

Technology and Public Administration Syllabus

Updated August 7, 2004

26:834:521, Hill 126, Fall 2004 Thursdays, 5:30pm-8:10pm
Lecturer: Ray Schwartz, Work (973) 596-2875 / Mobile (201) 424-4491
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The course is a basic introduction to information technology with an emphasis on public administration. The course is divided into three parts: a) Computer, software and network basics; b) information infrastructures--their structures, characteristics, applications, policy issues, and their implications on the way we work and interact with the public; and, c) demonstrations of and discussions about new public sector applications.

Course Objectives

The course aims for students to:

1. Develop a basic understanding of what are information technology and an information system and their relationship to each other.
2. Understand the basic framework and components in planning an implementation of an information system project.
3. Develop a broader perspective and understanding of the issues and requirements in implementing an information system.

REQUIREMENTS:

There are two required textbooks to purchase from **New Jersey Books** (167 University Ave.) at the corner of University Ave. and Bleeker St. All other readings are available from the course web pages or will be handed out in class.

Heeks, Richard. (1999). Reinventing government in the information age: international practice in IT-enabled public sector reform. London & New York: Routledge.

Lynch, Patrick J., & Horton, Sarah. (2001). Web style guide: Basic design principles for creating web sites. (2nd ed.). New Haven &

London: Yale University Press.

All papers are to be typed double-spaced with 1" margins and include properly formatted references when applicable (you may use any manual style--e.g., APA (www.apastyle.org), MLA, etc.).

Lab Exercises 16%

In-class exercises on basics of using a computer, file management, email, web browsing, web page authoring, database searching, and, experimenting with new technology.

Web Site Proposal (Part 1 due Sept. 16 - Part 2 due Oct. 7 - Part 3 due Nov. 4) 37.5%

Develop a web site on paper for a public sector organization. A main function of the web site should be to serve the public and not solely serve an internal departmental need.

Case Study - (due Dec. 2) 20%

Final Exam 21.5%

A multiple choice exam drawing from the lectures, exercises and readings.

Class Participation and Attendance 5%

Introduction, Historical Background, and, Computer and Network Basics

1. **Sept. 2 - Introduction**

Purpose of the course, Introductions, Questionnaire, Create accounts and web directories

2. **Sept. 9 - Basics - Brief History of Information Technology:**

Literacy, Printing, Electronic Media, Computers and Networks, Successful and unsuccessful applications of IT in the public sector, Cultural implications and the nature of IT

Basics - Overview of the Computer and Networks

Disassembly of a PC, CPU and Peripherals, Ports, Other Peripherals, Drives and Media, Operating Systems and Applications, Unix, VMS, Macintosh OS, DOS, Windows 95/98/NT/2000/Me/XP, PocketPC, and Palm OS, File Types and Structures

Readings Due:

- [Postman, Neil. \(1992\). The Judgment of Thamus. In Technopoly: The surrender of culture to technology \(pp. 3-20\). New York: Vintage Books.](#)
- [Penzias, A. \(1989\). Machines. In Ideas and information: Managing in a high-tech world \(pp. 111\). New York & London: W.W. Norton & Co.](#)
- Heeks, Richard. (1999). Reinventing government in the information age. In Reinventing

government in the information age: international practice in IT-enabled public sector (pp. 9-21). London & New York: Routledge.

3. **Sept. 16 - Networking and Internet Applications - Networks, the Web and HTML Exercises, [Creating Web Pages](#)**

What are web pages, How hypertext markup is done. How are web pages structured. What in a web page. How to arrange various elements. Indexing and searching your web pages

Part I of Web Site Proposal Due

Readings Due:

- [Randall, Adrian \(1998\). The 'lessons' of Luddism. Endeavour, 22\(4\), 152-155.](#)
- [Norman, Donald A. \(1998\). What's wrong with the PC? In The invisible computer \(pp. Cambridge, MA: MIT Press.](#)
- Thompson, R.B. & Thompson B.F. (2000). PC hardware in a nutshell: A Desktop quick reference (pp. 1-7). Sebastopol, CA: O'Reilly and Associates.
- Microsoft Corp. (2000). Introducing Windows 2000 Professional: Getting started: Chapter 1: Windows basics.
- Krol, Ed & Conner-Sax, Kiersten (1999). The Whole Internet: The Next Generation (pp. 117, 120-125). Sebastopol, CA: O'Reilly.
- Garfinkel, Simson & Spafford, Gene (2002). The Architecture of the World Wide Web: security, privacy and commerce (2nd ed.) (pp. 13-45). Sebastopol, CA: O'Reilly.

4. **Sept. 23 - Internet Applications - Email and other communication applications (Instant Messaging, Chat, Boards, Usenet, Conferencing)**

The Nature of Email, Proper Use of Email, Client vs. Server packages, Email Address Structure, Address Books and Lists, Attachments, Mail Distribution Lists, Discussion Forums, and Newsgroups

Exercises

Readings Due:

- Lynch, Patrick J., & Horton, Sarah. (2001). Web style guide: Basic design principles for creating web sites (2nd ed., pp. ix-xiv, 1-80, 143-152). New Haven & London: Yale University Press (THIS READING IS TO ASSIST YOU WITH THE WEB SITE PROPOSAL).
- [Lamb, L. & Peek, J. \(1995\). Using email effectively \(pp. 75-87\). Sebastopol, CA: O'Reilly and Associates.](#)
- [Sorkin, Andrew Ross \(2003, Nov. 13\). Building a Web Media Empire On a Daily Dose of Links. New York Times. Section C; Page 1; Column 2.](#)
- [Katz, Jon \(1999\). Biology and the Electric Community: Part One. Retrieved Feb. 4, 2003 from http://slashdot.org/features/99/05/13/1427242.shtml](#)
- [Katz, Jon \(1999\). Electric Community Part Two: Here Comes the Weblog. Retrieved Feb. 4, 2003 from http://slashdot.org/features/99/05/13/1832251.shtml](#)

Information Infrastructures: Standards, Technology, and Policy Issues

5. **Sept. 30 - Web Site Proposal Presentations Part II - CLASS MEETS IN HILL HALL 215 2nd half -- Evaluating Web Sites and Other Public Sector Information Technology Projects**

Readings Due:

- [Cats-Baril, W. & Thompson, R. \(1995\). Managing information technology projects in the public sector. Public Administration Review, 55\(6\), 559-566. 1995 Nov/Dec.](#)
- Heeks, Richard, & Bhatnagar, Subhash. (1999). Understanding success and failure in public sector information age reform. In [Reinventing government in the information age: international practice in IT-enabled public sector reform](#) (pp. 49-74). London & New York: Routledge.
- Dawes, Sharon, & et. al. (2003). Making smart IT choices: Understanding value and risk in government IT investments (2nd ed.)
<http://www.ctg.albany.edu/publications/guides/smartit2/smartit2.pdf>
- **THIS READING IS OPTIONAL:** [Rosenfeld, L. & Morville, P. \(1998\). Information architecture for the world wide web](#) (pp. 1-21). Sebastopol, CA: O'Reilly

6. **Oct. 7 - Guest Lecture - Daniel Noonan, Supervisor, Records Management, Division of Archives & Records Management, State of New Jersey - Department of State**
daniel.noonan@sos.state.nj.us

Part 2 of Web Site Proposal Due

Readings Due:

- [Sellan, Abigail J. & Harper, Richard H.R. \(2002\). The Myth of the paperless office](#) (pp. 1-10). Cambridge, MA: MIT Press.
- [Tristram, Claire \(2002, Oct.\). Data extinction. Technology review, 105\(8\), 36-44.](#)
- **Just SKIM the links below**
 - [Managing Electronic Mail: Guidelines and Best Practices](#)
 - [UETA Guidance](#)
 - [New Jersey Administrative Code 15:3 Subchapters 1 - 3](#)
 - [New Jersey Administrative Code 15:3 Subchapter 4. Image Processing of Public Records](#)
 - [New Jersey Administrative Code 15:3 Subchapter 5. Certification of Image Processing Systems](#)
 - [New Jersey Administrative Code 15:3 Subchapter 6. Storage of Public Records](#)

7. **Oct. 14 - E-government** What does e-Government mean for cities, counties, states, nations, and other political entities? What are the goals of e-Government? How is e-Government implemented? What are the challenges?

2nd half --Digital Divide and other Access Issues

Readings Due:

- [Layne, Karen & Lee, Jungwoo \(2001\). Developing fully functional E-government: A framework model. Government Information Quarterly, 18\(2\) Summer 2001, pp. 122-136](#)
- [Center for Technology in Government \(1999\). What rules govern the use of information technology? \[http://www.ctg.albany.edu/publications/reports/what_rules_govern/what_rules_govern.htm\]\(http://www.ctg.albany.edu/publications/reports/what_rules_govern/what_rules_govern.htm\)](#)
- [Cook, Meghan E., & et al. \(2002\). Making a case for local E-government. \[http://www.ctg.albany.edu/publications/guides/making_a_case/making_a_case.pdf\]\(http://www.ctg.albany.edu/publications/guides/making_a_case/making_a_case.pdf\)](#)
- [Kaylor, Charles, Deshazo, Randy, & Van Eck, David \(2001\). Gauging e-government: The impact of e-government on implementing services among American cities. Government Information Quarterly, 18\(4\) Winter 2001, pp. 293-307](#)
- [Lenhart, Amanda \(2003, Apr. 16\). The Ever-shifting Internet population: a new look at online access and the digital divide. Retrieved on Jan. 17, 2004 from \[http://www.pewinternet.org/reports/pdfs/PIP_Shifting_Net_Pop_Report.pdf\]\(http://www.pewinternet.org/reports/pdfs/PIP_Shifting_Net_Pop_Report.pdf\).](#)
- [Madden, Mary \(2003\). America's Online Pursuits: The changing picture of who's online and what they do December 22, 2003](#)
 - [Summary of Findings](#)
<http://www.pewinternet.org/reports/reports.asp?Report=106&Section=ReportLd=Level1ID&ID=463>
 - [Conclusions](#)
<http://www.pewinternet.org/reports/reports.asp?Report=106&Section=ReportLd=Level1ID&ID=471>

8. **Oct. 21 - Information Management: Records, Libraries, Databases and Search Engines**

The Structure of Databases, Searching Systems and User Interaction, Organization and Management

Exercises, Searching

Readings Due:

- [Regents of the University of California \(2003\). How much information? 2003. Executive Summary. Retrieved November 1, 2003, from <http://www.sims.berkeley.edu/research/projects/how-much-info-2003/execsum.htm>](#)
- [Regents of the University of California \(2003\). How much information? 2003. Internet Summary. Retrieved November 1, 2003, <http://www.sims.berkeley.edu/research/projects/how-much-info-2003/internet.htm>](#)
- [Ullman, Jeffrey & Garcia-Molina, Hector & Widom, Jennifer D. \(2001\). The Worlds of Database Systems, In Database Systems: the Complete Book, \(pp. 1-15\). Upper Saddle River, NJ: Prentice Hall.](#)
- [Lynch, Clifford \(1997, March\). Searching the Internet. Scientific American, 276\(3\), 50-55.](#)
- [Sullivan, Danny \(2003, September 2\). Search engine sizes. The Search engine report. Retrieved October 23, 2003 from <http://searchenginewatch.com/reports/sizes.htm>](#)

9. **Oct. 28 -Web Site Proposal Presentations Part III - CLASS MEETS IN HILL HALL 215**

10. **Nov. 4 - Security, Privacy, and Intellectual Property, 2nd half --Guest Lecture - Dawn I**
GIS Policy Analyst - Dept. of Information Technology and Telecommunications, New Y
Part 3 of Web Site Proposal Due.

Readings Due:

- [Garfinkel, Simson \(1997\). Web security and commerce \(pp 3-38, 87-131\). Sebastopol: O'Reilly.](#)
- [WGBH/Frontline \(2001\). Hackers: who's responsible?: are software companies irresponsible? Retrieved November 15, 2001 from http://www.pbs.org/wgbh/pages/frontline/shows/hackers/blame/how.html Do NOT read the interviews.](#)
- [Hefer, Laurence R. & Litowitz, Robert D. \(2000\). What Is Intellectual Property? in U.S. State. International Information Programs. Introduction to Intellectual Property Rights Retrieved November 15, 2001 from http://usinfo.state.gov/products/pubs/intelprp/](#)
- U.S. Copyright Law. [§ 107. Limitations on exclusive rights: Fair use](#)

11. **Nov. 11 - Standards, Preservation**

TCP/IP, HTTP, HTML, DC, GILS, XML, RDF, and more standards: What are they and how do their adoption affect the success of a public agency. The importance of preserving data: Paper, magnetic media, and so on.

Readings Due:

- [Rothenberg, Jeff \(1999, Feb. 22 rev.\). Ensuring the Longevity of Digital Information. Sebastopol, CA: Rand.](#)
- [Gladney, Henry \(2000\). Archiving the digital public record: an Internet snail's pace. Information Magazine, October 2000.](#)
- [Norman, Donald A. \(1998\). The Power of infrastructure. In The invisible computer \(pp 133\). Cambridge, MA: MIT Press.](#)
- [Anonymous \(2000\). The role of standards. Library Technology Reports, 36\(4\), 7-18.](#)
- [Matthews, William \(2002\). Electronic Records Baffle Agencies. Federal Computer Week \(December 24, 2001\). Retrieved Feb. 18, 2002 from http://www.fcw.com/fcw/articles/2001/1217/web-nara-12-24-01.asp](#)

Other Technologies and Public Sector Applications

12. **Nov. 18 - Geographic Information Systems (GIS)**

What is GIS, How GIS works, Demonstration of Arcview.

Guest Lecture - Ken Reid, MIS Director of the New York City [Landmarks Preservation Commission](#) .

[GIS Exercises](#)

Readings Due:

- [Environmental Systems Research Institute, Inc. \(ESRI\) \(2000-2001\). What is GIS?](#)

- [Haque, Akhlaque \(2001\). GIS, public service, and the issue of democratic governance. Administration Review, 61\(3\), May/Jun 2001, pp. 259-266.](#)
- [Brown, Mary. M. & Brudney, Jeffrey L. \(1998, July/Aug.\). A "Smarter, better, faster, and cheaper" government: contracting and geographic information systems. Public Administration Review, 58\(4\), 335-345.](#)

13. Dec. 2 - Enterprise Resource Planning - SAP R/3, and Other Integrating Technologies

Enterprise Resource Planning (SAP R/3) - Groupware & Integrated Systems, Knowledge Management Systems

Case Study Due

Readings Due:

- [Miranda, R. \(1999, Aug.\). The Rise of ERP Technology in the Public Sector. Government Finance Review 15\(4\), p.9-17.](#)
- [Kumar, Vinod, & Maheshwari, Bharat, & Kumar, Uma \(2002\). ERP systems implementation: best practices in Canadian government organizations. Government information quarterly, pp. 147-172. \[http://dx.doi.org/10.1016/S0740-624X\\(02\\)00092-8\]\(http://dx.doi.org/10.1016/S0740-624X\(02\)00092-8\)](#)
- [Bingi, P., Sharma, M.K, & Godla, J. K. \(1999, Summer\). Critical issues affecting an ERP implementation. Information Systems Management 16\(3\) Summer 1999. pp. 7-14.](#)

14. Dec. 9 - Emerging Technologies

Moore's Law, Biotechnologies, Nanotechnologies, Artificial Intelligence, Computing and the Public Policy.

Readings Due:

- [Bush, Vannevar \(1945, July\). As we may think. Atlantic monthly. 76\(1\). pp. 101-108.](#)
- [Joy, Bill \(2000, April\). Why the future doesn't need us. Wired. 8.04.](#)
- [Norman, Donald A. \(1998\). A World of information appliances. In The invisible computer \(pp. 247-272\). Cambridge, MA: MIT Press](#)
- [Barth, Thomas J. & Arnold, Eddy \(1999, Dec.\). Artificial intelligence and administrative discretion: Implications for public administration. American Review for Public Administration 29\(4\), 332-351.](#)

15. Dec. 16 - Final Exam
