

GUJARAT TECHNOLOGICAL UNIVERSITY

Integrated MCA

Year –V (Semester–IX) (W.E.F.JUNE, 2017)

Subject Name: Web Design Methodology (WM)

Subject Code: 4490603

1. Objectives:

1. To understand crucial features of JavaScript
2. To understand basics of WEB 2.0 technologies and tools
3. To understand basics of web services

2. Prerequisites: Basic concepts Web Application development, HTML5, CSS, Basics of JavaScript and XML

3. Course Contents:

Sr. No.	Course Content	No. of sessions
1	Unit 1: Introduction to JavaScript and AJAX JavaScript: Understanding Lesser-Known but Crucial Features (The undefined Value and Type, The === Operator, Iterating with for-in, Functional Programming, Function Arguments) JavaScript Optimizations (Reducing JavaScript Download Time, Keep DOM Updates to a Minimum) AJAX (It's All About the User Experience, XMLHttpRequest History, XMLHttpRequest Example, Yahoo! UI Library, Google Web Toolkit, Handling Memory Leaks) Common Design Issues (Bookmarks, Navigation, Minimizing Traffic, Support for Down-Level Devices, Accessibility Requirements and Guidelines)	05
2	Unit 2: Introduction WEB 1.0 XSLT and XPath (XSLT Hello World Example, More XSLT,XSLT Styles, More XSLT, Using XSLT in a Browser) SVG (SVG Hello World Example, Styling SVG, More SVG) XForms (XForms Hello World Example, Styling XForms, More XForms Examples) What's Next for HTML (The W3C Proposals, The WHATWG Counter proposals, Comparing XHTML 2.0 and HTML 5) Rich Client Alternatives : From Browsers to Rich Clients (Browser Drawbacks, A Solution — Rich Clients, Rich Clients Today) Comparing Rich Client Frameworks (OpenLaszlo, XUL, XAML)	06
3	Unit 3: Introduction to Webservice Web 1.0: HTML,URLs, and HTTP: (Under the Hood, URLs and URIs, Dangers of Hidden Code, What Does a Web Server Really Do?, The Web Is Two-Way)	06

	<p>The Web Model and REST (Resources, Representations, State Transfer: Using HTTP Methods)</p> <p>Considerations for Building an HTTP Service (Media Types, Resources of Interest, Required Representations, Server Response)</p> <p>What's on the Wire?(Reference Toolkit, An HTTP Example)</p> <p>More Representations(Content Negotiation, Watching Messages with HTTPTracer)</p>	
4	<p>Unit 4: XML and its alternatives</p> <p>XML (The Basics of XML, XML Namespaces, Unicode and Character Encodings, Dealing with Binary Data, Features of XML You Usually Won't Need, Datatypes, Schema Languages, XSLT and XPath, Other XML Technologies, Existing Data Formats and Protocols, APIs)</p> <p>Alternatives to XML (JSON, JavaScript, HTML, Other Formats)</p>	04
5	<p>Unit 5: Syndication Basics</p> <p>Some Syndication Basics (Microcontent, The Feed), The Syndication Process</p> <p>Syndication Formats(RSS 2.0: Simple Content, RSS 1.0: Resource Description, RSS 1.0 Specifications and Modules, Atom: Best of Both Worlds?, Atom Specifications and Extensions, Comparing Elements Across Formats, Enclosures and Podcasting)</p> <p>A Simple Atom Service (User Interfaces, Application Architecture, Abdera Atom Toolkit, Code Overview)</p> <p>Running the Application (Compiling and Deploying the Application, Considerations for Going Live)</p> <p>Adding E-mail Support (Understanding the Mail Support Architecture, Setting Up a Local Mail Server, Using the MailClient Class, The MessageReader Interface, MailEntryCollector)</p>	07
6	<p>Unit 6: Mashups, HTML Scraping, and Web Services</p> <p>Mashups: Popular Examples: Mapping Mashups, Why Use Mashups?, the Business Model of Mashups</p> <p>Screen Scraping (Benefits and Drawbacks, Playing Fair, Downloading the Page, Analyzing the Page, A Simple Screen Scraping Example)</p> <p>Creating Feeds (Deploying on Your Server, Deploying Through an External Service)</p> <p>Mapping and Badges (Badges, Google Maps)</p>	04
7	<p>Unit 7: Implementing and Maintaining Your URI Space</p> <p>Future-Proofing Your URIs (Technology Agnosticism, Hierarchies and Collections, Trailing Slashes and Location Independence)</p> <p>Managing Change in Your URI Space (The Basics of HTTP Redirection, Permanently Redirecting Resources, Temporarily Redirecting Resources, Redirection Methods You Should Not Use, Server-Side Redirection)</p> <p>Your URI Mapping Toolbox (Java Servlets, Apache mod_alias and mod_rewrite, ASP .NET and IIS)</p>	04
8	<p>Unit 8: Podcasting and Serving Multimedia</p> <p>The Formats Labyrinth (Descriptive Formats, Container and Encoding Formats)</p> <p>Protocols (Multicast, Unicast, Choosing a Protocol)</p>	04

4. Text Book(s):

1. Eric van der Vlist, Danny Ayers, Erik Bruchez, Joe Fawcett, Alessandro Vernet, Professional Web 2.0 Programming, Wrox/Wiley, ISBN: 978-81-265-1066-8

5. Other Reference Books:

1. Web Technologies: HTML, JavaScript, PHP, JAVA, JSP, ASP.NET, XML and Ajax, Blackbook, Kogent Learning Solutions Inc., DreamTech
2. Unleashing Web 2.0: From Concepts to Creativity – Gottfried Vossen, Stephan Hagemann, Elsevier, 2007.
3. A Web 2.0 Primer Pragmatic Ajax – Justin Gehtland et al, SPD Publications, 2006.
4. Professional AJAX – Nicholas C Zakas et al, Wrox publications, 2006.
5. Mashups – Francis Shanahan, Wrox, 2007.

6. Chapter wise coverage

Unit#	Topics
1	Chapter: 3,4
2	Chapter : 5,6
3	Chapter : 7
4	Chapter : 8
5	Chapter : 9,14
6	Chapter : 15
7	Chapter : 16
8	Chapter : 17

7. Accomplishment

Student will understand fundamentals of web services and will be able to integrate technologies such as Web 2.0 tools