# UNIVERSITY OF PITTSBURGH SCHOOL OF INFORMATION SCIENCES

Spring 2013 Term

Course	LIS 2674: Digital Preservation
Instructors	Dr. Alison Langmead and Dr. Brian Beaton
Teaching Assistant	Lindsay Mattock
Office Locations	Langmead: 116 Frick Fine Arts Building
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Telephone	Langmead: 412-648-2407
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Course Schedule	Tuesdays, 12:00pm-2:50pm
Office Hours	Langmead: by appointment
	Beaton: by appointment
	Mattock: by appointment

#### **Scheduling Notes**

The Spring 2013 academic term runs from January 7-April 27. Classes end April 19. Spring Recess is the week of March 10-17. No classes will be held during that week.

#### **Course Overview and Goals**

This course explores both the production and the preservation of digital culture in the context of the United States. It begins by tracing the computerization of American life over the second half of the twentieth century, looking at how actors in the past understood digital technologies and their future possibilities in a wide variety of contexts. How did scientists, bankers, government workers, business managers, filmmakers, urban planners, librarians, archivists, and the like make sense of, and explain to themselves, the growing role of digital technologies within American society? How did technological changes in professional arenas spill into the domestic realm and change interpersonal relations? And, for our current-day purposes, what are the physical remains—whether hardware, software or media-based—that we can expect to have survived into the present from these entanglements with technology? As the United States underwent its transformation into an information-intensive economy, what are the persistent representations of information culture that remain for us to preserve today? What unique problems do these forms and formats present to archivists and related information professionals? What are the tools that information professionals use to maintain digital objects over the long term?

With these questions as our starting point, this course offers a historical and theoretical framework for understanding the preservation of digital culture, including both digitized and born-digital materials. As our exploration moves toward the present day, we encounter contemporary information management problems and solutions—solutions that must also take into consideration the technological shifts that took place over the previous seventy years. Mastering the latest research on the preservation problems surrounding digital technology is

the goal of the course. Along the way, this course tackles the ongoing debates focused on the related but distinct concepts of preservation, curation, maintenance, and stewardship.

## **Course Requirements**

Assignment	% of Final Grade	Due Date
Position Paper	25%	March 12 <sup>th</sup> , noon EST
(Policy Audience)		
Public Service Announcement	25%	March 26 <sup>th</sup> , noon EST
(Lay Audience)		
Report to Jefferson	25%	April 16 <sup>th</sup> , noon EST
(Professional Audience)		
SWG participation	25%	Ongoing, with a group assessment
		report due on April 23 <sup>rd</sup> , noon EST

## **Student Working Groups (SWG's)**

Every student will be assigned into a working group at the start of the term. Each working group will focus on a major theme running through the LIS 2674 course material. The purpose of these working groups is to simulate the topic- and problem-specific project teams commonly used to conduct research and produce deliverables within the information professions. Each class session will feature a discussion component. In some weeks, the entire class will engage in discussion as a single body. In other weeks, students will meet with their SWG. In still other weeks, the SWG's will be intermixed to facilitate cross-topic discussions. The following areas of focus have been chosen for Spring 2013:

- Workplace Transformations
- Interpersonal Communication
- Efficiencies and Expenses
- Makers and Users
- Boosterism and Alarmism

Active participation in your assigned SWG will form the basis for your course participation grade. You should read and critically analyze all assigned course materials before coming to class, arrive prepared to report to your fellow students, and work over the duration of the term to develop a unique expertise in your SWG subject area. At the end of the semester, you are also required to submit a 250-500 word statement that uses professional and collegial prose to identify the strongest and/or most valuable individual member and the weakest and/or least valuable individual member of your SWG, explaining the rationale behind your choices. The purpose of this exercise is to simulate peer review and performance evaluation. These statements will inform the instructor's evaluation of your individual classroom performance but will not serve as the sole criteria for the grade.

#### Assignments

LIS2674 has three major assignments. The assignments are designed to develop your skills in communicating with distinct and various audiences.

#### **Assignment 1: Position Paper (Policy audience)**

In October 2012, the Pittsburgh City Council approved a plan to create a City Archives Commission (http://pittsburghpa.gov/district7/archivinglegislation). In 1000-1250 words, write a position paper for the Commission that advocates for the creation of a citywide digital preservation strategy. In the paper, you will need to explain to the best of your ability the scope of the city's digital records, educate your audience of policymakers and government officials about the types of digital materials that a city such as Pittsburgh generated in the past and creates in the present, outline the preservation issues associated with digital materials, identify any salient recordkeeping legislation that might affect a citywide digital preservation strategy, and argue why long-term access to digital materials should be a primary concern for local government. If you have not previously written a position paper and require further information about best practices, numerous online resources can be located via Google or ULS. The paper must be written in polished and professional prose. Please note the following: this is not a research paper, an implementation plan, an Op-Ed, or a philosophical monologue. It is an opportunity for you to produce a broad overview of digital preservation geared toward an audience that is interested in what you have to say but not particularly knowledgeable about the specifics. You should aim to consult no fewer than 10 sources.

# Assignment 2: Public Service Announcement, "Obsolescence and You" (Lay audience)

Building on your research in Assignment 1, create a web-based presentation lasting no more than 4 minutes that explains to the residents of Pittsburgh why the city should have a digital preservation strategy and outlines the benefits of having long-term access to the city's digital materials. In this presentation, you should use the larger history of digital culture as presented in class to teach your audience about the concept of obsolescence and how it relates to digital preservation. If you have not previously created a web-based presentation, such as a web-based video, slideshow or webinar, numerous online resources can be located via Google or ULS. It must be posted on the open web (YouTube, Vimeo, Tumblr and such are all fine, Facebook and other member-restricted sites are not). You will submit the link on CourseWeb by the stated due date.

### Assignment 3: Formal Presentation (Professional audience)

The last three weeks of the course will involve a series of labs designed by Jefferson Bailey, who is currently the Strategic Initiatives Manager at the Metropolitan New York Library Council (METRO), has worked on digital stewardship projects at numerous institutions, and is a graduate of the MLIS program at the University of Pittsburgh's SIS. In Assignment 3, each SWG will be required to give one 20-minute formal presentation geared for a professional audience. Each SWG will choose a tool or activity discussed or demonstrated during the Week 12-14 lecture and labs, relate it to their SWG's theme and be required to: utilize key terminology to explain what this tool or activity accomplishes on both a practical and theoretical level; articulate the role this tool or activity plays in the broader goal of digital stewardship; suggest possible implementation scenarios (including infrastructure, staff, or training requirements) for introducing this tool or activity into a digital stewardship workflow; and explain any strengths or weakness of the tool or activity and the challenges it may impose if implemented. The SWG presentations are welcome to reference existing manuals, guides, or case studies of these tools or activities and are also welcome to create their own websites, blogs, or tutorials if creating such supplemental resources facilitates group work or strengthens the presentation. These supplemental resources are not required, but should be referenced and discussed as part of the presentation if they are created. SWG's can create hypothetical scenarios, collections, and/or user groups for their presentations. Each SWG member will be expected either to speak during part of the

presentation or to have clearly authored/created one of the supplemental resources. This assignment is an opportunity both to learn the details of a specific, everyday digital preservation tool or activity and to explicate how it accomplishes, embodies, and potentially complicates everything else you have learned this semester about digital information.

#### Style Guide and Formatting Requirements

Use of *The Chicago Manual of Style*, 16<sup>th</sup> edition (Notes and Bibliography Style) is *mandatory* for *footnotes* and bibliographies. While you are strongly urged to purchase a copy of this work, an online version is available at <a href="http://www.chicagomanualofstyle.org/home.html">http://www.chicagomanualofstyle.org/home.html</a>. Line spacing can be line-and-a-half or double-spaced. Fonts used should be no smaller than 10 point and no larger than 12 point. Footnotes should be used rather than endnotes. The use of Ibid. and parenthetical inline references will not be accepted.

#### **Grading Rubric for Written Work**

#### A (4.0): Exceptional work.

Demonstrates an outstanding understanding--both theoretical and factual--of the materials both presented in class and assigned out of class. Displays original and creative thought that significantly exceeds expectations. Shows perfect command of English grammar and syntax. Exhibits a publishable and masterful use of sources while working exclusively within the assigned citation style.

#### A- (3.7): Outstanding work.

Demonstrates comprehensive knowledge of the course materials both presented in class and assigned out of class. Greatly surpasses course expectations by not only displaying skillful treatment of the assigned material but also contributing substantial originality to the work. Shows superior command of English grammar and syntax. Uses an expert approach to source work while functioning exclusively within the assigned citation style.

#### *B*+ (3.3): *Very good work.*

Demonstrates a better-than-average command of the course materials both presented in class and assigned out of class. Exceeds course expectations by revealing original ideas and by showing a solid grasp of English grammar and syntax. Uses sources well and with some creativity. Shows thorough understanding of the assigned citation style.

## B (3.0): Solid work.

Demonstrates expected command of the course materials both presented in class and assigned out of class. Meets course expectations by following the assignments, using sources in an acceptable manner and using the assigned citation style.

#### B- (2.7): Marginal work.

Demonstrates an incomplete understanding of the course materials both presented in class and assigned out of class. Does not meet course expectations by inadequately following the assignment, showing an insufficient grasp of English grammar and syntax, by displaying a lower-than-average approach to source work and misunderstanding the assigned citation style.

# C (2.0): Unacceptable work in an MLIS graduate program.

Fails to meet expectations by not following the assignment, using sources inappropriately, misunderstanding the required citation format and displays a poor command of English grammar and syntax.

F (0.0): Failing work.

#### **Class Policies**

#### Academic Integrity

Students in this class will be expected to comply with the University of Pittsburgh's Policy on Academic Integrity. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. See <a href="http://www.provost.pitt.edu/info/ai1.html">http://www.provost.pitt.edu/info/ai1.html</a> for full policies regarding academic integrity.

#### Students with Disabilities

If you have a disability which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services, 216 William Pitt Union, 412-648-7890 or 412-383-7355 (TTY), as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course. For more information on the services of that office, see <a href="http://www.drs.pitt.edu">http://www.drs.pitt.edu</a>.

#### Assignment Deadlines

All assignments are to be submitted to CourseWeb, using the Assignment Tool, and are due by noon, EST, on the due date. Managing deadlines is an important professional skill.

## Incompletes

Incomplete grades will not be given for this course unless the instructors are notified at least two weeks in advance of the end of the term of serious circumstances affecting a student's ability to complete the course requirements by the assigned dates. If an incomplete is granted, all outstanding assignments must be turned into the instructors by a date to be determined by the instructors, typically a month following the end of the term for which the incomplete was granted.

## **Class Topics and Reading Schedule**

(Reading schedule subject to modification. Bold text denotes required reading.)

(Reading schedule subject to modification: <b>bold text denotes required reading.</b> )	
Week One:	Campbell-Kelly, Martin. From Airline Reservations to Sonic the Hedgehog:
January 8	A History of the Software Industry. Cambridge: MIT Press, 2003.
Course Overview	Swedin, Eric G. and David L. Ferro. <i>Computers: The Life Story of a Technology</i> . Baltimore: The Johns Hopkins University Press, 2007.
	White, Ron. How Computers Work. Indianapolis: Que, 2009.
Week Two:	Association for Computing Machinery, and C. V. L. Smith. <i>Proceedings of</i>
January 15	the 1952 ACM National Meeting (Pittsburgh). New York: ACM Press,
	1952.
1940s – 1950s	
	Baker, W.R.G. "Electronics: What's Coming After the Missile Age?"

	Proceedings of the IRE 46 (March 1958): 534-538.
	Barnard III, G.A. and Louis Fein. "An Information Filing and Retrieval System for the Engineering and Management Records of a Large-Scale Computer Development Project." <i>American Documentation</i> 9, no. 3 (July 1958): 208-213.
	Bush, Vannevar. "As We May Think." <i>The Atlantic</i> 176, no. 1 (July 1945): 101-108.
	Chapin, Ned. "A Look at the Computer Industry." <i>The Analysts Journal</i> 14, no. 4 (August 1958): 79-83.
	Chase, George C. "History of Mechanical Computing Machinery." Annals of the History of Computing 2, no. 3 (July-September 1980): 198-226.
	Clippinger, Richard F. "Economics of the Digital Computer." Harvard Business Review 33 (January-February 1955): 77-88.
	Coleman, John S. "Computers as Tools for Management." <i>Management Science</i> 2, no. 2 (January 1956): 107-113.
	Fein, Louis. "The Role of the University in Computers, Data Processing, and Related Fields." Communications of the ACM 2, no. 9 (1959): 7–14.
	Hunter, G. Truman. "Modern Computing Machines." Journal of the Franklin Institute 253, no. 6 (June 1952): 567-583.
	Martin Jr., E.W. "The Widening Potential of the Computer." Business Horizons 1, no. 1 (Winter 1958): 39-47.
	Tasman, P. "Literary Data Processing." IBM Journal of Research and Development 1, no. 3 (1957): 249-256.
	Tate, Vernon D. "From Binkley to Bush." <i>American Archivist</i> 10, no. 3 (July 1947): 249-257.
	Taubes, Ernest P. "The Future of Microfilming." <i>American Archivist</i> 21, no. 2 (April 1958): 153-158.
	Thomas, Walker H. "Fundamentals of Digital Computer Programming."  Proceedings of the IRE 41(1953): 1245-1249.
Week Three: January 22	Aitchison, Wallace G. "The Role of a Records Manager in an Integrated Data Processing System." <i>Records Management Quarterly</i> 1, no. 4 (October 1967): 15-17, 20-21.
1960s-1970s	Barker, Marilyn. "The Era of the Computer and Its Impact on Nursing."

- Supervisor Nurse 2, no. 8 (August 1971): 26-36.
- Bearman, David. "Automated Access to Archival Information: Assessing Systems." *American Archivist* 42, no. 2 (April 1979): 179-190.
- Brand, Stewart. "Spacewar: Fanatic Life and Symbolic Death Among the Computer Bums." Rolling Stone (December 7, 1972): 50-58.
- Casali, Harold O. "Computer Ideas in the Seventies." *Records Management Quarterly* (January 1973).
- Chartland, Robert L. "Computer Technology and the Congress."

  Information Storage and Retrieval 6, no. 2 (June 1970): 229-240.
- Cooper, Charles E. "Computers in the Banking Industry." *The Business Lawyer* 17, no. 1 (November 1961): 111-128.
- Ellin, Everett. "An International Survey of Museum Computer Activity." Computers and the Humanities 3 (November 1968): 65-86.
- Filep, Robert T. "Individualized Instruction and the Computer: Potential for Mass Education." *AV Communication Review* 15, no. 1 (Spring 1967): 102-112.
- Geda, Carolyn L. "Social Science Data Archives." *American Archivist* 42, no. 2 (April 1979): 158-166.
- Harris, Britton. "Computers and Urban Planning." Socio-Economic Planning Sciences 1 (July 1968): 223-230.
- Lee, Col. Leonard S. "What DO You Do With a Million Fiche?" *Records Management Quarterly* 12, no. 1 (January 1978).
- Merz, Albert. "The Use of Data Processing Equipment for Educational Records." NASSP Bulletin 46 (April 1962): 7-16.
- Mittelman, Jonas E. "The Electronics Age in Life Insurance." *The Journal of Insurance* 29 (June 1962): 205-220.
- Price, Dennis G. and Dennie E. Mulvihill. "The Present and Future Use of Computers in State Government." *Public Administration Review* 25, no. 2 (June 1965): 142-150.
- Rye, Owen M. "A Shotgun Wedding: Information Storage and the Computer." *Records Management Quarterly* (October 1967).
- Shiff, Robert A. "Records Management and the Office of the Future." Records Management Quarterly 11, no. 2 (April 1977).

	Southard, William P. "Total Recorded Information Management." Records Management Quarterly (January 1968): 10-13.
	Surgen, Olive R. "The Impact of Computers." Records Management Quarterly (January 1970): 30-31, 39.
	Wilds, Thomas. "Information Retrieval." <i>American Archivist</i> 24, no. 3 (July 1961): 269-282.
	Wishy, Bernard. "New Hardware for the Humanities." Computers and the Humanities 2 (September 1967): 1-11.
Week Four: January 29	Bovino, Mark "Future Directions of the Modern Office." Records  Management Quarterly 15, no. 3 (July 1981): 29-35.
1980s	Brown, Thomas Elton. "The Society of American Archivists Confronts the Computer." <i>American Archivist</i> 47, no. 4 (Fall 1984): 366-382.
	Cook, Michael. "The Role of Computers in Archives." <i>Information Development</i> 5, no. 4 (October 1989): 217-220.
	Compute! Magazine. Issues 002-115 (1980-1989). Internet Archive. <a href="http://archive.org/details/compute-magazine">http://archive.org/details/compute-magazine</a> [browse 3-4 issues with an eye towards how this primary source evidences how computers were used, represented, and discussed in popular culture]
	Dutton, William H., Everett M. Rogers, and Suk-Ho Jun. "Diffusion and Social Impacts of Personal Computers." <i>Communication Research</i> 14, no. 2 (April 1987): 219-250.
	Gehmlich, R. A. "The Records Management Specialist in the Office of the Future." Records Management Quarterly 14, no. 1 (January 1980): 5-7.
	Ham, F. Gerald. "Archival Strategies for the Post-Custodial Era."  American Archivist 44, no. 3 (Summer 1981): 207-216.
	Horton, Forest Woody. "Recordless Society? Another Information Age Myth." Records Management Quarterly 14, no. 3 (July 1980): 9-12.
	Hughes, Jane C. "The Impact of Information Systems on an Organization."  Records Management Quarterly 15, no. 4 (October 1981): 26-30.
	Raben, Joseph. "Computer Applications in the Humanities." <i>Science</i> 228, no. 4698 (April 26, 1985): 434-438.
	Sorensen, Peter. "Movies, Computers and the Future." <i>American Cinematographer</i> 64 (January 1983): 69-78.

	Weldon, Edward. "Archives and the Challenge of Change." <i>American Archivist</i> 46, no. 2 (Spring 1983): 125-134.
Week Five:	Bantin, Philip C. "Developing a Strategy for Managing Electronic Records –
February 5	The Findings of the Indiana University Electronic Records Project."
	American Archivist 61, no. 2 (1998): 328-364.
1990s	
	Bantin, Philip C. "The Indiana University Electronic Records Project
	Revisited." American Archivist 62, no. 1 (1999): 153-163.
	Revisited: 747/e17/4/e117/36/02, 110: 1 (1333): 133 103.
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	Bantin, Philip C. and Gerald Bernbom. "The Indiana University Electronic
	Records Project: Analyzing Functions, Identifying Transactions, and
	Evaluating Recordkeeping Systems—A Report on Methodology."
	Archives and Museum Informatics 10, no. 3 (1996): 246-266.
	7 11 cm ves and 11 ascam injornatios 10, 110. 5 (1330). 2 10 200.
	Bearman, David and Jennifer Trant. "Authenticity of Digital Resources:
	Towards a Statement of Requirements in the Research Process." D-Lib
	Magazine (June 1998).
	http://www.dlib.org/dlib/june98/06bearman.html
	Berners-Lee, Tim. "Cool URIs Don't Change." W3C Style (1998). http://www.w3.org/Provider/Style/URI.
	Clark, John M. "Using Image Scanners to Create and Access Electronically Stored Documents." Records Management Quarterly 25, no. 3 (July 1991): 9ff.
	Cox, Richard J. "Re-discovering the Archival Mission: The Recordkeeping
	Functional Requirements Project at the University of Pittsburgh, A
	Progress Report." Archives and Museum Informatics 8, no. 4 (1994): 279-300.
	Cox, Richard J. and Wendy Duff. "Warrant and the Definition of Electronic
	Records: Questions Arising from the Pittsburgh Project." Archives and Museum Informatics 11, nos. 3-4 (1997): 223-231.
	Du Rea, Mary V. and J. Michael Pemberton. "Electronic Mail and Electronic Data Interchange: Challenges to Records Management." Records Management Quarterly 28, no. 4 (October 1994): 3ff.
	Duff, Wendy. "Ensuring the Preservation of Reliable Evidence: A Research Project Funded by the NHPRC." Archivaria 42 (Fall 1996): 28-45.

Duranti, Luciana and Heather MacNeil. "The Protection of the Integrity of Electronic Records: An Overview of the UBC-MAS Research Project." Archivaria 42 (Fall 1996): 46-67.

Duranti, Luciana. "The Archival Bond." *Archives and Museum Informatics* 11, no. 3/4 (1997): 277-285.

Graham, Peter S. "Long-Term Intellectual Preservation." *Collection Management* 22, no. 3/4 (1998): 81-98.

Kahle, Brewster. "Preserving the Internet." *Scientific American* 276, no. 3 (1997): 82-83.

Kittler, Friedrich. *Gramophone, Film, Typewriter*. Stanford: Stanford University Press, 1999.

Lynch, Clifford. "Searching the Internet." *Scientific American* 276, no. 3 (1997): 52-56.

Lynch, Clifford A. "The Integrity of Digital Information: Mechanics and Definitional Issues." *Journal of the American Society for Information Science* 45, no. 10 (1994): 737-744.

Manovich, Lev. "Database as Symbolic Form." *Convergence: The International Journal of Research into New Media Technologies* 5, no. 2 (1999): 80-99.

Marsden, Paul. "When is the Future? Comparative Notes on the Electronic Record-Keeping Projects of the University of Pittsburgh and the University of British Columbia." *Archivaria* 43 (Spring 1997): 158-173.

Rothenberg, J. "Ensuring the Longevity of Digital Documents." *Scientific American* 272, no. 1 (1995): 42-47.

Taskforce on Archiving of Digital Information. *Preserving Digital Information*. The Commission on Preservation and Access and Research Libraries Group, 1996.

Walch, Victoria Irons. "The Role of Standards in the Archival Management of Electronic Records." *American Archivist* 53, no. 1 (Winter 1990): 30-43.

Wallace, David A. "Metadata and the Archival Management of Electronic Records: A Review." *Archivaria* 36 (Autumn 1993): 87-110.

# Week Six: February 12

Arms, Caroline and Carl Fleischhauer. "Digital Formats: Factors for Sustainability, Functionality and Quality." In IS&T Archiving Conference, Society for Imaging Science and Technology, 222-227. Washington DC:

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The Society for Imaging Science and Technology, 2005.

Authenticity in a Digital Environment. Washington DC: Council on Library and Information Resources, 2000.

http://www.clir.org/pubs/reports/pub92/reports/pub92/pub92.pdf

Bradley, Rachael. "Digital Authenticity and Integrity: Digital Cultural Heritage Documents as Research Resources." *Portal: Libraries and the Academy* 5, no. 2 (2005): 165-175.

Duranti, Luciana, Terry Eastwood, and Heather MacNeil. *Preservation of the Integrity of Electronic Records*. Dordrecht: Kluwer Academic Publishers Group, 2002.

http://www.interpares.org/UBCProject/index.htm

Duranti, Luciana. "The Long-Term Preservation of Accurate and Authentic Digital Data: The INTERPARES Project." Data Science Journal 4 (2005). https://www.jstage.jst.go.jp/article/dsj/4/0/4\_0\_106/\_article

Gilliland-Swetland, Anne. "Testing Our Truths: Delineating the Parameters of the Authentic Archival Electronic Record." *American Archivist* 65, no. 2 (Fall/Winter 2002): 196-215.

Gladney, H. M., and J. L. Bennett. "What Do We Mean by Authentic? What's the Real McCoy?" *D-Lib Magazine* 9, no. 7/8 (2003). http://www.dlib.org/dlib/july03/gladney/07gladney.html

Lavoie, Brian F. "The Open Archival Information System Reference Model: Introductory Guide." *Microform and Imaging Review* 33, No. 2 (2004): 68-81.

MacNeil, Heather. "Providing Grounds for Trust II: The Findings of the Authenticity Task Force of InterPARES." *Archivaria* 54 (Fall 2002): 24-58.

MacNeil, Heather. "Providing Grounds for Trust: Developing Conceptual Requirements for the Long-Term Preservation of Authentic Electronic Records." *Archivaria* 50 (Fall 2000): 52-78.

Meijer, Albert Jacob. "Trust This Document! ICTs, Authentic Records and Accountability." *Archival Science* 3, no. 3 (2003): 275-290.

Smith, MackKenzie, Mary Barton, Mick Bass, et. al. "DSpace: An Open Source Dynamic Digital Repository." *D-Lib Magazine* 9, no. 1 (January 2003). http://www.dlib.org/dlib/january03/smith/01smith.html

Staples, Thorton, Ross Wayland, and Sandra Payette. "The Fedora Project: An Open-source Digital Object Repository Management System." *D-Lib Magazine* 9, no. 4 (April 2003).

	http://www.dlib.org/dlib/april03/staples/04staples.html
	Tansley, Robert, Mick Bass, and NacKenzie Smith. "DSpace as an Open Archival Information System: Current Status and Future Directions."  Lecture Notes in Computer Science 2769 (January 2003): 446-460.
Week Seven: February 19	Beagrie, Neil. "Digital Curation for Science, Digital Libraries, and Individuals." <i>International Journal of Digital Curation</i> 1, no. 1 (2006): 3-16.
2006-2007	
	Bearman, David. "Moments of Risk: Identifying Threats to Electronic Records." <i>Archivaria</i> 62 (Fall 2006): 15-46.
	Bradley, Kevin. "Defining Digital Sustainability." <i>Library Trends</i> 56, no. 1 (2007): 148-163.
	Capturing Analog Sound for Digital Preservation: Report of a Roundtable Discussion of Best Practices for Transferring Analog Discs and Tapes. Washington, DC: Council on Library and Information Resources and Library of Congress, 2006. <a href="http://www.clir.org/pubs/abstract/pub137abst.html">http://www.clir.org/pubs/abstract/pub137abst.html</a>
	Chen, Su-Shing. "Digital Preservation: Organizational Commitment, Archival Stability, and Technological Continuity." Journal of Organizational Computing and Electronic Commerce 17, no. 3 (2007): 205-215.
	Choudhury, Sayeed, Tim DiLauro, Alex Szalay, Ethan Vishniac, Robert J. Hanisch, Julie Steffen, Robert Milkey, Teresa Ehling, and Ray Plante. "Digital Data Preservation for Scholarly Publications in Astronomy." International Journal of Digital Curation 2, no. 2 (2007): 20-30.
	Duranti, Luciana. "Reflections on InterPARES The InterPARES 2 Project (2002-2007): An Overview." <i>Archivaria</i> 64 (Fall 2007): 113-121.
	Duranti, Luciana and Kenneth Thibodeau. "The Concept of Record in Interactive, Experiential and Dynamic Environments: the View of InterPARES." <i>Archival Science</i> 6, no. 1 (2006): 13-68.
	Ferreira, Miguel, Ana Alice Baptista, and José Carlos Ramalho. "A Foundation for Automatic Digital Preservation." <i>Ariadne</i> 46 (2006). <a href="http://www.ariadne.ac.uk/issue48/ferreira-et-al">http://www.ariadne.ac.uk/issue48/ferreira-et-al</a>
	Franks, Pat and Nancy Kunde. "Why Metadata Matters." Information Management Journal 40, no. 5 (September/October 2006): 55-61.
	Gladney, H. M. "Principles for Digital Preservation." <i>Communications of the ACM</i> 49, no. 2 (2006): 111-116.

- Guenther, Rebecca, and Leslie Myrick. "Archiving Web Sites for Preservation and Access: MODS, METS and MINERVA." *Journal of Archival Organization* 4, no. 1/2 (2006): 141-166.
- Hedstrom, Margaret L., Christopher A. Lee, Judith S. Olson, and Clifford A. Lampe, "The Old Version Flickers More': Digital Preservation from the User's Perspective." *American Archivist* 69, no. 1 (Spring/Summer 2006): 159-187.
- Lauriault, Tracey P., Barbara L. Craig, D.R. Fraser Taylor, and Peter L. Pulsifer. "Today's Data are Part of Tomorrow's Research: Archival Issues in the Sciences." *Archivaria* 64 (Fall 2007): 123-179.
- Mason, Ingrid. "Virtual Preservation: How Has Digital Culture Influenced Our Ideas about Permanence? Changing Practice in a National Legal Deposit Library." *Library Trends* 56, no. 1 (2007): 198-215.
- Moghaddam, Golnessa Galyani. "Archiving Challenges of Scholarly Electronic Journals: How Do Publishers Manage Them?" *Serials Review* 33, no. 2 (2007): 81-90.
- Moore, Reagan W. "Building Preservation Environments with Data Grid Technology." *American Archivist* 69, no. 1 (Spring/Summer 2006): 139-158.
- National Research Council Committee on Archiving and Accessing Environmental and Geospatial Data at NOAA. *Environmental Data Management at NOAA: Archiving, Stewardship, and Access.*Washington, DC: National Academies Press, 2007.
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March 26	Stewardship"
Guest Lecture	
Week Thirteen:	Understanding Bits
April 2	Acquiring Bits
	Validating Bits
Lab	
Week Fourteen:	Describing Bits
April 9	Managing Bits
Lab	Accessing Bits
Week Fifteen: April 16	
SWG Presentations	
Week Sixteen: April 23	
Wrap-up	