



**King Fahd University of Petroleum & Minerals**  
College of Computer Sciences and Engineering

**SWE 444: Internet and Web Application Development (3-0-3)**

Syllabus - Fall Semester 2008-2009 (081)

**Schedule:**

Section	01	02
Time	SMW 8:00-8:50AM	SMW 01:10-02:00PM
Venue	22-132	24-162
Instructor	<b>Dr. El-Sayed El-Alfy</b> Office: 22-108, Phone: 03-860-1930, E-mail: <a href="mailto:alfy@kfupm.edu.sa">alfy@kfupm.edu.sa</a> , URL: <a href="http://faculty.kfupm.edu.sa/ics/alfy">http://faculty.kfupm.edu.sa/ics/alfy</a>	<b>Dr. Farag Azzedin</b> Office: 22-107 Phone: 03-860-3431 E-mail: <a href="mailto:fazzedin@kfupm.edu.sa">fazzedin@kfupm.edu.sa</a> URL: <a href="http://faculty.kfupm.edu.sa/ics/fazzedin">faculty.kfupm.edu.sa/ics/fazzedin</a>
Office Hours	SMW@10:00-11:00AM *	SMW@2:00-3:00PM *

\* or by appointment

**Course Description**

Web Engineering fundamentals: requirements, analysis modeling, design modeling, testing.  
Internet basics for web applications. Technologies and tools for developing web applications: markup languages, styling, data description and transformation, client and server side programming. Web services. Advances in web engineering.

**Pre-requisites:** Junior Standing

**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.

## 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

- H. M. Deitel, P. J. Deitel, and A. B. Goldberg, *Internet and World Wide Web How to Program*, 4/e, Pearson Education Inc., 2008.
- H. M. Deitel, et al., *XML How to Program*, First Edition, Pearson Education Inc., 2001.
- G. Kappel, B. Pröll, S. Reich, and W. Retschitzegger (eds), *Web Engineering - The Discipline of Systematic Development of Web Applications*, John Wiley & Sons, 2006  
[http://eu.wiley.com/WileyCDA/WileyTitle/productCd-0470015543\\_descCd-tableOfContents.html](http://eu.wiley.com/WileyCDA/WileyTitle/productCd-0470015543_descCd-tableOfContents.html)  
and <http://www.web-engineering.at/eng/>

## Grading Policy

Assignments & Quizzes	10 %
Major Exam 1 (Date: Nov. 19, 2008@7:00-9:00PM & Room: TBA)	15 %
Major Exam 2 (Date: Dec. 31, 2008@7:00-9:00PM & Room: TBA)	20 %
Final Exam (semi-comprehensive) [Date: as announced by the registrar]	25 %
Term Project (Group of 3 or 2): Submitted in phases.	30 %

## Tentative Major Topics

- M1. Web Engineering Fundamentals [~3 Lectures]
  - a. Introduction to web applications & web engineering
  - b. Requirements gathering & planning for web engineering
  - c. Analysis modeling for web Applications
  - d. Design modeling for web applications (quality dimensions, architectural design)
  - e. Design modeling for web applications (interface design, content design)
  - f. Testing web applications
- M2. Internet Basics for Web Applications [~4 Lectures]
  - a. Introduction to the Internet
  - b. Client-server basics
  - c. HTTP
  - d. Web security
  - e. Search engines
- M3. Markup Languages and Styling [~6 Lectures]
  - a. HTML
  - b. XHTML
  - c. CSS (Cascading Style Sheets)
- M4. Client-Side Scripting (JavaScript) [~3 Lectures]
- M5. Data Description and Transformation (XML, XSL, XSLT, DTD, DOM, XSD) [~8 Lectures]
- M6. Server-Side Programming [~7 Lectures]
- M7. Web Services, Web Servers (Hosting) [~4 Lectures]
- M8. Advances in Web Engineering [~4 Lectures]

## Additional Notes

- **Course Website & Participation:** Students are required to periodically check the course website and download course material as needed. Several resources will be posted through the website as well. Keys to quizzes and exams are generally discussed during class as time permits but solutions will not be posted. WebCT will be used for communication and interaction, posting and submitting assignments, posting grades, posting sample exams, etc. Also it is expected that you get benefit of the discussion board by raising questions or answering questions put by others (up to 5% bonus will be granted based on your active participation and the usefulness of the material you post).
- **Attendance:** Regular attendance is a university requirement; hence attendance will be checked at the beginning of each class. Two late attendances will be considered as one absence. Missing more than 9 lectures will result in a DN grade without prior warning. To avoid being considered as absent, an official excuse must be shown no later than one week of returning to classes.
- **No make up quizzes or exams will be given.**
- **Re-grading policy:** If you have a complaint about any of your grades, discuss it with the instructor no later than a week of distributing the grades (except for the final). Only legitimate concerns on grading should be discussed.
- **Office Hours:** Students are encouraged to use the office hours to clarify any part of the material that is not clear; however the instructor will only provide hints if it is an assigned task but not solve it.
- **Term Project:** Form groups of three or two students (but three is more preferable), pick up a relevant and non-trivial web application, discuss it with your instructor, then go through all different phases of software development; innovative ideas are highly encouraged. All group members are expected to know all the details about the project. (More information about deliverables on WebCT).
- **Academic honesty:** Students are expected to abide by all the university regulations on academic honesty. Cheating will be reported to the Department Chairman and will be severely penalized. Although collaboration and sharing knowledge is highly encouraged, copying others' work without proper citation, either in part or full, is considered plagiarism. Whenever in doubt, review the university guidelines or consult the instructor.
- **Courtesy:** Students are expected to be courteous toward the instructor and their classmates throughout the duration of this course. Talking while someone else is speaking will not be tolerated. Furthermore, all cell phones must be turned off during class. In addition, students are expected to be in class on time. Late arrivals will disrupt the class session. If you are 15 minutes late, you will be marked as absent and will not be permitted to enter the class. More importantly, you are not allowed to leave the class unless it is an urgent matter. To contact your instructor, please use email through WebCT whenever possible and avoid using phone calls or written notes. When necessary to send an email through the university email system, please indicate SWE444-081 in the "Subject" field of your email, e.g. SWE444-081: Question about chapter 1.

☺☺☺ **Best of luck!!** ☺☺☺