INTERNATIONAL UNIVERSITY OF JAPAN
Public Management and Policy Analysis Program
Graduate School of International Relations

ADC5030 (2 Credits)
Introduction to Electronic Government
Winter 2021

Classroom: C-203	Instructor: Hun Myoung Park
Time: 10:30-14:30 on Friday	Office: 311
Web Page: http://sonsoo.org/itis/egov/	Office Hour: 15:00-16:00 (Friday)
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Prerequisites: There is no prerequisite for this course, but students are expected to have some basics of World Wide Web and information systems. This course is the prerequisite of *Information Policy and Management* (ADC 5032301) in the fall term.

Zoom Meeting: https://us06web.zoom.us/j/85918660294

INTRODUCTION

This course introduces fundamental concepts and technological building blocks of information systems in the public sectors. An *information system* is a set of interrelated components that collect, manipulate or process, store, and then disseminate data and information to the right person in a right format at the right time. An information system consists of hardware, software, telecommunication (network), data, people, and procedure (a set of rules); computer hardware and software are just parts of a computerized information system.

Electronic government (e-government) is defined as "use by the Government of web-based Internet applications and other information technologies, combined with processes that implement these technologies, to enhance the access to and delivery of Government information and services to the public, other agencies, and other Government entities; or bring about improvements in Government operations that may include effectiveness, efficiency, service quality, or transformation" (U.S. E-government Act of 2002). E-government is a special type of information systems that are applied to the public sector.

This course has four themes. The first theme discusses technological building blocks of e-government including hardware, software and telecommunication (network). Then Internet and World Wide Web are explained to introduce Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS); Students will learn how to write standard Web documents. Finally, this course draws a big picture of e-government and discusses e-government development models.

At the end of semester, students should be able to:

- Understand concepts and components of information systems
- Understand key concepts and terminologies of computer hardware and software
- Understand key concepts and terminologies of telecommunication and network

- Understand key concepts and terminologies of Internet and Web
- Learn how to write standard HTML/XHTML document
- Learn how to use cascading style sheet (CSS)
- Understand concepts and building blocks of electronic government (e-government)
- Understand key concepts and terminologies of relational databases
- Learn how to draw entity-relationship diagrams
- Learn how to use structured query language to manipulate databases

COURSE ORGANIZATION

This course consists of a series of lectures, labs, and assignments. Students must bring their laptop to lab sessions. Students are encouraged to participate in class by asking questions and actively joining discussions. Also, students are highly recommended to take advantage of discussing with the instructor during office hours or by setting up appointments.

ASSESSMENT (COURSE REQUIREMENT)

Attendance (10%): Students should attend ALL classes. Each unexcused absence results in TWO POINT (2%) deduction from the final score. Students who missed more than 30 percent (≥ 5 classes) of class MAY NOT pass this course.

Participation in Class (Extra credit): Students are required to actively participate in class. Extra credits will be awarded for outstanding performance and participation in class.

Homework Assignments (40%): There will be 3 homework assignments (e.g., writing an HTML document) given to individual students. Students MAY NOT use a Web editor (as opposed to a text editor) when doing their homework assignments.

Final Exam (50%): The final exam consists of 3-4 essay questions. No midterm exam will be given.

Late Penalties: Late assignments and exam answers will be accepted with a penalty of 10 percent if submitted within a day after the time due. Under no circumstances will late assignments be accepted after one day of the due date without prior authorization from the instructor.

Format and Styles: All assignments and exam answers should be written in electronic forms (Microsoft Word, LibreOffice Writer, …). Use the default format and styles (A4, default margin, Time and Roman font, 12 point, single-spaced, etc.). If you are not sure, please download the template file from the course Web page.

GRADING

The final grade is based on a composite of course requirements mentioned above. Notice that reading assignments and quiz account for the largest weight of 40 percent. Their weights are:

(1) Homework assignment 40%
(2) Final exam 50%
(3) Class attendance 10 points.

(4) <u>Extra credits up to 10 points</u>. Extra credits will be awarded to students who actively participate in class (e.g., good questions and answers) and show excellent performance in homework or exam.

That is, your final score is $(1) \times .40 + (2) \times .50 + (3) + (4)$.

Your letter grade is basically determined as follows, but it may be adjusted, depending on students' performance, so that the class GPA becomes closer to 3.5.

96 - 100: A (4.0)	66 - 69: B- (2.5)
90 - 95: A- (3.75)	60 - 65: C (2.0)
80 - 89: B+ (3.5)	< 60 : F
70 - 79: B (3.0)	Incomplete (I), withdrawal (W)

* <u>Students who missed more than 30 percent</u> ($\geq$ 5 classes) of class may not pass this course.

Appealing the Grade: If you object to any grading decision, you may appeal the grade to the instructor. The appeal must be given along with original documents (e.g., exam and assignment) to the instructor <u>no later than 24 hours</u> after the grade is released.

CLASS POLICY

Attendance and Lateness: Students should attend each class and be present when each class begins. Being 15 minutes late is considered absent from the class. Excused absences for special circumstances (e.g., sickness) may be arranged in advance and will not influence the attendance grade. There is no formal seating chart.

Academic Misconduct: Students should not only gain knowledge and skills, but also build their character. Particularly, public managers should equip themselves with high and strict professional standards and ethics. All students should complete their own work and be evaluated based upon that work. Students should avoid academic dishonesty and misconduct including *plagiarism*, *fabrication* (falsification), and *cheating* (collaboration). <u>The penalty for violation ranges from sanctions of 0 score for particular assignment/paper/exam and immediate F for final grade, and up to expulsion from the university</u>. Please visit http://www.iuj.ac.jp/ir-info/cheating-policy/ and check official definition of plagiarism and cheating.

- A student must not reproduce ideas, phrases, or sentences of another person without appropriate acknowledgment (**plagiarism**). Students must give credit to the originality of others and acknowledge an indebtedness whenever they quotes/paraphrases another person's actual words, either oral or written; employs another person's idea, opinion, or theory; or borrows facts, statistics, or other illustrative materials. Copying and pasting some parts of textbooks, journal articles, and/or Internet resources without citation involves both plagiarism and fabrication. Be honest with yourself and the instructor by clearly distinguishing your ideas from others' ideas.
- **Cheating** is an attempt to use or provide unauthorized assistance, materials, information, or others. Most common examples include discussing problem solving, looking at (stealing) other' work, showing your work to other students, sharing electronic files (Excel and wordprocessor) with other students, and using unauthorized external assistance such as tutors, commercial companies, and electronic

devices (e.g., smartphone). <u>In order to avoid unintended cheating, keep your own work in a safe place</u>.

- All aspects of IUJ' student code of conduct (see students' curriculum handbook) apply to this class. It is students' responsibility to be aware of IUJ's policy on academic dishonesty and misconduct including harassments (http://www.iuj.ac.jp/oss/seeking-assistance/) and plagiarism (http://www.iuj.ac.jp/ir-info/cheating-policy/). Misunderstanding ("I thought copying only one sentence is O.K.") or ignorance ("I didn't know that") of dishonesty and misconduct are not acceptable in any circumstance. If you need clarification regarding this issue, contact the instructor or OAA (ofcgsir@iuj.ac.jp) immediately.

Course Feedback: Given diversity in their backgrounds, students are always encouraged to make comments and suggestions on this class (e.g., reading load, lecturing, and class discussion) in order to improve this course. If you don't feel comfortable studying in the class, do not hesitate to talk to the instructor. Any form of communication (e.g., walk-in, phone, email, etc.) will do. A good feedback may be awarded extra credits. No feedback will influence your grade negatively in any circumstance.

Use of Electronic Devices: Before each class and lab begins, <u>students MUST turn off their cellular phone (smart phone), iPad, Galaxy tablet</u>, and/or CD/MP3/DMB players. Also you may not use other electronic devices that may distract the instructor and their classmates. However, laptops (or netbooks) are allowed for use in class unless they disturb others.

Computer Literacy: Students should be familiar with zoom, wordprocessors (e.g, Microsoft Word and WordPerfect), and Web browsers (e.g., Firefox and Google Chrome).

IUJ Electronic mail: All students must use the university electronic mail to communicate with the instructor and other classmates. <u>Students SHOULD peruse emails that the instructor sends in order for additional explanation and comments</u>.

Course Web Page: http://www.sonsoo.org/itis/egov/ provides the latest course schedule, announcements, and various course materials including lecture notes. Students <u>MUST visit this Web page time to time</u> to check announcements and materials available.

READING MATERIALS

This course uses one required textbook, selective book chapters, journal articles, and video clips (or other Internet resources). <u>Related video clips and Internet resources are available in the course Web page.</u> The required textbook and recommended books are reserved at the IUJ's MLIC library.

Stair, Ralph M., and George W. Reynolds. 2016. *Principles of Information Systems*. 12th ed. Course Technology & Cengage Learning. ISBN 978-1285867168.

The following books are recommended. If the required textbook is difficult for you to read, try Morley & Parker (2015), Derfler & Freed (2005), Gralla (2007), and/or White (2008). Rocheleau (2006) discusses information systems in government (electronic government), whereas Laudon & Laudon (2016) discuss management information systems in the private sector. Hoffer, George & Valacich (2010) and Coronel, Morris, & Rob (2013) discuss database and entity-relationship modeling, whereas Gourley & Totty (2002), Musciano &

Kennedy (2007), and Meyer (2007) provide technical explanation of HTTP, HTML/XHTML, and Cascading Style Sheets, respectively. While Souders (2007) explains how to make better Web sites, Forouzan (2013) provide computer basics.

Chisholm, Wendy, and Matt May. 2009. *Universal Design for Web Applications*. Sebastopol, CA: O'Reilly Media. ISBN 978-0596518738.

Derfler, Frank, Jr., and Les Freed. 2005. *How Networks Work*, 7th ed. Indianapolis, IN: Que. ISBN 978-0789732323.

Forouzan, Beherouz. 2013. *Foundations of Computer Science*, 3nd ed. Cengage Learning EMEA. ISBN 978-1408088418.

Gourley, David, and Brian Totty. 2002. *HTTP: The Definitive Guide*. O'Reilly Media. ISBN 978-1565925090.

Gralla, Preston. 2007. *How the Internet Works*, 8th ed. Indianapolis, IN: Que. ISBN 978-0789736260.

Laudon, Kenneth C., and Jane P. Laudon. 2016. *Management Information Systems: Managing the Digital Firm*, 14th ed. Prentice Hall. ISBN 978-0133898163.

Meyer, Erick A. 2007. *CSS: The Definitive Guide*, 3rd ed. O'Reilly Media. ISBN 978-0596527334.

Morley, Deborah, and Charles S. Parker. 2015. *Understanding Computers: Today and Tomorrow*. 15th ed. Cengage Learning. ISBN 978-1285767277.

Musciano, Chuck, and Bill Kennedy. 2007. *HTML & XHTML: The Definitive Guide*, 6th ed. O'Reilly Media. ISBN 978-0596527327.

Rocheleau, Bruce A. 2006. *Public Management Information Systems*. Hershey, PA: Idea Group Publishing. ISBN1-159140-807-5.

Schmitt, Christopher, and Kyle Simpson. 2012. HTML5 Cookbook. Sebastopol, CA: O'Reilly Media. ISBN 978-1449396794.

Souders, Steve. 2007. *High Performance Web Sites: Essential Knowledge for Front-End Engineers*. O'Reilly Media. ISBN 978-0596529307.

Stair, Ralph M., and George W. Reynolds. 2016. *Fundamentals of Information Systems*. 8th ed. Course Technology & Cengage Learning. ISBN 978-1305082168.

White, Ron. 2008. *How Computers Work*, 9th ed. Indianapolis, IN: Que. ISBN 978-0789736130.

In order to get the electronic copy of a journal article, (1) visit IUJ's E-journal portal, (2) provide a journal name (e.g., *Public Administration Review*), (3) choose a source (e.g., JSTOR and EBSCO) of the journal, and then (4) find out the paper using its title, author name, year of publication, volume, and/or number.

WEEKLY SCHEDULE

* This schedule is tentative and subject to change. Related video clips and Internet resources are listed on the course Web page. Students should check the latest schedule on the course Web page from time to time.

1st Week: Introduction to Information Systems (04/9)

The first week introduces information systems in the public sector and electronic government. An information system consists of hardware, software, telecommunication (network), data, people, and procedure (a set of rules).

Required: Chapter 1 (Introduction to Information System)
Optional: Chapter 2 (Information Systems in Organizations)

Lab: HTML 1 – Hypertext Markup Language (HTML) and Extensible HTML are Web languages to describe contents (data and format) of a Web page. Hypertext Transfer Protocol (HTTP) is introduced to understand how a Web page is processed in a Web server and then displayed in a Web browser.
- Gourley & Totty (2002)
- Musciano & Kennedy (2007) for HTML/XHTML
- https://www.w3.org/TR/2014/REC-html5-20141028/
- http://www.w3.org/TR/xhtml1/

2ⁿᵈ Week: Hardware of Information Systems (04/16)

Computer hardware includes central processing unit (CPU), central memory unit, storage units, and input/output. Students need to understand basic functions, specifications, and technological progress of each unit.

Required: Chapter 3 (Hardware)
Optional:
- Forouzan & Mosharraf (2008)
- Morley & Parker (2012) Chapter 2-4
- White (2008) Chapter 1-6.

Lab: HTML 2 – Major HTML elements (i.e., text, grouping, list, anchor, image, and table) will be discussed.
- Musciano & Kennedy (2007) for HTML/XHTML
- https://www.w3.org/TR/2014/REC-html5-20141028/
- http://www.w3.org/TR/xhtml1/

3ʳᵈ Week: Software of Information Systems (04/23)

Computer software includes system software (e.g., operating systems) and application software (e.g., office suites). Open source software (OSS), such as Linux, Apache, and Firefox, has been popular as an alternative to proprietary software (e.g., Microsoft Windows and Internet Explorer). A computer software package is a well organized set of instructions written in a computer languages and then translated by a corresponding interpreter or compiler in order to achieve particular goals. Computer languages include machine language (1ˢᵗ generation), assembly language (2ⁿᵈ generation), and third generation languages such as (Visual) C, Java, and Fortran.

Required: Chapter 4 (Software).
Optional:
- Forouzan & Mosharraf (2008)
- Morley & Parker (2012) Chapter 5, 6, 13.
- Stair & Reynolds (2012: 162-165)

- White (2008) Chapter 7 and 9.

Lab: Cascading style sheets (CSS) 1 – CSS is a set of rules that specify formats and layouts of contents (e.g., font, color, margin, line, height, width, and background) of HTML documents. HTML contains information (contents) and describes the information's structure, while CSS controls formats and layouts of the structured Web contents.
- Meyer (2007) for CSS
- https://www.w3.org/TR/1998/REC-CSS2-19980512/
- http://www.w3.org/TR/CSS1/

4th Week: Internet and World Wide Web (04/30)

This week introduces basics of telecommunication and Internet technologies and then discuss user-centered design, accessibility, and usability of Web sites. World Wide Web is an Internet service that supports multimedia (e.g., text, image, audio, audio), and integrates other Internet services such as e-mail, FTP, and listservs.

Required: Chapter 7 (The Internet, Web, Intranets, and Extranets);
Optional:
- Chapter 6 (Telecommunications and Networks)
- Derfler & Freed (2005)
- Gourley & Totty (2002) Chapter 12-26.
- Gralla (2007) Part 1, 3, 4.
- Morley & Parker (2012) Chapter 7-8.
- http://www.w3.org/TR/WCAG20/ (Web Content Accessibility Guideline 2.0)

Lab: Cascading style sheets (CSS) 2
- Meyer (2007) for CSS
- https://www.w3.org/TR/1998/REC-CSS2-19980512/
- http://www.w3.org/TR/CSS1/

5th Week: Electronic Government (05/07)

Electronic government (digital government) is a collection of Web-based information technology applications employed in the public sector. Current e-governments tend to be technology-oriented (service provision) rather than client-oriented or user-centered (demand-driven).

Required:
- Coursey, David, & Donald F. Norris. 2008. Models of E-Government: Are They Correct? An Empirical Assessment. *Public Administration Review* 68(3): 523-536.
Optional:
- Kraemer, Kenneth L., and John L. King. 2006. Information Technology and Administrative Reform: Will E-Government Be Different? *International Journal of Electronic Government Research* 2(1): 1-20.

- Norris, Donald F. and Christopher G. Reddick. 2013. Local E-Government in the United States: Transformation or Incremental Change? *Public Administration Review* 73(1): 165-175.
- Park, Hun Myoung. 2015. Should E-Government Be Transformational and Participatory? An Essay on E-Government in the Utilitarian Mode of Information Technology Use. Proceedings of the 48th Hawaii International Conference on System Sciences (HICSS-48) in Kauai, HI, January 5-8, 2015.
- Reddick, Christopher G. and Donald F. Norris. 2013. Social Media Adoption at the American Grass Roots: Web 2.0 or 1.5? *Government Information Quarterly* 30(4): 498-507.
- Rocheleau (2006) chapter 5.
- U.S. E-government Act of 2002.

Lab: Web Form 1 – A Web form consists of `<form>`, `<input>`, and Web form controls (e.g., text-field, text box, radio button, checkbox, and drop-down) and is used to gather data (selection) from users.
- Musciano & Kennedy (2007) for HTML/XHTML
- https://www.w3.org/TR/2014/REC-html5-20141028/forms.html#forms
- http://www.w3.org/TR/html401/interact/forms.html

6th Week: System Analysis and Design (05/14)

This week discusses how information systems are initiated and how information systems are designed and developed.

Required:
- Stair and Reynolds (2016) Chapter 12 (pp. 548-584).

Optional:
- Anthopoulos, Leonidas, Christopher G. Reddick, Irene Giannakidou, and Nikolaos Mavridis. 2016. Why E-Government Projects Fail? An Analysis of the Healthcare.gov Website. *Government Information Quarterly* 33(1): 161-173.
- Hoffer, George, & Valacich (2013) Chapter 6-8.
- Morley and Parker (2012) Chapter 12.

Lab: Web Form 2
- Musciano & Kennedy (2007) for HTML/XHTML
- https://www.w3.org/TR/2014/REC-html5-20141028/forms.html#forms
- http://www.w3.org/TR/html401/interact/forms.html

7th Week: Adoption of Information Systems (05/21)

It will be important to understand how citizens adopt and use public information and services when designing e-government services and applications. It includes e-government financing, acquisition, software license.

Required:

http://www.sonsoo.org/

- Davis, F. D. 1989. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly* 13(3): 319-340.
- Goodhue, Dale L. and Ronald L. Thompson. 1995. Task-Technology Fit and Individual Performance. *MIS Quarterly* 19(2): 213-236.

Optional:
- DeLone, William H., and Ephraim R. McLean. 2003. The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems* 19(4): 9-30.

8th Week: Web Accessibility (05/28)

This week discusses Web standards and policy issues of Web accessibility in government Web sites.

Required:
- Jaeger, Paul T. 2006. Assessing Section 508 Compliance on Federal E-Government Web Sites: A Multi-Method, User-Centered Evaluation of Accessibility for Persons with Disabilities. *Government Information Quarterly* 23: 169-190.
- Park, Hun Myoung. 2012. The Web accessibility Crisis of Korea's Electronic Government: Fatal Consequences of the Digital Signature Law and Public Key Certificate. *Proceedings of the 45th Hawaii International Conference on System Sciences* in Hawaii, HI, January 4-7, 2012.

Optional:
- Becker, Shirley Ann. 2004. E-government Visual Accessibility for Older Adult Users. *Social Science Computer Review* 22(1): 11-23.
- Becker, Shirley Ann. 2005. E-government Usability for Older Adults. *Communications of the ACM* 48(2): 102-104.
- Becker, Shirley Ann. 2008. Accessibility of Federal Electronic Government. In *Digital Government: E-Government Research, Case Studies, and Implementation*, edited by Chen, Hsinchun, Lawrence Brandt, Valerie Gregg, Roland Traunmuller, Sharon Dawes et al., 141-155. New York: Springer.
- Hong, Soongoo, Pairin Katerattanakul, and Seok Jeong Joo. 2008. Evaluating Government Website Accessibility: A Comparative Study. *International Journal of Information Technology and Decision Making* 7(3): 491-515.
- Jaeger, Paul T. 2008. User-Centered Policy Evaluations of Section 508 of the Rehabilitation Act. *Journal of Disability Policy Studies* 19(1): 24-33.
- Lessig, Lawrence. 2006. Chapter 1. Code Is Law and Chapter 2. Four Puzzles from Cyberspace. In *Code: Version 2.0*, 2nd ed., 1-28. New York: Basic Books.
- Olalere, Abiodun, and Jonathan Lazar. 2011. Accessibility of U.S. Federal Government Home Pages: Section 508 Compliance and Site Accessibility Statements. *Government Information Quarterly* 28(3): 303-309.
- Palmer, Jonathan W. 2002. Web Site Usability, Design, and Performance Metrics. *Information Systems Research* 13: 151-167.
- Shi, Yuquan. 2006. E-Government Web Site Accessibility in Australia and China: A Longitudinal Study. *Social Science Computer Review* 24(3): 378-385.

- Yi, Yong Jeong. 2015. Compliance of Section 508 in Public Library Systems with the Largest Percentage of Underserved Populations. *Government Information Quarterly* 32(1): 75-81.
- Yi, Yong Jeong. 2020. Web Accessibility of Healthcare Web Sites of Korean Government and Public Agencies: A User Test for Persons with Visual Impairment. *Universal Access in the Information Society* 19(1): 41-56.

Final Exam (Week 11)