

# 10B22CI521: Web Application Engineering

**Course Credit: 4**

**Semester: V**

## **Introduction**

This course involves study of the necessary theoretical foundations to design and develop state-of-the-art web applications. Next to the technical aspects to develop applications for the web, business aspects are covered with the most common business models and explained with real-world examples.

The course will be supplemented by a separate Lab course in which the students learn how to design a good web site using the web technology tools (HTML, CSS, JavaScript, DHTML, XML and PHP). Technical aspects for the development of web applications are presented along with generic platforms and architectures. Students participating in the exercise apply this knowledge in individual projects that cover all aspects from the lecture/lab with the design and development of a web application. Students are strongly encouraged to participate actively in class discussions.

## **Course Objectives (Post-conditions)**

### **Knowledge objectives:**

1. You will broaden your knowledge of WWW, Internet, HTTP, URL, DNS, Web browser, Web Server and FTP
2. You will become aware of the benefits and future of Web Applications
3. You will increase your proficiency in Scripting languages.
4. You will know the Web Architecture and how a Web client-server interaction happens.
5. You will Know the Website Development Process
6. You shall be exposed to various client side and server side technologies required to design web sites
- 7 You will know how a search engine and Meta search engine works and advantages and disadvantages of Meta search engine over a search engine.

### **Application objectives:**

The lab work and homework portions of the course are intended to help you apply your understanding,

1. To develop and implement client-side and server-side scripting language programs that meet stated specifications.
2. To develop and implement, and demonstrate Database Driven Websites through a project that meet stated specifications.

### **Expected Student Background (Preconditions)**

Introduction to Computer Programming, DBMS (Those who are simultaneously registered in DBMS can also take this course)

### **Topics Outline:**

S NO	Topics	Hrs
1	Developing Simple Web Applications like Information System Front-end, Quizzes, Puzzles, Crosswords, Tic Tac Toe, Sudoku etc:- Concepts of	9

	Internet and WWW, HTTP and Web Server Basics, Web Applications, Application server ,Basic Web Architecture ,Security, Performance of web applications ,Evolution of Markup Languages - SGML, HTML, XML and XHTML ,WML. HTML and its markup tag HTML Frames, Tables, Images and Forms. DHTML and Cascading Style Sheets .WML and its markup tags .Client Side Scripting Technology-Java Script	
2	Developing Database Driven Websites like Student Information System, Learning Management System:- Web Development Life Cycle ,PHP, User interaction through Forms, Forms Validation, Cookies and Session Management, File Handling, File Uploading using Forms, PHP and MYSQL database connectivity., Graphics in PHP ,JDBC	12
3	Developing Multiplayer games with 2D,3D Graphics:- Java Applets, Multi Threading , Network programming, AWT Package, Layout Managers, Java 2d graphics, Java 3d graphics	13
4	Using XML for Database Driven Websites and Online games:-Basics of XML and components of XML Documents, Creating markup with XML, Graphics in XML , Using XML for designing Game Objects, Defining structure of XML Documents using Document Type Definition (DTD), Giving Structure to XML Documents by Schema Definition Language, XML Technologies-XSLT, XQUERY and XPATH expressions, XML Documents processing using DOM and SAX parsers,	10
	Total	44

### **References**

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.
8. “The XML Bible”, by Elliotte Rusty Harold
9. “SVG Essentials”, by J. David Eisenberg, Orielly
10. “Step by Step XML” by Michael J. Young Prentice Hall Of India

**Evaluation Scheme:**

S.No	Examination	Marks
1	T-1	15
2	T-2	25
3	T-3	35
4	*Internal Marks	25

\*Internal Marks Breakdown:

Assignments            9 marks (3x3)

Quizzes                12 marks (3x4)

Regularity            4 Marks