



WEB ENGINEERING & DEVELOPMENT

SWE 363

Spring Semester 2008-2009 (082)

Module 0: Getting Started

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Objectives/Outline

- **Objectives**
 - Be familiar with the class requirements and policy
 - Learn what it is all about and set expectations.
- **Outline**
 - Course Objectives & Outcomes
 - Evaluation Methods
 - Course Resources
 - Tentative Major Topics
 - Caveat
 - Questions & Answers
 - Next Lecture ...

Course Objectives & Outcomes

- **Course Objectives**
 - To provide students with conceptual and practical knowledge, and skills required to develop web applications and web services.
- **Learning Outcomes**
 - *Upon completion of the course, you should be able to:*
 1. Perform analysis modeling and design modeling for web applications.
 2. Identify candidate tools and technologies for developing web applications.
 3. Develop user-interfaces for web applications.
 4. Describe and transform data using XML and its related technologies.
 5. Develop web applications and web services.

Evaluation Methods

Assignments & Quizzes	10 %
Major Exam 1	20 %
Major Exam 2	20 %
Final Exam (semi-comprehensive)	25 %
Term Project	25 %

Course Resources

➤ Required Material

- No *official* textbook but the lecture slides provides a good start in addition to several web sites that will be made available through the course website

➤ Recommended References

- *Internet and World Wide Web How to Program*, 4/e, H. M. Deitel, P. J. Deitel, and A. B. Goldberg, Pearson Education Inc., 2008.
- *Advanced DOM Scripting: Dynamic Web Design Techniques*, J. Sambells & A. Gustafson, Apress 2007.
- *XML How to Program*, 1/e, H. M. Deitel, et al., Pearson Education Inc., 2001.
- [Web Engineering - The Discipline of Systematic Development of Web Applications](#), G. Kappel, B. Pröll, S. Reich, and W. Retschitzegger (eds), John Wiley & Sons, 2006.

Tentative Major Topics

➤ Internet Basics for Web Applications [~4 Lectures]

- Introduction to the Internet
- Client-server basics
- HTTP protocol
- Web security
- Search engines

➤ Web Engineering Fundamentals [~3 Lectures]

- Introduction to web applications & web engineering
- Requirements gathering & planning for web engineering
- Analysis modeling for web Applications
- Design modeling for web applications (quality dimensions, architectural design)
- Design modeling for web applications (interface design, content design)
- Testing web applications

➤ Markup Languages and Styling [~6 Lectures]

- HTML, XHTML, CSS (Cascading Style Sheets)

➤ Client-Side Scripting (JavaScript) [~3 Lectures]

➤ Server-Side Programming [~7 Lectures]

➤ Data Description and Transformation (XML, XSL, XSLT, DTD, DOM, XSD) [~8 Lectures]

➤ Web Services, Web Servers (Hosting) [~4 Lectures]

➤ Advances in Web Engineering [~4 Lectures]

Caveat

➤ What this course is not about

“... there is a difference between *training* and *education*. If computer science is a fundamental discipline, then university education in this field should emphasize enduring *fundamental principles* rather than *transient current technology*.”

-Peter Wegner, Three Computing Cultures. 1970.

Student Expectations & Terminology

Q & A



Next Lecture Preliminary Questions

- What is the Internet?
- What is the world-wide web (www)?
- What are the common applications of the Internet?
- What are the main constituents of the Internet?
- What is a network protocol? What is a protocol standard? Who is responsible for creating protocol standards? Why?
- What are the main constituents of the Web?
- How did the Internet, and the Web evolve?
- What does Web Development mean?
- What does Web Services mean?
- Etc.