



**Philadelphia University**  
**Faculty of Information Technology**  
**Department of Web Engineering**  
**Second Semester, 2017/2018**

<u><b>Course Syllabus</b></u>	
<b>Course Title:</b> Fundamentals of Web Engineering	<b>Course code: 0780111</b>
<b>Course Level: 1</b>	<b>Course prerequisite (s) and/or corequisite (s):</b> 0780110
<b>Lecture Time: 11.10-12.00</b>	<b>Credit hours: 3</b>

<u><b>Academic Staff Specifics</b></u>				
Name	Rank	Office Number and Location	Office Hours	E-mail Address
	Professor		.	

**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, Sharma Pankaj, Ed: S. K Kataria & Sons, 2012
  2. Fundamentals of Web Engineering, Mazin S. Al-Hakeem, Ed: Lambert Academy Publishing, 2012
- **Support material (s): Slides**
- **Study guide (s) (if applicable)**
- **Homework and laboratory guide (s) if (applicable)**

## Teaching methods

Duration: 16 weeks, 60 hours in total. Lectures: 30 hours, 2 per week. Tutorial: 12, 1 per week. Laboratories: 3 in lab and 15 hours in total, 1-hour per week (personal). 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. Be familiar with basic concepts, and principles of Web engineering discipline. (A1)
2. Be aware of the engineering approach in web development.(A1)
3. Be aware of the multi-disciplinary of the web engineering. (A1)
4. Be aware of the current problems in the forefront of Web Engineering.(A2)
5. Be familiar with current widely used web technologies. (A3)

### Cognitive skills (thinking and analysis)

1. Apply web engineering methodologies for developing secure and reliable and (simple) Web applications (B4)
2. Ability to use fundamental knowledge to investigate new and emerging web technologies. (B2)

### Practical Skills

1. Use web technologies to construct and implement basic and simple web applications. (C1)
2. Ability to evaluate and use user-oriented Web systems (C6)

### Transferable skills

1. Awareness of the need for a high level of professional and ethical conduct in engineering (D1)
2. Understanding of different roles within an engineering team and the ability to exercise initiative and personal responsibility, which may be as a team member or leader.(D6)
3. Communicate their work to technical and non-technical audiences. (D7)

## Learning outcomes achievement

### Development:

A1, A2, A3, B2, B4, D1, D6 are developed through Lectures and Tutorials.

B2, B4, C1, C6, D7 are developed through Assignments and Projects.

C1 is developed through practical laboratory sessions.

### Assessment :

A1, A2, A3, B2, B4, D1, D6, D7 are assessed through Quizzes, written exams, and Assignments.

C1 are assessed through practical assignment examinations.

## Assessment instruments

- **Class works:** 10 ( quizzes)

- **Practice:** 10
- **Final examination:** 40
- **Short Examinations:** 2 x 20

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

### **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**

<b>week</b>	<b>Basic and support material to be covered</b>	<b>Practical Work (PW) and Examinations</b>
<b>(1)</b>	Introduction to Web Engineering	
<b>(2)</b>	Web Development: Process	
<b>(3)</b>	Web Development: Requirements Tutorial	
<b>(4)</b>	Web Development: Modeling Tutorial	
<b>(5)</b>	Web Development: Architecture and Design Tutorial	<b>PW1</b>
<b>(6)</b>	Web Development : User interface Design Tutorial	<b>First examination</b>
<b>(7)</b>	Case study	
<b>(8)</b>	Basics on Web Technologies – Client side (1)	
<b>(9)</b>	Basics on Web Technologies – Client Side (2) Tutorial	
<b>(10)</b>	Basics on Web Technologies – Server side (1)	
<b>(11)</b>	Basics on Web Technologies – Server side (2) Tutorial	<b>Second examination</b>
<b>(12)</b>	Introduction to Web Data & Documents Tutorial	<b>PW2</b>
<b>(13)</b>	Introduction to Web Services Tutorial	
<b>(14)</b>	Basics on Web Security	
<b>(15)</b>	Introduction to Semantic web	<b>PW3</b>
<b>(16)</b>	Projects examination	<b>Final Examination</b>

**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 shall 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. M. Blaha and J. Rumbaugh, "Object-Oriented Modeling and Design with UML", Second editions PEARSON Prentice Hall 2005.
2. D. Brugali and M. Torchiano, "Software Development Case Studies in Java", Addison Wesley, 2005.
3. P. Tahchiev, F. Leme, V. Massol and G. Gregory, "JUnit in Action", Second Edition, MANNING, 2011.