

As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE	
Board of Studies in Information Technology	
UG First Year Programme	
Semester	III/IV/V
Title of Paper	Web Development
Credits	2
From the Academic Year	2024-25

Sr. No.	Heading	Particulars
1	Description the course :	This course introduces students to the fundamental concepts of web development, starting with an overview of the internet, web technologies, and the tools used in modern web development. Students will gain hands-on experience with HTML and CSS, learning to build and style web pages. The course also covers essential web design principles, including UX and responsive design, and introduces students to popular web platforms like WordPress. By the end of the course, students will have the foundational skills needed to create and manage websites, and they will understand the relevance and applications of these technologies across disciplines. The course aligns with the current demand in the industry for web development skills given any area of service or business.
2	Vertical :	Open Elective
3	Type :	Theory
4	Credit:	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: 1. Introduce students to the fundamental concepts and technologies of web development. 2. Develop basic skills in HTML, CSS, and JavaScript for creating simple web pages. 3. Foster an understanding of web design principles and user experience considerations. 4. Familiarize students with common web platforms and tools used in the industry. 5. Encourage critical thinking about web technologies and their applications in commerce and arts fields. 6. Provide a foundation for further learning and exploration in web development.	

8	Course Outcomes: 1. Understand the basic structure of the internet and how websites function. 2. Create simple web pages using HTML5, including proper document structure and common elements. 3. Style web pages using CSS, including layout, colors, and typography. 4. Implement basic interactivity on web pages using JavaScript, including DOM manipulation and event handling. 5. Apply fundamental web design principles to create visually appealing and user-friendly web pages. 6. Understand the basics of web hosting, domain management, and SEO principles.
9	Modules:
	Module 1: Introduction to Web Technologies Hours:03
	Introduction to Web, Websites, and Web Browsers; How data travels across the internet (IP addresses, DNS, packets); Client-Server model; Overview of HTTP and FTP; Domain names and URL structure; Overview of Web Security (SSL/ TLS); Web development overview: frontend vs backend; Introduction to text editors. Self-learning: OSI layers, Web system architecture - 1, 2, 3 and n tier architecture.
	Module 2: HTML Essentials Hours: 05
	Introduction to HTML; Elements and Attributes; HTML document structure: DOCTYPE declaration, <html>, <head>, and <body> elements; HTML tags and elements: Opening and closing tags, Self-closing tags; Nesting elements, HTML comments, Character entities, Block-level vs. inline elements; Basic tags, heading tags, paragraph tags, formatting tags; HTML List; Hyperlink and anchor tag; Table tags and attributes; Frames and IFrames tags; Form tags and attributes, control tags in Form; Differentiate between get and post methods. Self-learning: Best Practices for HTML Coding
	Module 3: CSS Fundamentals Hours :06
	Introduction to CSS; CSS Syntax; CSS selectors; CSS properties – font, color, background, list, link, text; Inserting CSS in an HTML document, background, links and positioning. Self-learning: CSS Frameworks, CSS Best Practices and Optimization.
	Module 4: HTML5 and Responsive Web Design with CSS3 Hours: 06

	New Features of HTML5: Semantic Elements, Audio and Video Tags, Geolocation, Canvas and SVG; Advanced HTML Forms and Inputs. CSS3 Basics: Basic Styling (Fonts, Colors, Backgrounds); Selectors and Specificity; CSS Layout Techniques: Flexbox and Grid Layout; CSS3 Transforms, Transitions and Animations. Self-learning: Progressive Web Apps (PWAs)	
	Module 5: Web Design Principles Hours: 06	
	Color theory and typography for the web: Psychology of colors and their impact on user perception, Choosing effective color schemes for websites, Typography fundamentals; User experience (UX) fundamentals: UX definition and significance, Key UX principles; Introduction to web accessibility (WCAG guidelines); Mobile-first design approach: Concept and advantages of mobile-first design, Responsive design vs. adaptive design. Self-learning: Ethical considerations in web design, such as privacy, data security, and inclusive design practices.	
	Module 6: Introduction to Web Platforms Hours: 04	
	Fundamentals of Web hosting, Introduction to content management systems and Open-Source Frameworks (e.g., Django, Drupal, Joomla, Wordpress), Introduction to website builders (e.g., Wix, Squarespace), Search Engine Optimization (SEO) Basics, SEO principles. Self-learning: Website Security Best Practices	
10	Text Books: 1. Kogent Learning Solutions Inc., <i>Web Technologies: Black Book</i>, Dreamtech Press. 2. B. Frain, <i>Responsive Web Design with HTML5 and CSS: Develop future-proof responsive websites using the latest HTML5 and CSS techniques</i>, Packt Publication, 2022. 3. J. Robins, <i>Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics</i>, O'Reilly, 2021.	
11	Reference Books: 1. U. Roy, <i>Web Technologies</i>, Oxford University Press, 2010. 2. D. Dover, E. Dafforn, <i>Search Engine Optimization Secrets</i>, Wiley, 2011.	
12	Internal Continuous Assessment: 40%	Semester End: 60%
13	Continuous Evaluation through: IAT-1 : 15 marks	Semester End Examination (30 marks) - Duration 1 hours.

	IAT-2: 15 marks Average of IAT-1 & IAT-2 = 15 marks. Projects, Presentation and assignments, (5 marks)etc.	
14	Format of Question Paper: End-semester examination • Question Paper will comprise three questions each with 10 marks. All modules must be covered. All three questions need to be answered.	

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