

University of Computer Studies, Yangon
2019-2020 Academic Year
Faculty of Information Science

Course Code	CS-505 (Elective)	Course Title	Web Engineering
Semester	First	Course Coordinator	Dr. Khine Khine Oo
No of Credit Units	3		
Semester Hours	37.5 Hours		
Weeks	15 Weeks		
Period	45 Periods (1 period :50 Mins) 3 periods per week		

Course Description

This course introduces students to the discipline of Web Engineering including the methods and techniques used in web-based system development. Web Engineering introduces a structured methodology utilized in software engineering to Web development projects. The course address the concepts, methods, technologies and techniques of developing Web sites that collect, organize and expose information resources. This course examines systematic, disciplined and quantifiable approaches to developing of high-quality, reliable and usable web applications. The course introduces the methodologies, techniques and tools that support their design, development, evolution, and evaluation.

Course Objectives

The objective of this course is to provide students with a solid understanding of a pragmatic process of engineering Web-based systems and application. This course emphasizes an agile process and simple, practical methods that have been proven in industry application.

Learning Outcomes

On successful completion of the course students will be able to:

- Apply the web engineering methodologies for Web application development
- Understand the generic Actions and Tasks for the Web Engineering framework
- Gain the knowledge of incremental nature of Web Engineering Process.
- Know the analysis models that allow the Web Application requirements to be analyzed in a structured manner
- Get a clear understanding of the characteristics that make a good design

- Understand the interplay nature between construction and deployment activities in Web Engineering framework

Prerequisites

- Basic understanding of the web technology and web development languages.

Major Topics Covered in the Course

- (1) Web-based System
- (2) Web Engineering
- (3) A Web Engineering Process
- (4) Communication
- (5) Planning
- (6) The Modeling Activity
- (7) Analysis Modeling for WebApps
- (8) WebApp Design
- (9) Construction and Deployment

Text Book

Web Engineering: A Practitioner’s Approach, 1st Edition, Roger S. Pressman, David Lowe, , McGraw Hill Education, 2008

References

Software Engineering: A Practitioner's Approach, 6 th Edition, Roger Pressman, McGraw Hill Education, 2005

Software Engineering: A Practitioner's Approach, 7 th Edition, Roger Pressman, McGraw Hill Education, 2009

Learning Assessments

Final Exam	- 60%
Class Participation/Assignment	-10%
Quiz	-10%
Practical Assessment	-10%
Project	-10%

Course Policy

Participation

Attendance is a prerequisite, not a substitute for class participation. Participation mechanisms include: (1) responding to questions asked in class, (2) initiating discussions on new points in class and (3) discussing cases and offering solutions to problems.

Tutorial Test and Quizzes

The student is expected to complete the tutorial tests and Quizzes at the scheduled time. If a tutorial test or quiz is missed, there will be no make-ups tutorial or quiz for missing student.

No make –ups test or resubmission and extra credit test are not available in this course. Tutorial tests and quizzes are based upon all learning objectives to be reached before the scheduled date.

Assignment

There will be theory and practical assignments which must be submitted. The assignment may be individual or Group. The individual assignment is individual work and tests the ability of each student. Group assignment is team work and tests the ability of collaboration of student to complete the given work.

The due dates for the given assignments are going to be declared by the instructor and there will be no make-ups or individual extensions. No make –ups Assignment or resubmission and extra credit assignment are not available in this course.

In addition to the hardcopies of assignments, electronic (and certifiably virus free) copies should be e-mailed to instructor on the date they are due.

Project

The paper project will be prepared and make the presentation at the end of first semester. The project must be based on the lecture of this course and it is group assignment. The project guideline and schedule are declared by the instructor.

Intellectual Honesty

By departmental policy, the discovery of plagiarism (i.e. copying from another's assignment paper or practical solution or tutorial paper) will result in a reduction of result marks of relevant students.

Lecture Plan

CS-505 : Web Engineering

First Semester

Text Book : Web Engineering: A Practitioner’s Approach (Roger Pressman)

Periods : 45 periods for 15 Weeks (3 periods * 1 week)

No.	Chapter	Page	Period	Remark
WebE	Chapter 1 : Web-Based Systems	1		
	The Web		1	
	Web Applications		1	
	Web Apps- A Philosophical View		1	
	Chapter review/ Tutorial/Assessment			
WebE	Chapter 2: Web Engineering	12		
	What is Web Engineering?		1	
	The Components of Web Engineering		1	
	Web Engineering Best Practices		1	
	Chapter review/ Tutorial/Assessment			
WebE	Chapter 3: A Web Engineering Process	24		
	Defining the Framework		1	
	Incremental Process Flow		1	
	Generic Actions and Tasks for the WebE Framework		1	
	Umbrella Activities			

	Chapter review/ Tutorial/Assessment			
WebE	Chapter 4: Communication	46		
	The Communication Activity		1	
	Formulation			
	Elicitation		1	
	Identifying WebApp increments		1	
	Negotiation		1	
	Chapter review/ Tutorial/Assessment			
WebE	Chapter 5: Planning	70		
	Understanding Scope		1	
	Refining Framework Activities		1	
	Building a WebE Team		1	
	Managing Risk		1	
	Developing Schedule			
	Managing Quality		1	
	Managing Change		1	
	Tracking the project		1	
	Outsourcing WebE Work		1	
	Chapter review/ Tutorial/Assessment			
WebE	Chapter 6: The Modeling Activity	109		
	The Modeling Activity		1	
	The Models We Create		1	
	Modeling Frameworks		1	
	Modeling Languages		1	
	Existing Modeling Approaches		1	
	Chapter review/ Tutorial/Assessment			
WebE	Chapter 7: Analysis Modeling for WebApps	129		
	Understanding Analysis in the Context of WebE		1	

	Analysis Modeling for WebApps		1	
	Understanding the Users		1	
	The Content Model		1	
	The Interaction Model			
	The Functional Model		1	
	The Configuration Model		1	
	Relationship Navigation Analysis		1	
	Chapter review/ Tutorial/Assessment			
WebE	Chapter 8: WebApp Design	165		
	Design for WebApp		1	
	Design Goals		1	
	Design and WebApp Quality		1	
	The Design Process		1	
	Initial Design of the Conceptual Architecture		1	
	Initial Design of the Technical Architecture		1	
	Chapter review/ Tutorial/Assessment			
WebE	Chapter 12: Construction and Deployment	296		
	Construction and Deployment Within the WebE Process		1	
	Construction		1	
	Construction Principles and Concepts		1	
	Deployment		1	
	Construction and the Use of Components			
	Component- Level Design Guidelines		1	
	Component Design Steps		1	
	Chapter review/ Tutorial/Assessment			
	Revision for all Chapters			