

CSC-325: Web Engineering

General Information

Course Number	CSC-325
Credit Hours	3+1 (Theory Credit Hour = 3, Lab Credit Hours = 1)
Prerequisite	CSC-121 (Introduction to Programming)
Course Coordinator	Adil Khan

Course Objectives

As an emerging discipline, web engineering actively promotes systematic, disciplined and quantifiable approaches towards successful development of high-quality, ubiquitously usable web-based systems and applications. In particular, web engineering focuses on the methodologies, techniques and tools that are the foundation of web application development and which support their design, development, evolution, and evaluation. Web application development has certain characteristics that make it different from traditional software, information system, or computer application development.

Catalog Description

CSC 325

Course Content

Session No.	Week No.	Topics	Suggested Readings (Chapters)
01-03	1	<ul style="list-style-type: none">• Introduction• Web Engineering<ul style="list-style-type: none">○ Types of Web Applications○ Document Centric○ Interactive○ Workflow Based○ Portal Oriented○ Social and Collaborating Web○ Semantic Web• Web Application Architecture<ul style="list-style-type: none">○ Single Tier○ Client Server (two Tier)○ Three Tier	Teacher Notes Chapter 1 st and 2 nd
04-06	2	<ul style="list-style-type: none">• Attributes of Web Applications• Design Guidelines of Web Application Development	
07-09	3	<ul style="list-style-type: none">• Introduction to HTML<ul style="list-style-type: none">○ Types of HTML Versions○ Meta Tags○ Table Tags○ Form Elements○ Div and Span○ Lists• Introduction to CSS<ul style="list-style-type: none">○ Inserting CSS (Inline, In File, and External File)○ CSS Selectors○ Classes and ID's	Teacher Notes

		<ul style="list-style-type: none"> ○ Pseudo Classes 	
10-12	4	<ul style="list-style-type: none"> • Introduction to Javascript Coding <ul style="list-style-type: none"> ○ Finding Elements ○ Interactive Pages ○ Animation • Introduction to JQuery 	Teacher Notes
FIRST MID EXAM			
13-15	6	<p>The Building Blocks: Data Types, Literals, Variables, and Constants</p> <ul style="list-style-type: none"> • Introduction to PHP • Data Types • Variables • Constants <p>Operators</p> <ul style="list-style-type: none"> • About PHP Operators and Expressions <p>Strings</p> <ul style="list-style-type: none"> • What Is a String? • String Functions • Other String Functions <p>Conditionals and Loops</p> <ul style="list-style-type: none"> • Control Structures, Blocks, and Compound Statements • Loops (For Loop, While, Do-While, and Foreach) 	Teacher Notes 4 th & 5 th chapters
16-18	7	<p>Arrays</p> <ul style="list-style-type: none"> • What Is an Array? • Modifying Arrays <ul style="list-style-type: none"> ○ (Unsetting, Deleting, Adding, and Changing Elements) <p>User-Defined Functions</p> <ul style="list-style-type: none"> • What Is a Function? • Define a function <p>PHP Forms</p> <ul style="list-style-type: none"> • Introduction • Review of HTML Forms • PHP and Forms <ul style="list-style-type: none"> ○ GET ○ POST ○ REQUEST 	Chapter 10 th and Notes
19-21	8	<p>Files and Directories</p> <ul style="list-style-type: none"> • Files • The Web Server, PHP, and Permissions • Directories <p>Managing Content with Include Files</p> <p>Regular Expressions and Pattern Matching</p> <ul style="list-style-type: none"> • What Is a Regular Expression? • Pattern-Matching Functions 	Notes and 11 th & 12 th chapters
22-24	9	<p>Introduction to MySQL</p> <ul style="list-style-type: none"> • About Databases • The Anatomy of a Relational Database • Connecting to the Database • The MySQL Privilege System • Summary/ Class test <p>SQL Language Tutorial</p> <ul style="list-style-type: none"> • What Is SQL? • SQL Data Manipulation Language (DML) • SQL Data Definition Language • SQL Functions • Summary/ Class test <p>PHP and MySQL Integration</p>	Teacher Notes and 13 th , 14 th & 15 th chapters

2nd MID EXAM			
25-27	10	Cookies and Sessions <ul style="list-style-type: none"> • What Is Stateless? • What Are Cookies? • PHP and Cookies • What Is a Session? 	14 th chapter & Notes
28-30	11	PHP and E-Mail <ul style="list-style-type: none"> • The Mail Server • MIME (Multipurpose Internet Mail Extensions) • Runtime Configuration Options • The mail() Function • Sending a Simple E-Mail Message Example: Sending an HTML Message PHP and Date/Time <ul style="list-style-type: none"> • Formatting Dates and Times • Getting the Timestamp Security and Debugging <ul style="list-style-type: none"> • About Security • Securing PHP and MySQL • Debugging 	Teacher Notes
31-33		Asynchronous JavaScript And XML (AJAX) <ul style="list-style-type: none"> • AJAX introduction • AJAX with PHP • AJAX with Database 	Teacher Notes Chapter 15
34-36		Content Management System (CMS): Wordpress and Bootstrap <ul style="list-style-type: none"> • Introduction to CMS • Installation of CMS • Create a website with CMS • Change and Install the CMS template • CMS Extensions • Upgradating of CMS • CMS Backups 	Teacher Notes
FINAL EXAM			

Text Book

1. Learning PHP, MySQL, & java script with jquery, css and html5 By Robin Nixon

Reference Material

1. Learning Php Mysql & JavaScript with JQuery CSS & Html5 by Robin Nixon 2. PHP and MySQL By Ellie Quigley with Marko Gargenta 3. Learning PHP and MySQL, by Michele E. Davis and Jon A. Phillips 4. www.w3schools.com
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Course Learning Outcomes

	Course Learning Outcomes (CLO)
1	To demonstrate web engineering fundamental concepts especially PHP and Java scripting languages, MySQL database and content management system (CMS).
2	To develop web-based applications by using PHP language integrating with MySQL database and CMS.
3	To analyze and debug the code.

CLO-SO Map

SO IDs												
CLO ID	GA1	GA2	GA3	GA4	GA5	GA6	GA7	GA8	GA9	GA10	GA11	GA12
CLO 1	1	0	0	0	0	0	0	0	0	0	0	0
CLO 2	0	0	1	0	0	0	0	0	0	0	0	0
CLO 3	0	1	0	0	0	0	0	0	0	0	0	0

Approvals

Prepared By	Adil Khan
Approved By	Not Specified
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