

**School of Information and Library Science
University of North Carolina, Chapel Hill
INLS 525 - Electronic Records Management
*[Last Updated: 2015-08-25]***

Fall 2015

Meeting Time: Tuesday, 6:00-8:45 pm

Location: Manning 014

Credits: 3

Instructor: Kelly Eubank

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Office Hours: by appointment

Course Web Site: <https://sakai.unc.edu/portal/site/4b8ff9b2-d752-4294-8db2-cb456b434b4f/page/0aa56426-e382-4db5-bb2d-dcfc2188bbb>

COURSE DESCRIPTION

The management and preservation of electronic records is essential for maintaining institutional accountability; supporting the efficient operation of contemporary organizations; protecting the rights of citizens, employees and customers; perpetuating valuable forms of social memory; and helping individuals to integrate aspects of the past into their sense of identity.

Current electronic recordkeeping is in a state of relative neglect. At their most basic level, electronic records problems are related to proper configuration and management of computer components (hardware and software). The good news is that actual and potential solutions to the technological issues abound. The bad news is that the behavioral, organizational, institutional and professional underpinnings are generally not yet in place to implement the technological solutions. This places a profound set of challenges and opportunities in the hands of SILS students about to enter the workforce.

In this course, we will begin by considering the messy recordkeeping environment in which we currently live. We will then gradually build up a set of concepts, tools and strategies that information professionals can use to help shape more appropriate, valuable and sustainable recordkeeping systems.

COURSE OBJECTIVES

- Gain awareness of trends and practices in contemporary recordkeeping environments.
- Understand the nature of electronic records in different organizational, technological, legal, cultural, and business environments.
- Be aware of social, legal, and policy implications for individuals and organizations keeping records in electronic form.
- Be able to analyze a variety of problems related to electronic records and propose solutions that are appropriate in particular contexts.
- Understand the differences between recordkeeping systems and other types of information systems.
- Be able to evaluate the effectiveness of different approaches, methods, and technologies for managing electronic records.
- Understand the technical and institutional requirements associated with long-term retention, preservation of and access to electronic records.

- Be able to evaluate various electronic recordkeeping strategies.

COURSE EXPECTATIONS

- Complete readings BEFORE CLASS each week. Manage your time accordingly.
 - How to Read a Book - <http://www.si.umich.edu/~pne/PDF/howtoread.pdf>
- Written work should be of high quality. If you have concerns about writing, address them early and often.
 - UNC Writing Center in Phillips Annex - <http://www.unc.edu/depts/wcweb/>
 - Most importantly, your peers.
- Come to class on time
- Participate in discussions (both in-class and through Sakai) – counts as 20% of your total grade for the course
- Demonstrate that you have read the material, understood and synthesized it.
- Tell us when you do not agree. This is a discussion forum, not just a lecture session. No one in the room has a monopoly on correct answers. You are encouraged to question the assumptions of the readings, your instructors and your fellow students. Your comments should reflect mutual respect and should not attack individuals, but ideas are presented in order for you to analyze and critique them.

Tools Explored:

Digital Forensics

Bitcurator: www.bitcurator.net

Pay particular attention to the Quickstart Guide: <http://wiki.bitcurator.net/downloads/BitCurator-Quickstart.pdf>

Tools for Analysis of drives

WinDirStat—disk usage statistics viewer and cleanup tool

<https://windirstat.info> (windows)

Disk Inventory X: <http://www.derlien.com/> (Mac)

File Authenticity: allows you to compare files or folders on your systems that you can manage them properly.

Beyond compare: an application designed to provide users with “a full suite of file management and comparison tools.” (proprietary—Scooter Software)

http://download.cnet.com/Beyond-Compare/3000-2242_4-10015731.html

Bagger—a software tool intended to ensure the authentic and true transfer of files from one machine to another. (open source): <https://github.com/LibraryOfCongress/bagit-java>

Tools for data capture—Websites

Archive-it— <http://www.archive-it.org>

Special Needs: If you feel that you may need an accommodation for a disability or have any other special need, please make an appointment to discuss with me. I will best be able to address special circumstances if I know about them early in the semester. My office hours and contact information are listed at the beginning of this syllabus.

COURSE REQUIREMENTS

1. Complete required readings and participate in class discussions.
2. Paper about available technologies - Write a paper about a subset of the topic that could support an aspect of electronic recordkeeping. You'll each be assigned a subset of the tools on **Week 3 (Tuesday, September 1)**. Your paper should address (1) characteristics of the tools, (2) what electronic recordkeeping functions they purport to or potentially support, and (3) potential opportunities and challenges of implementing them in different contexts. Due on **Week 7 (Friday, October 11)**.
3. Data Recovery and Ingest Assignment - With a group of others students, you will receive a set of files and will then carry out a set of recovery and ingest tasks with those files.
 - You will receive the files and instructions on **Week 8 (Tuesday, October 8, 2015)**.
 - A group paper about this process is due on **Week 14 (Friday, November 20)**.
 - An individual paper providing recommendations based on your experience is due on Week 15 (**Friday, April 24**).

*Important, file naming note—please turn your assignments is as .pdf documents, last name_name_of_paper_date e.g Eubank_dataingest_group_20150208

KEY DATES

Week 3 (Tuesday, September 1) - Receive assignments for paper on available technologies

Week 7 (Tuesday, September 29 tentative)—Training and demonstration of Archive-It. Assignment to crawl a website and evaluate the content collected.

Week 9 (Tuesday, October 13) - Paper about web crawl and findings due

Week 9 (Tuesday, October 9) - Receive files and instructions for Data Recovery and Ingest Assignment

Week 11 (Tuesday, October 27) - Paper about available technologies due.

Week 14 (Friday, November 17) - Group Paper on Data Recovery and Ingest Assignment is due

Week 15 (Tuesday, December 1)—Individual Paper about Data Recovery and Ingest Assignment is due

Week 15—Tour

(TBD)

IMPORTANT NOTE ON PLAGIARISM

It is very important that you both attribute your sources and avoid excessive use of quotes (see separate handout called "In Your Own Words"). Be aware of the University of North Carolina policy on plagiarism. Your written work must be original. Ask if you have any doubts about what this means.

All cases of plagiarism (unattributed quotation or paraphrasing) of anyone else's work, whether from someone else's answers to homework or from published materials, will be officially reported and dealt with according to UNC policies (Instrument of Student Judicial Governance, Section II.B.1. and III.D.2, <http://instrument.unc.edu>).

EVALUATION

Participation in class discussion and lab exercises (this includes paper on observations of website archiving): 20%

Paper about available tools: 25%

Group paper on Data Recovery and Ingest Assignment: 30%

Individual paper on Data Recovery and Ingest Assignment: 25%

The most important measures of your performance in this and all other classes at SILS will be your ability to engage in challenging materials with your fellow students; your reputation for insights and professionalism among your peers and with your instructors; your integration of course material with the other things you are learning both inside and outside the classroom; and your ability to apply what you've learned in your future career. However, the conventions of academia dictate that we also assign labels (called grades) to your work on assignments and for the course as a whole.

Based on UNC Registrar Policy for graduate-level courses (<http://regweb.unc.edu/resources/rpm24.php>), both assignment and semester grades will be H, P, L or F. Few students will obtain an "H," which signifies an exceptionally high level of performance (higher than an "A" in an A-F systems). The following is a more detailed breakdown:

H = Superior work: complete command of subject, unusual depth, great creativity or originality

P+ = Above average performance: solid work somewhat beyond what was required and good command of the material

P = Satisfactory performance that meets course requirements (expected to be the median grade of all students in the course).

P- = Acceptable work in need of improvement

L = Unacceptable graduate performance: substandard in significant ways

F = Performance that is seriously deficient and unworthy of graduate credit

Note: The above breakdown is for individual assignments. Final grades in the course will not reflect + or - designations (i.e. there will be Ps but no P+s or P-s).

COURSE READINGS

You are not required to buy any books for this course.

SILS Reserves:

Copies of the following books are available from the SILS Library on the first floor of Manning Hall (behind the SILS Library help desk):

Adam, Azad. *Implementing Electronic Document and Record Management Systems*. Boca Raton: Auerbach Publications, 2008.

Ambacher, Bruce I., ed. *Thirty Years of Electronic Records*. Lanham, MD: Scarecrow Press, 2003.

Bearman, David, ed. *Archival Management of Electronic Records, Archives and Museum Informatics Technical Report, No. 13*. Pittsburgh, PA: Archives and Museum Informatics, 1991.

Bearman, David. *Electronic Evidence: Strategies for Managing Records in Contemporary Organizations*. Pittsburgh: Archives and Museum Informatics, 1994.

Brown, Adrian. *Archiving Websites: A Practical Guide for Information Management Professionals*. London: Facet, 2006.

Dearstyne, Bruce W., ed. *Effective Approaches for Managing Electronic Records and Archives*. Lanham, MD: Scarecrow Press, 2002.

Dollar, Charles M. *Authentic Electronic Records: Strategies for Long-Term Access*. Chicago, IL: Cohasset Associates, 1999.

Ellis, Judith A., ed. *Selected Essays in Electronic Recordkeeping in Australia*. O'Connor, ACT, Australia: Australian Society of Archivists, 2000.

Higgs, Edward, ed. *History and Electronic Artefacts*. Oxford, England: Clarendon Press, 1998. See especially Parts 1-3.

Jones, Keith J., Richard Bejtlich, Curtis W. Rose, Dan Farmer, Wietse Venema, and Brian Carrier. *Computer Forensics Library Boxed Set*. Upper Saddle River, NJ: Addison-Wesley, 2007. Includes:

- Carrier, Brian. *File System Forensic Analysis*. Boston, MA: Addison-Wesley, 2005.
- Farmer, Dan, and Wietse Venema. *Forensic Discovery*. Upper Saddle River, NJ: Addison-Wesley, 2005.
- Jones, Keith J., Richard Bejtlich, and Curtis W. Rose. *Real Digital Forensics: Computer Security and Incident Response*. Upper Saddle River, NJ: Addison-Wesley, 2006.

Lee, Christopher A. ed. *I, Digital: Personal Collections in the Digital Era*. Chicago, IL: Society of American Archivists, 2011.

Reid, Roger, Gareth Fraser-King, and W. David Schwaderer. *Data Lifecycles: Managing Data for Strategic Advantage*. Chichester, England: Wiley, 2007.

Smallwood, Robert F. *Managing Electronic Records: Methods, Best Practices, and Technologies*. Hoboken, NJ: Wiley CIO, 2013.

Stephens, David O. *Records Management: Making the Transition from Paper to Electronic*. Lenexa, KS: ARMA, 2007.

Stephens, David O., and Roderick C. Wallace. *Electronic Records Retention: New Strategies for Data Life Cycle Management*. Prairie Village, KS: ARMA International, 2003.

Saffady, William. *Managing Electronic Records*. 3rd ed. Prairie Village, KS: ARMA International, 2002.

World Wide Web: Some class preparation requires review of information on the Web. Uniform Resource Locators (URLs) are provided with the reading assignments.

For the weekly readings, the following labels indicate where specific course readings can be located:

B = Book for purchase

R = Reserves at SILS Library in Manning Hall

S = Course site on Sakai (<https://sakai.unc.edu>), where copies of some readings are available (under Course Documents > Readings)

O = Online through UNC license. NOTE: Accessing these materials can require you either to use a computer with a UNC IP address (generally, a SILS or UNC Library computer) or visit the associated sites through a UNC proxy server. See: <http://proxy.lib.unc.edu/setupinfo.html>

W = Publicly accessible Web

Part 1 - What's happening? Trends in Recordkeeping

- **Week 1 (August 18) – Introduction, housekeeping, discussion of expectations**
 - Introduction to the Course
 - Electronic Recordkeeping - Goals and Aspirations
 - Setup and familiarization with lab components

Week 2 (August 25) - Recordkeeping Realities - Part 1 (Recordkeeping Expectations and Practices)

Read:

W - Gantz, John, and David Reinsel. "Extracting Value from Chaos." EMC Corporation. June 2011. <http://www.emc.com/collateral/analyst-reports/idc-extracting-value-from-chaos-ar.pdf>

W - John, Jeremy Leighton, Ian Rowlands, Peter Williams, and Katrina Dean. "Digital Lives: Personal Digital Archives for the 21st Century >> an Initial Synthesis." 2010. [Read: pages vi-xviii] <http://britishlibrary.typepad.co.uk/files/digital-lives-synthesis02-1.pdf>

O - Meijer, Albert. "Electronic Records Management and Public Accountability: Beyond an Instrumental Approach." *The Information Society* 17, no. 4 (2001): 259-70. <http://dx.doi.org/10.1080/019722401753330850>

W - Catherine E. Shoichet "Bridge firestorm could have bigger impact on Christie." *CNN Politics*. January 8, 2014. <http://www.cnn.com/2014/01/08/politics/christie-bridge/index.html> [Read the story and the email messages: <http://www.cnn.com/interactive/2014/01/politics/christie-emails/index.html>]

Other Related Readings

Week 3 (September 1) - Recordkeeping Realities - Part 2 (New Forms of Expression and Interaction)

- Media of Communication and Coordination - Based on Digitally-Encoded Symbols
- Social Structures
- Genres and Routines
- Persistence of Genres
- Hybrid (Paper/Digital) Recordkeeping Environments
- Evolutionary Change
- Unintended Consequences

Exercise- examining and considering the files on your computer; WinDirStat—disk usage statistics viewer and cleanup tool

<https://windirstat.info> (windows)

Disk Inventory X: <http://www.derlien.com/> (Mac)

Receive assignments for paper on available technologies

Read:

W - Franks, Patricia C. "How Federal Agencies Can Effectively Manage Records Created Using New Social Media Tools." In *Using Technology Series*. Washington, DC: IBM Center for the Business of Government, 2010. <http://www.businessofgovernment.org/sites/default/files/How%20Federal%20Agencies%20Can%20Effectively%20Manage%20Records%20Created%20Using%20New%20Social%20Media%20Tools.pdf>

O - Madhava, Rakesh. "10 Things to Know About Preserving Social Media." *Information Management Journal*, September/October (2011): 33-7.

S - Sellen, Abigail J., and Richard Harper. *The Myth of the Paperless Office*. Cambridge, MA: MIT Press, 2002. Introduction, p.1-22.

[Other Related Readings](#)

Week 4 (September 8) - Levels of Representation and Curatorial Implications - Part 1

- Backup, redundancy and recovery
- Data Stored as Instructions for Future Interaction
- Hardware and Software Dependence

Read:

W - Christopher A. Lee, Kam Woods, Matthew Kirschenbaum, and Alexandra Chassanoff. *From Bitstreams to Heritage: Putting Digital Forensics into Practice in Collecting Institutions*. September 30, 2013. <http://www.bitcurator.net/docs/bitstreams-to-heritage.pdf>

W - Lee, Christopher A. "Digital Curation as Communication Mediation." In *Handbook of Technical Communication*, edited by Alexander Mehler, Laurent Romary, and Dafydd Gibbon, 507-530. Berlin: Mouton De Gruyter, 2012. <http://www.ils.unc.edu/callee/p507-lee.pdf>

S, R - Reid, Roger, Gareth Fraser-King, and W. David Schwaderer. "Data Lifecycles and Tiered Storage Architectures." *Data Lifecycles: Managing Data for Strategic Advantage*, 145-167. Chichester, England: Wiley, 2007. [You can skip over the Serial ATA discussion on p.147-151]

[Other Related Readings](#)

Week 5 (September 15) - Levels of Representation and Curatorial Implications - Part 2

- Technology Obsolescence
- Vendor Lock-In and Legacy Data
- Significant Properties
- Interoperability through Abstraction
- Interoperability through Open Standards
- Migration
- Emulation
- Web Archiving (Capture, Preservation, Access)
- Persistent Identifiers
- Representation Information and Format Registries
- Intellectual Control

Exercise - File integrity through hashing - generate hash, change content with hex editor, change file name, recheck hash

Read:

S - Blackburn, Barb, Robert Smallwood, and Seth Earley. "Taxonomy Development for E-Records." In *Managing Electronic Records: Methods, Best Practices, and Technologies*, 79-109. Hoboken, NJ: John Wiley and Sons, 2013.

S - Lange, Michele C. S., and Kristin M. Nimsger. "3.3 Discoverability" (60-67), "3.5 Data Locations and Accessibility" (72-82). *Electronic Evidence and Discovery: What Every Lawyer Should Know Now*. 2nd ed. Chicago, IL: Section of Science & Technology Law American Bar Association, 2009.

W - Rothenberg, Jeff. "Ensuring the Longevity of Digital Information." Washington, DC: Council on Library and Information Resources, 1999. <http://www.clir.org/pubs/archives/ensuring.pdf>

Other Related Readings

Week 6 (September 22, 2015) Levels of Representation and Curatorial Implications - Part 2 & Web Archiving Introduction

- Technology Obsolescence
- Vendor Lock-In and Legacy Data
- Significant Properties
- Interoperability through Abstraction
- Interoperability through Open Standards
- Migration
- Emulation
- Web Archiving (Capture, Preservation, Access)
- Persistent Identifiers
- Representation Information and Format Registries
- Intellectual Control
- What are web archives?
- Why should we be interested in managing the web?
- What are the responsibilities of records professionals?
- Available tools

Week 7 (September 29) – Archiving the Web— Introduction to RM and Web Archiving

- What are web archives?
- Why should we be interested in managing the web?
- What are the responsibilities of records professionals?
- Available tools
- Focus on recordkeeping issues with web crawling systems, rather than individual records
- Retention Scheduling and Appraisal
- Reliability and authenticity

- Managing Web Records (Selection, Retention Management, Intellectual Control)
- Archive-it Training

Read:

S, - Masanes, Julian. *Web Archiving*, Parts 1-4. New York: Springer Publications, 2006.

S - Cunningham, Adrian. "Ghosts in the Machine: Towards a Principles-Based Approach to Making and Keeping Digital Personal Records." *I, Digital: Personal Collections in the Digital Era*, edited by Christopher A. Lee, 78-89. Chicago, Society of American Archivists, 2011.

S, R - Smallwood, Robert F. "Information Governance: The Crucial First Step" and "Managing Vital E-Records." In *Managing Electronic Records: Methods, Best Practices, and Technologies*, 11-20, 135-147. Hoboken, NJ: John Wiley and Sons, 2013.

[Other Related Readings](#)

Part 2 - What are We Going to Do about it? Strategies and Tactics

Week 8 (October 6) - Defining the Problem Space - Identifying Requirements and Responsibilities

- What are Archives?
- How are Records Different from other Information?
- What are the responsibilities of records professionals?
- Information Governance
- Focus on recordkeeping systems, rather than individual records
- Retention Scheduling and Appraisal
- Security
- Reliability and authenticity
- Managing Web Records (Selection, Retention Management, Intellectual Control)

Read:

S, R - Adam, Azad. "Fundamentals of EDRMS." In *Implementing Electronic Document and Record Management Systems*, 7-22. Boca Raton: Auerbach Publications, 2008.

S - Cunningham, Adrian. "Ghosts in the Machine: Towards a Principles-Based Approach to Making and Keeping Digital Personal Records." *I, Digital: Personal Collections in the Digital Era*, edited by Christopher A. Lee, 78-89. Chicago, Society of American Archivists, 2011.

S, R - Smallwood, Robert F. "Information Governance: The Crucial First Step" and "Managing Vital E-Records." In *Managing Electronic Records: Methods, Best Practices, and Technologies*, 11-20, 135-147. Hoboken, NJ: John Wiley and Sons, 2013.

Week 9 (October 13)—Making the Case for Electronic Recordkeeping

- What are the important resources and where do they reside?
- ERM as an element of business continuity management
- Cost-Benefit and Return-on-Investment Approaches
- Risk Management
- Explaining the relevance of ERM to pressing, contemporary concerns

Paper about web crawl and findings due

Receive files and instructions for Data Recovery and Ingest Assignment

Read:

W - Digital Preservation Business Case Toolkit. Digital Preservation Coalition.
http://wiki.dpconline.org/index.php?title=Digital_Preservation_Business_Case_Toolkit

C - Lee, Christopher A. "Guerilla Electronic Records Management: Lessons Learned." *Records and Information Management Report* 18, no. 5 (2002): 1-13.

S - Mat-Isa, Azman. "Risk Management and Managing Records." In *Record Keeping in a Hybrid Environment: Managing the Creation, Use, Preservation and Disposal of Unique Information Objects in Context*, edited by Alistair G. Tough and Michael Moss, 69-83. Oxford: Chandos, 2006.

O - Saffady, William. "Making the Business Case for Records Management." *Information Management Journal*, January/February (2011): 38-41.

Other Related Readings

Week 10 (October 20)—Tentative Guest speaker—Bit Curator

Lab: BitCurator exercise, Cal Lee presenting

Week 11 (October 27) - Access and Use - Scenarios, Needs and Limitations

- Reference Services
- Freedom of Information Act (FOIA) and Open Records Laws
- Discovery

Paper about available technologies due

Read:

W - IIPC Access Working Group. "Use Cases for Access to Internet Archives." International Internet Preservation Consortium, 2006. <http://netpreserve.org/publications/iipc-r-003.pdf>

W - Kaine Email Project @LVA. <http://www.virginiamemory.com/collections/kaine/> [Read: Look Under the Hood; Examine the Search the Collection area]

S - Lange, Michele C. S., and Kristin M. Nimsger. "3.7 Privelege and Inadvertent Waiver" (95-104), "3.9 Review and Production Considerations" (125-135). *Electronic Evidence and Discovery: What Every Lawyer Should Know Now*. 2nd ed. Chicago, IL: Section of Science & Technology Law American Bar Association, 2009.

W - Lawyers for Civil Justice. "Litigation Cost Survey of Major Companies." 2010. <http://www.uscourts.gov/uscourts/RulesAndPolicies/rules/Duke%20Materials/Library/Litigation%20Cost%20Survey%20of%20Major%20Companies.pdf> [Note: A lot of the pages are appendices, which you don't need to read closely.]

Other Related Readings

Week 11 (November 3) Learning the Rules: Working within the Legal and Policy Requirements of the Environment

Read:

W - Generally Accepted Recordkeeping Principles (GARP). ARMA International. Read both the Principles, http://www.arma.org/docs/sharepoint-roadshow/the-principles_executive-summaries_final.doc, and Maturity Model, <http://www.arma.org/docs/bookstore/theprinciplesmaturitymodel.pdf>

W - Managing Government Records Directive. Office of Management and Budget. August 24, 2012. <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-18.pdf>

S, R - Smallwood, Robert F. "International E-Records Standards." In *Managing Electronic Records: Methods, Best Practices, and Technologies*, 239-269. Hoboken, NJ: John Wiley and Sons, 2013.

S, O - Wallace, David A. "Electronic Records Management Defined by Court Case and Policy." *Information Management Journal* 35, no. 1 (2001): 4, 6-8, 10, 12, 14, 15.

Other Related Readings

Other Related Readings

Week 12 (November 10) - Project Management and Implementation

- Intervention early in the records lifecycle
- Project management
- Procurement
- System implementation
-

- Changing the Rules: Developing or Influencing Policies, Standards and Guidelines

- Creating Approachable Guidance Documents

Read:

C - Adam, Azad. "Project Management." In *Implementing Electronic Document and Record Management Systems*, 127-150. Boca Raton: Auerbach Publications, 2008.

C - Bean, Bernadette. "A Project Plan." In *Selected Essays in Electronic Recordkeeping in Australia*, edited by Judith A. Ellis, 31-49. O'Connor, ACT, Australia: Australian Society of Archivists, 2000.

C - Davis, Simon. "Implementing an Electronic Recordkeeping System." In *Selected Essays in Electronic Recordkeeping in Australia*, edited by Judith A. Ellis, 71-95. O'Connor, ACT, Australia: Australian Society of Archivists, 2000.

C - Skelton, Karen. "Designing an Electronic Recordkeeping System." In *Selected Essays in Electronic Recordkeeping in Australia*, edited by Judith A. Ellis, 51-70. O'Connor, ACT, Australia: Australian Society of Archivists, 2000.

S, R - Smallwood, Robert F. "Procurement Governance: The Buying Process." In *Managing Electronic Records: Methods, Best Practices, and Technologies*, 355-372. Hoboken, NJ: John Wiley and Sons, 2013.

W - DLM Forum Foundation, *MoReq2010: Modular Requirements for Records Systems - Volume 1: Core Services and Plug-in Modules*, 2011. [http://moreq2010.eu/pdf/MoReq2010-Core+Plugin\(v1-0\).pdf](http://moreq2010.eu/pdf/MoReq2010-Core+Plugin(v1-0).pdf). [Familiarize yourself with the contents of the whole document; read 1.4. Primer (p.19-30); read System Services 2.1-2.3 (p.31-39).]

S, R - Stephens, David O. "Electronic Records Retention: Managing the Data Life Cycle," "Sample Policy: Corporate Records Retention," "Sample Policy for All Employees," "Sample Policy: Legal Hold on Records Destruction," "Sample Policy: E-mail Retention," "Sample Policy: Records Access." *Records Management: Making the Transition from Paper to Electronic*, 53-70, 75-82, 121-124, 137-140, 191-194. Lenexa, KS: ARMA, 2007.

[Other Related Readings](#)

Week 13 (November 17) - Getting Records into Preservation Environments

Getting data into a preservation environment [explanation of ingest activities and characteristics of a good preservation environment]

Group paper on Data Recovery and Ingest Assignment Due—April 10 (to Sakai Assignments area by 5pm)

Read:

W - Glick, Kevin, and Eliot Wilczek. "Ingest Guide for University Electronic Records." <http://dca.lib.tufts.edu/features/nhprc/reports/ingest/index.html>

W - Lee, Christopher A. "Open Archival Information System (OAIS) Reference Model." In *Encyclopedia of Library and Information Sciences*, Third Edition, edited by Marcia J. Bates and Mary Niles Maack, 4020-4030. Boca Raton, FL: CRC Press, 2009. <http://www.ils.unc.edu/callee/p4020-lee.pdf>

O, W - Woods, Kam, Christopher A. Lee, and Simson Garfinkel. "Extending Digital Repository Architectures to Support Disk Image Preservation and Access." In *JCDL '11: Proceeding of the 11th Annual International ACM/IEEE Joint Conference on Digital Libraries*, 57-66. New York, NY: ACM Press, 2011. <http://dx.doi.org/10.1145/1998076.1998088> or <http://www.ils.unc.edu/callee/p57-woods.pdf>

W-Meister, Sam and Alexandra Chassanoff. "Integrating Digital Forensics Techniques into Curatorial Tasks: A Case Study." In *International Journal of Digital Curation*, Vol 9, No 2 (2014). Edinburgh, Scotland, University of Edinburgh: Digital Curation Centre, 2014. <http://www.ijdc.net/index.php/ijdc/article/view/9.2.6/364>

Other Related Readings

Week 14 (November 24) - Strategies for Influencing Behavior and Promoting Adoption

- Policy, design, implementation and standards (Pitt project)
- Market, laws, norms, architecture (Lessig)
- Combining strategies to fit the organizational context
- Systems and software:
 - Records management applications
 - Existing tools and applications
 - Metadata

Group Paper on Data Recovery and Ingest Assignment is due by 12:30pm on Friday April 17)

Read:

W - Guidance on Managing Records in Web 2.0/Social Media Platforms. U.S. National Archives and Records Administration. October 20, 2010. <http://www.archives.gov/records-mgmt/bulletins/2011/2011-02.html>

C - Lange, Michele C. S., and Kristin M. Nimsger. "Sample Preservation Letter to Employees and Custodians" (359-363) and "Sample Preservation letter to Departing Employees and Custodians" (365-369). *Electronic Evidence and Discovery: What Every Lawyer Should Know Now*. 2nd ed. Chicago, IL: Section of Science & Technology Law American Bar Association, 2009.

W - Lavoie, Brian F. "The Incentives to Preserve Digital Materials: Roles, Scenarios, and Economic Decision-Making." Dublin, Ohio: OCLC Research, 2003.
<http://www.oclc.org/research/projects/digipres/incentives-dp.pdf> [Look over the whole document, but focus particularly on: Executive Summary (p.2-4), Incentives to Preserve (10-13), A Simple Economic Framework (13-19)]

W - Kirshenbaum, Matthew G., Richard Oveden and Gabriela Redwine. "digital Forensics and Born-Digital Content in Cultural Heritage Collections." Council on Library and Information Resources. Washington D.C., December 2010.
<http://www.clir.org/pubs/reports/reports/pub149/pub149.pdf>

C - Lessig, Lawrence. "What Things Regulate." In *Code and Other Laws of Cyberspace*, 85-99. New York: Basic Books, 1999.

[Other Related Readings](#)

Week 15 (December 1)—Electronic Records on a Small Scale—Wrap up and conclusions

- Small archives
- Acquiring records created and managed outside of formal institutional contexts
- Concluding thoughts and observations

Individual Paper about Data Recovery and Ingest Assignment is due (to Sakai Assignments area at 12:30pm, Friday, April 24)

Read:

W - Activists' Guide to Archiving Video. <http://archiveguide.witness.org/>

W - Cook, Terry. "Byte-Ing Off What You Can Chew: Electronic Records Strategies for Small Archival Institutions." *Archifacts* (2004): 1-20.
http://www.aranz.org.nz/SITE_Default/SITE_publications/papers_online/terry_cook_paper.asp
[Focus most on Seven Step Plan and why he proposes these steps]

C - Thomas, Susan. "Curating the I, Digital: Experiences at the Bodleian Library." *I, Digital: Personal Collections in the Digital Era*, edited by Christopher A. Lee, 280-305. Chicago, Society of American Archivists, 2011.

Week 16--TBD

Sources Specifically about Current Legal Requirements

R - Adam, Azad. "Managing the Cultural Change of EDRMS." In *Implementing Electronic Document and Record Management Systems*, 185-198. Boca Raton: Auerbach Publications, 2008.

S - Baron, Jason R. "The PROFS Decade: NARA, E-Mail, and the Courts." In *Thirty Years of Electronic Records*, edited by Bruce I. Ambacher, 105-37. Lanham, MD: Scarecrow Press, 2003.

R - Bearman, David. "The Implications of *Armstrong v. the Executive Office of the President* for the Archival Management of Electronic Records." In *Electronic Evidence: Strategies for Managing Records In Contemporary Organizations*, 118-144. Pittsburgh, PA: Archives & Museum Informatics, 1994.

W - Charlesworth, Andrew. "Legal Issues Relating to the Archiving of Internet Resources in the UK, EU, USA and Australia." JISC [Joint Information Systems Committee] and Wellcome Trust, 2003. http://www.jisc.ac.uk/uploaded_documents/archiving_legal.pdf

W - Coyle, Karen. "Rights in the Premis Data Model: A Report for the Library of Congress." 2006. <http://www.loc.gov/standards/premis/Rights-in-the-PREMIS-Data-Model.pdf>

S - Gränström, Claes. "Swedish Society and Electronic Data." In *History and Electronic Artefacts*, edited by Edward Higgs, 317-30. Oxford: Clarendon Press, 1998.

Litman, Jessica. *Digital Copyright*. Amherst, NY: Prometheus Books, 2001. [Table of Contents and some Excerpts at <http://www.msen.com/~litman/digital-copyright/>]

O - Martins, Cristine S., and Sophia J. Martins. "The Impact of the USA Patriot Act on Records Management." *Information Management Journal* 39, no. 3 (2005): 52-58. <http://proquest.umi.com/pqdweb?did=842580321&sid=3&Fmt=2&clientId=15094&RQT=309&VName=PQD>

S, O - Montaña, John C. "The End of the Ostrich Defense." *Information Management Journal* 39, no. 1 (2005): 26-34. <http://proquest.umi.com/pqdweb?did=785348251&sid=3&Fmt=4&clientId=15094&RQT=309&VName=PQD>

O - Panko, Raymond R. "Spreadsheets and Sarbanes-Oxley: Regulations, Risks, and Control Frameworks." *Communications of the Association for Information Systems* 17 (2006): 647-76.

W - Rainsberger, Richard. "FERPA and University Research Records." Paper presented at the ECURE: Preservation and Access for College and University Resources, Tempe, AZ, March 2, 2004. <http://www.asu.edu/ecure/2004/rainsberger/index.html>

S - Rouse, Robert W., Thomas R. Weirich, and Wendy M. Hambleton. "Sarbanes-Oxley Update: Where Are We Today?" *Journal of Corporate Accounting & Finance* 16, no. 4 (2005): 61-69.

R - Stephens, David O. "Business Recordkeeping and the Law" and "Records Retention and the Law." *Records Management: Making the Transition from Paper to Electronic*, 83-102, 103-123. Lenexa, KS: ARMA, 2007.

S - Strickland, Lee S. "The Law of Electronic Information: Burgeoning Mandates and Issues." In *Effective Approaches for Managing Electronic Records and Archives*, edited by Bruce W. Dearstyne, 109-38. Lanham, MD: Scarecrow Press, 2002.

W - Technical Summaries of International Financial Reporting Standards - International Accounting Standards Board.
<http://www.iasb.org/Summaries+of+International+Financial+Reporting+Standards/Technical+Summaries+of+International+Financial+Reporting+Standards.htm>

C, O - Wallace, David A. "Electronic Records Management Defined by Court Case and Policy." *Information Management Journal* 35, no. 1 (2001): 4, 6-8, 10, 12, 14, 15.
<http://proquest.umi.com/pqdweb?did=68469076&sid=4&Fmt=3&clientId=15094&RQT=309&VName=PQD>

Sources Specifically about Personal Recordkeeping Practices

O - Abrams, David, Ronald Baecker, and Mark H. Chignell. "Information Archiving with Bookmarks: Personal Web Space Construction and Organization." Paper presented at the Conference on Human Factors in Computing Systems (CHI), Los Angeles, CA, April 18-23, 1998.
<http://doi.acm.org/10.1145/274644.274651>

O - Bälter, Olle, and Candace L Sidner. "Bifrost Inbox Organizer: Giving Users Control over the Inbox." Paper presented at the Second Nordic Conference on Human-Computer Interaction, Aarhus, Denmark, October 19-23, 2002. <http://doi.acm.org/10.1145/572020.572034>

S - Barreau, Deborah K. "Context as a Factor in Personal Information Management Systems." *Journal of the American Society for Information Science* 46, no. 5 (1995): 327-39.

W - Barreau, Deborah, and Bonnie A. Nardi. "Finding and Reminding: File Organization from the Desktop." *SIGCHI Bulletin* 27, no. 3 (1995): 39-43.
<http://www.acm.org/sigchi/bulletin/1995.3/barreau.html>

O - Boardman, Richard, and M. Angela Sasse. "'Stuff Goes into the Computer and Doesn't Come out': A Cross-Tool Study of Personal Information Management." Paper presented at the SIGCHI conference on Human factors in computing systems, Vienna, Austria, 2004.
<http://doi.acm.org/10.1145/985692.985766>

O - Bondarenko, Olha, and Ruud Janssen. "Documents at Hand: Learning from Paper to Improve Digital Technologies." Paper presented at the SIGCHI conference on Human factors in computing systems, Portland, OR, April 2-7, 2005. <http://doi.acm.org/10.1145/1054972.1054990>

O - Case, Donald Owen. "How Do the Experts Do It? The Use of Ethnographic Methods as an Aid to Understanding the Cognitive Processing and Retrieval of Large Bodies of Text." Paper presented at the 11th annual international ACM SIGIR conference on Research and development in information retrieval, Grenoble, France, 1988. <http://doi.acm.org/10.1145/62437.62445>

O - Dabbish, Laura A., Robert E. Kraut, Susan Fussell, and Sara Kiesler. "Understanding Email Use: Predicting Action on a Message." Paper presented at the SIGCHI conference on Human factors in computing systems, Portland, OR, April 2-7, 2005.
<http://doi.acm.org/10.1145/1054972.1055068>

- O** - Dabbish, Laura, Gina Venolia, and JJ Cadiz. "Marked for Deletion: An Analysis of Email Data." Paper presented at the Conference on Human Factors in Computer Systems, 2003. <http://doi.acm.org/10.1145/765891.766073>
- O** - Danis, Catalina, Wendy A. Kellogg, Tessa Lau, Mark Dredze, Jeffrey Stylos, and Nicholas Kushmerick. "Managers' Email: Beyond Tasks and To-Dos." Paper presented at the Conference on Human Factors in Computing Systems, Portland, OR, April 2-7, 2005. <http://doi.acm.org/10.1145/1056808.1056907>
- O** - Denning, Peter J. "Electronic Junk." *Communications of the ACM* 25, no. 3 (1982): 163-65. <http://doi.acm.org/10.1145/358453.358454>
- O** - Ducheneaut, Nicolas, and Victoria Bellotti. "E-Mail as Habitat: An Exploration of Embedded Personal Information Management." *Interactions* 8, no. 5 (2001): 30-38. <http://doi.acm.org/10.1145/382899.383305>
- S** - Eklundh, Kerstin Severinson, and Clare Macdonald. "The Use of Quoting to Preserve Context in Electronic Mail Dialogues." *IEEE Transactions on Professional Communication* 37, no. 4 (1994): 197-202.
- W** - Fertig, Scott, Eric Freeman, and David Gelernter. "'Finding and Reminding' Reconsidered." *SIGCHI Bulletin* 28, no. 1 (1996): 66-69. <http://sigchi.org/bulletin/1996.1/fertig.html>
- O** - Gupta, Ashish, Ramesh Sharda, Nicolas Ducheneaut, J. Leon Zhao, and Ron Weber. "E-Mail Management: A Techno-Managerial Research Perspective." *Communications of the Association for Information Systems* 17 (2006): 941-61.
- O** - Gwizdka, Jacek. "Email Task Management Styles: The Cleaners and the Keepers." Paper presented at the Conference on Human Factors in Computing Systems, Vienna, Austria, April 24-29, 2004. <http://doi.acm.org/10.1145/985921.986032>
- O** - Henderson, Sarah. "Genre, Task, Topic and Time: Facets of Personal Digital Document Management." Paper presented at the ACM SIGCHI New Zealand chapter's international conference on Computer-human interaction, Auckland, New Zealand, 2005. <http://doi.acm.org/10.1145/1073943.1073957>
- O** - Hill, Brian. "RM Tech Deployment Still a Rough Road." *Information Management Journal*, September/October (2011): 42-7.
- W** - Kaptelinin, Victor, and Mary Czerwinski. "Introduction: The Desktop Metaphor and New Uses of Technology." In *Beyond the Desktop Metaphor: Designing Integrated Digital Work Environments*, edited by Victor Kaptelinin and Mary P. Czerwinski, 1-12. Cambridge, MA: MIT Press, 2007. <http://mitpress.mit.edu/books/chapters/026211304Xintro1.pdf>
- S** - Kwasnik, Barbara H. "The Importance of Factors That Are Not Document Attributes in the Organization of Personal Documents." *Journal of Documentation* 47, no. 4 (1991): 389-98.
- W, O** - Jones, William, Ammy Jiranida Phuwanartnurak, Rajdeep Gill, and Harry Bruce. "Don't Take My Folders Away! Organizing Personal Information to Get Things Done." Paper presented at the Conference on Human Factors in Computing Systems, Portland, OR, April 2-7, 2005. <http://doi.acm.org/10.1145/1056808.1056952> or <http://kfff.ischool.washington.edu/folders.pdf>

- S, O-** Lantz, A. "Does the Use of E-Mail Change over Time?" *International Journal of Human-Computer Interaction* 15, no. 3 (2003): 419-31.
<http://search.epnet.com/login.aspx?direct=true&db=afh&an=10107354>
- O** - Mackay, Wendy E. "Diversity in the Use of Electronic Mail: A Preliminary Inquiry." *ACM Transactions on Information Systems* 6, no. 4 (1988): 380-97.
<http://doi.acm.org/10.1145/58566.58567>
- S** - Mackenzie, Maureen L. "The Personal Organization of Electronic Mail Messages in a Business Environment: An Exploratory Study." *Library and Information Science Research* 22, no. 4 (2000): 405-26.
- S** - Mackenzie, Maureen L. "Storage and Retrieval of E-Mail in a Business Environment: An Exploratory Guide." *Library and Information Science Research* 24, no. 4 (2002): 357-72.
- S, O-** Malone, Thomas W. "How Do People Organize Their Desks? Implications for the Design of Office Information Systems." *ACM Transactions on Information Systems* 1, no. 1 (1983): 99-112.
<http://doi.acm.org/10.1145/357423.357430> [This is possibly the most widely recognized "classic" study in the field of personal information management. Consider what lessons still seem relevant today and which findings you think might be different if studying an office environment now.]
- R** - Marshall, Catherine C. "Challenges and Opportunities for Personal Digital Archiving." In *I, Digital: Personal Collections in the Digital Era*, edited by Christopher A. Lee, 29-77. Chicago, IL: Society of American Archivists, 2011.
- S** - Moran, Thomas P., and Shumin Zhai. "Beyond the Desktop Metaphor in Seven Dimensions." In *Beyond the Desktop Metaphor: Designing Integrated Digital Work Environments*, edited by Victor Kaptelinin and Mary P. Czerwinski, 335-54. Cambridge, MA: MIT Press, 2007.
- O** - Nardi, Bonnie, and Deborah Barreau. "'Finding and Reminding' Revisited: Appropriate Metaphors for File Organization at the Desktop." *SIGCHI Bulletin* 29, no. 1 (1997): 76-78.
<http://doi.acm.org/10.1145/251761.248508>
- O** - Neustaedter, Carman, A. J. Bernheim Brush, and Marc A. Smith. "Beyond "from" and "Received": Exploring the Dynamics of Email Triage." Paper presented at the Conference on Human Factors in Computing Systems, Portland, OR, April 2-7, 2005.
<http://doi.acm.org/10.1145/1056808.1057071>
- S** - Oliveira, João Gama, and Albert-László Barabási. "Darwin and Einstein Correspondence Patterns." *Nature* 437 (2005): 1251.
- O** - Shankar, Kalpana. "Order from Chaos: The Poetics and Pragmatics of Scientific Recordkeeping." *Journal of the American Society for Information Science and Technology* 58, no. 10 (2007): 1457-66.
- S** - Soper, Mary Ellen. "Characteristics and Use of Personal Collections." *Library Quarterly* 46, no. 4 (1976): 397-415.
- R** - Stephens, David O. "Managing the Message." *Records Management: Making the Transition from Paper to Electronic*, 125-136. Lenexa, KS: ARMA, 2007.

S - Wallace, David A. "Custodial Theory and Practice in the Electronic Environment." *SASA Newsletter*, January-March 2002, 1,2,5,10,11. [Paper presented at the South African Society of Archivists Electronic Records Workshop, Pretoria, February 21-22, 2002.]

O - Whittaker, Steve, and Julia Hirschberg. "The Character, Value, and Management of Personal Paper Archives." *ACM Transactions on Computer-Human Interaction* 8, no. 2 (2001): 150-70.
<http://doi.acm.org/10.1145/376929.376932>

O - Whittaker, Steve, Julia Hirschberg, and Christine H. Nakatani. "All Talk and All Action: Strategies for Managing Voicemail Messages." Paper presented at the Conference on Human Factors in Computing Systems, Los Angeles, CA, April 18-23, 1998.
<http://doi.acm.org/10.1145/286498.286732>