King Fahd University of Petroleum & Minerals
College of Computer Sciences and Engineering
Information and Computer Science Department

SWE 363: Web Engineering & Development (3-0-3)

Syllabus – Second Semester 2017-2018 (172)

Website: Blackboard Learn 9.1 (https://blackboard.kfupm.edu.sa/)

Class Time, Venue and Instructor Information:

Sec.	Time	Venue	Instructor	Office Hours
01	MW 8:30-9:45am	24-180	**Dr. EL-SAYED M. EL-ALFY** Office: 22-108 Phone: 013-860-1930 E-mail: alfy@kfupm.edu.sa	TBA in Blackboard and by appointment
01	MW 10:00-11:15am	24-249	**Dr. HAMDI AL-JAMIMI** Office: 59-2063 Phone: 013-860-4180 E-mail: aljamimi@kfupm.edu.sa	MW 09:00-10:00 am and by appointment

Course Catalog Description

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

Pre-requisites: Junior Standing

Course Objectives

- Provide students with conceptual and practical knowledge, and skills required to develop web applications and web services.

Course Learning Outcomes

Upon completion of the course, you should be able to:

1. Perform analysis modeling and design modeling for web applications. [OC#4]
2. Identify candidate tools and technologies for developing web applications. [OC#12]
3. Develop user-interfaces for web applications. [OC#5]
4. Describe and transform data using XML and its related technologies. [OC#5]
5. Develop web applications and web services. [OC#5]

Required Material

- Lecture notes and some pointed websites

- [Internet and World Wide Web How to Program](#), 5th Edition, By (Harvey & Paul) Deitel & Associates, Harvey Deitel, Abbey Deitel, Prentice Hall, 2012.
    - [Download errata, code examples and other resources](#)

Other Recommended References

- Robert W. Sebesta. Programming the World Wide Web, 8/E. Pearson 2014.
- Marty Stepp, Jessica Miller, and Victoria Kirst. Web Programming Step by Step, 2012
- H. M. Deitel, et al., [XML How to Program](#), First Edition, Pearson Education Inc., 2001.
- R. Pressman, Web Engineering: A Practitioner's Approach, McGraw-Hill Higher Education, 2008. http://highered.mcgraw-hill.com/sites/0073523291/
- 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   and http://www.web-engineering.at/eng/

Assessment Plan

Assessment Tool	Weight
Assignments & Quizzes	15 %
Major Exam I (6th week: Thursday March 1, 2018, at 6:00-7:30PM)	20 %
Major Exam II (10th week: Wednesday 28 March 2018, at 6:30-8:00PM)	20 %
Term Project (Group of at most 3 students) – more info will be announced	20 %
Final Exam (semi-comprehensive) [Date: May 9, 2018 at 7:00-9:00PM]	25 %
Bonus: Presentations - More info on topics/tools will be announced	5 %

Tentative Schedule & Major Topics

Sr	Covered Topics	Approx. Duration
1	Internet Basics for Web Applications	3 lectures
2	Web Engineering	3 lectures
3	Markup Languages and Static Web Pages [HTML/XHTML]	3 lectures
4	Cascading Style Sheets and UI Design [CSS]	3 lectures
5	Client-Side Programming: Scripting Languages and Active Web Design [JavaScript, jQuery]	3 lectures
6	Responsive Design and Mobile Web Design [Bootstrap]	2 lectures
7	Server-Side Programming: Back-end Design, Dynamic and Data-Driven Websites [ASP.NET, PHP, SQL, Node.js]	3 lectures
8	XML Data Description and Transformation [XML, XSL, XSLT, DTD, DOM, XSD]	3 lectures

9	AJAX (Asynchronous JavaScript and XML) and JSON	3 lecture
10	Introduction to Web Services	1 lecture
11	Web Security	1 lecture

Course Policies

- *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. Blackboard CE 9.1 will be used for communication and interaction, posting and submitting assignments, posting grades, posting sample exams, etc. 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 for giving a short presentation on a related topic/tool/technology.

- *Class attendance*: Regular attendance is a university requirement; hence attendance will be checked at the beginning of each class. Late arrivals will disrupt the class session. Hence, two late attendances (more than 10 minutes) will be considered as one absence. 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. Missing more than 6 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. Every unexcused absence leads to a loss of 0.5% of total grade.

- *No makeup of homework, 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, an office hour will be announced in Blackboard after grading in which complains can be raised, if any). Only legitimate concerns on grading should be discussed.

- *Term Project*: Group work, each group of 3 students is expected to design and implement a web application following the systematic approach for web engineering. Around the third week, the instructor will provide you with a requirement document, then each group should go through all different phases web engineering and development. Innovative ideas are highly encouraged and will be rewarded in the project grade. All group members are expected to know all the details about the project. More information about deliverables on Blackboard.

- *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. Cheating in whatever form will result in F grade.

- *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 and exams. In addition, students are expected to be in class on time. To contact your instructor, please keep all communications, except in urgent matters, through Blackboard and avoid using phone calls, university emails or written notes. When sending an email through the university email system, please indicate 172-SWE363 in the "Subject" field of your email, e.g. 172-SWE363: Question about homework 1. Not following properly these guidelines may result in late or no response of your email.

⊙⊙⊙ **Best of luck!!** ⊙⊙⊙