

Detailed Syllabus

Lecture-wise Breakup

Subject Code	10B22CI521	Semester (specify Odd/Even)	Semester Odd Session 2013-14 Month from July to December
Subject Name	Web Application Engineering		
Credits	4	Contact Hours	3(Lectures)+1(Tutorial)

Faculty (Names)	Coordinator(s)	Anuja Arora
	Teacher(s) (Alphabetically)	Anuja Arora

Course objective:

This course is designed to introduce the student to the tools and facilities of web design: HTML, HTML5 XHTML, CSS, client side script-Java Scrip, server side script- Php Script, XML and code validation. Students will use these web technologies together to implement web applications. Students will learn about the Web design/development process, with Macromedia Dreamweaver as the primary Web development tool. Topics covered include basic and enhanced site structure, local and remote site management, and optimization of Web.

Learning Outcome:

The Students will be able to

- Develop an understanding of the principles for creating an effective web application, including an in-depth consideration of architecture;
- Acquire the skills to edit, test and implement reusable and scalable web Application using appropriate Architecture and technology;
- Design and Implement interactive web applications using client-side dynamic scripting language-java script and server-side scripting language-PHP with AJAX;
- Develop code to use regular expressions, handle exceptions and validate data for XML file and database storage;
- Implement measures to create secure web sites;
- Integrate different programming web technologies and architectures to build robust, secure and scalable solutions.

Module No.	Subtitle of the Module	Topics in the module	No. of Lectures for the module
1.	Introduction to Web Application Engineering	Motivation, taxonomy of web applications, characteristics and complexities of web application, Concepts of Internet and WWW, HTTP and Web Server Basics, Web Applications, Application server , introduction and difference between web 1.0 & 2.0, analysis issues of web 1.0 & 2.0 (site structure, advanced structure and site mechanism), web 2.0 reference architecture , introduction to web 3.0 & comparison with previous standard, differences between web application and conventional software, distributed data exchange architecture layers	5
2.	Single Thin Client Application Single Thick client Application Multiple Thick Client Web Application Multiple Rich client Web Application	SGML, HTML 5, DHTML,CSS Client Side Scripting Technology-Java Script PHP with Session Tracking API PHP with multimedia Capabilities	20
3	Multiple Rich Client Web Application with automated Database	Web crawling policies, architecture, crawling algorithms, introduction to open source crawler, search engine indexing (index design factors, index data structure, inverted indices, index merging, forward index, compression), document parsing, XML and XHTML, Xpath, XML Schema, DTD, XSLT, XQuery.	10
4.	Secure Multiple Rich Client	Secure Client-Server Interaction, phishing, web spoofing, Cross site scripting, SQL injection, Denial of	7

	Mobile Accessible Web Application	Service ,PHP Secure Coding , XML security , SEO Basic concept J2ME	
Total number of Lectures			42

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)	
1.	“Web Enabled commercial Application development using HTML,DHTML, Java Script, Perl CGI” by Ivan Bayross, BPB Publication
2.	“Internet and World Wide Web – How to Program” by Deitel, Deitel and Nieto ,Pearson Education Asia Publication
3.	“Learning WML, and WMLScript Programming the Wireless Web ” By Martin Frost, Oreilly
4.	“Getting Started with WAP and WML” by Huw Evans , Paul Ashworth ,SYBEX publications
5.	“PHP and MYSQL Manual” by Simon Stobart and Mike Vassileiou
6.	“PHP and MYSQL Web Development” by Luke Welling and Laura Thomson(Pearson Education)
7.	“PHP 5 Unleashed” by John Coggeshall. “The XML Bible”, by Elliotte Rusty Harold Orielly
8.	“The Complete Reference J2ME” by James Keough, TMH Publication
9.	“Software Engineering A Practitioner’s Approach” by Roger S. Pressman”, Mc Graw Hill Publication
10.	ACM Transactions on the Web (TWEB).
11.	ACM Transactions on the Information Systems (TOIC)
12.	ACM Transactions on Graphics (TOG).
13.	ACM Transactions on Internet Technology (TOIT).
14.	“ Software engineering for web application development”, Samuel Hsieh, “Ball State University”, CCSC
15.	“Web Engineering Revisited”, Erik Wilde, UC Berkeley, Visions of Computer Science The British Computer Society

Evaluation Schème	Test 1	20
	Test 2	20
	Test 3	35
	Class participation + assignments	15
	Surprise Lecture Test	5
	attendance	5
	Total	100