handbook/index_html .

Houser, B. (2006). Building a library GIS service from the ground up. *Library Trends, 55*(2), 315-326.

Larsgaard, M.L. (1998). *Map librarianship: An introduction*, Englewood, CA: Libraries Unlimited, Inc.

Larsgaard, Mary. L. (2005). Metaloging of digital geospatial data. *The Cartographic Journal, 42*(3), 231-237.

Longley, P.A., Goodchild, M.F., Maguire, D.J., & Rhind, D.W. (Eds.) (1999). *Geographical Information Systems – Principles and Technical Issues, vol.1*. New York: John Wiley & Sons.

Longley, P. A. (2007). *Geographical information systems and science*. Chichester [u.a.: Wiley.

Map and Geography Round Table Education Committee. (2008*). Map, GIS and Cataloging/Metadata Librarian Core Competencies*. Chicago, IL: American Library Association.

Martin, G.J. (2005). *All Possible Worlds: A History of Geographical Ideas*. New York, NY: Oxford University Press.

Morris, S. P. (2009). The North Carolina Geospatial Data Archiving Project: Challenges and Initial Outcomes. *Journal of Map & Geography Libraries, 6*(1), 26-44. doi: 10.1080/15420350903432507

Soete, G. J. (1997). *Transforming Libraries 2: Issues and Innovations in Geographic Information Systems*. Washington: Association of Research Libraries, SPEC Kit 219.

Strasser, T. C. (1998). Geographic information systems and the New York State Library: Mapping new pathways for library service. *Library Hi Tech,16*(3), 43-50.

Weimer, K. H. and Reehling, P. (2006). A new model of geographic information librarianship: Description, curriculum, and program proposal. *Journal of Education for Library and Information Science, 47*(4), 291-302.