QFO–AP–FI–MO02	اسم النموذج: Course Syllabus	جامعة فيلادلفيا
رقم الاصدار : 2 2 (Revision)	الجهة المصدرة: كلية تكنولوجيا المعلومات	
التاريخ 18/9/2018	الجهة المدققة: عمادة التطوير والجودة	**Philadelphia University**
عدد صفحات النموذج:		

Course Syllabus

Course Title: **Fundamentals of Web Engineering**	**Course code: 0780111**
Course Level: 1	**Course prerequisite (s) and/or corequisite (s):** 0780110
Lecture Time:	**Credit hours: 3**

Academic Staff Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address

Course/ module description

The course surveys the important web engineering principles, concepts, methodologies, methods, techniques, and tools. Covered topics are: Web Applications and Web Systems Development (process, requirements, modeling, architecture, design, implementation, testing), Web Data and Documents, Web technologies, Web services, Web security, and Semantic Web.

Course/ module objectives

This course aims to:
- Introduce the discipline of Web Engineering.
- Provide students with the conceptual knowledge and the practical skills to develop small size web applications and services.

Course/ module components

- **Books (author (s), title , publisher, year of publication)**
  1.Web Engineering, Rajiv Chopra, PHI Learning Publisher, 2016
  2. Web Engineering: A Practitioner's Approach, R. Pressman, Ed: Mac-Graw Hill, 2009

- **Support material (s): Slides**
- **Study guide (s) (if applicable)**

- **Homework and laboratory guide (s) if (applicable)**

Teaching methods

Duration: 16 weeks, 48 hours in total. Lectures: 36 hours, Tutorial: 6 hours, Laboratories: 3 hours. The last week is reserved to practical works examination.

Learning outcomes

A student completing this module unit should be able to:

Knowledge and Understanding

1. Define, describe the web engineering discipline and its related advanced concepts. (A2)
2. Explain and discuss the characteristics of web applications (A1)
3. Categorize the web applications (A1)
4. Identify and explain the role of the various disciplines involved in the web engineering (A6)
5. Identify the similarities and the differences between traditional software development and web application development. (A4)
6. Describe the life cycle and explain the engineering processes used to develop web applications, (A3)
7. Identify and explain the variety of web technologies used to develop web applications (A3)

8. Identify and discuss the security, ethical, legal, and cultural issues when developing web applications (A8)

Cognitive skills (thinking and analysis)

1. Apply appropriate web engineering methodologies, processes, methods and techniques for developing secure and reliable web applications (B2)
2. Specify, document , analyze, model and design basic web applications (B1)

Practical Skills

1. Employ the basic constructs of some popular web client side languages (C2, C3)
2. Employ the basic constructs of some popular web server side languages (C2, C3)
3. Employ the basic constructs of XML markup language. (C2, C3)

Transferable skills

1. Demonstrate professional and ethical responsibility when conducting basic web projects. (D1)
2. Work and function in multidisciplinary teams structure and communicate with people inside the organization. (D2)
3. Demonstrate effective written and oral communication, including use of appropriate technology. (D3)
4. Retrieve relevant information using search engines, browsers and catalogues (D5)
5. Organize activities and manage time when conducting small projects (D6)

Learning outcomes achievement

Development:

A1, A2, A3, A4, A6, A8, B1, and B2 are developed through Lectures and Tutorial

B1, B2, D1, D2, D3, D5, and D6 are developed through Assignments, and Projects.

C2, and C3 are developed through practical laboratory sessions

Assessment:

A1, A2, A3, A4, A6, A8, B1, B2, D1, D2, D3, D5, and D6 are assessed through Quizzes,

exams, Assignments, and Projects

C2, and C3 are assessed through practical assignment examinations.

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Assessment instruments

- **Class works**: 10   (quizzes)
- **Practice**: 10
- **Final examination:** 40
- **Short Examinations:** 2 x 20

Allocation of Marks	
Assessment Instruments	**Mark**
First examination	**20**
Second examination	**20**
Final examination: 40 marks	**40**
Reports, research projects, Quizzes, Home works, Projects	**20**
Total	**100**

Documentation and academic honesty
- Documentation style (with illustrative examples)
  - Practical works reports must be presented according to the style specified in the homework and practical work guide
- Protection by copyright
- Avoiding plagiarism
  - Any stated plagiarism leads to an academic penalty

Course/module academic calendar

Week	Basic and support material to be covered	Practical Work (PW) and Examinations

(1)	Introduction to Web Engineering:
	    - Web: concept, and evolution (Web1, Web2, Web3 and Web4)
	    - Multidisciplinary feature
	    - Engineering versus Ad-hoc development	

(2)	- Categories of web application - Tutorial1	
(3)	Characteristics of web applications (1)	
(4)	Characteristics of Web Applications (2) Web Engineering Process (1)	
(5)	Web Engineering Process (2)	
(6)	Web Engineering Requirements(1)	**First examination**
(7)	Web Engineering Requirements (2)	
(8)	Tutorial2 Web Analysis Modeling (1)	
(9)	Web Analysis Modeling (2) Tutorial3	
(10)	Web Design Modeling	

(11)	Web Technologies: overview and categorization Web documents markup Languages Web Scripting Languages	**Second examination**
(12)	Web Technologies – client side : Basics on HTML, CCS Lab1	
(13)	Web technologies – client side (1): Basics on JavaScript Lab 2	
(14)	Web technologies – server side: Basics on PHP Lab3	
(15)	Basics on: - Web Services - Web Semantic - Web security	
(16)	Projects examination	**Final Examination**

Expected workload

On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.

Attendance policy

Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty hall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

Module references
Books
1. Web Engineering, Sharma Pankaj, Ed: S. K Kataria &Sons, 2012
2. Web Engineering: The Discipline of Systematic Development of Web Applications, G. Kappel and al, Wiley (New Dehli), 2011

3. Web Engineering, E. Mendes and N. Mosley, Springer (New Dehli), 2009