Pimpri Chinchwad Education Trust's

PIMPRI CHINCHWAD COLLEGE OF ENGINEERING

SECTOR NO. 26, PRADHIKARAN, NIGDI, PUNE 411044

(An Autonomous Institute Approved by AICTE and Affiliated to SPPU, Pune)

Curriculum Structure and Syllabus

of

Multi-Disciplinary Minor (MDM) in Web Development

(Regulations 2023)

Effective from Academic Year 2024-25

Institute Vision

To be one of the top 100 Engineering Institutes of India in coming five years by offering exemplarily Ethical, Sustainable and Value Added Quality Education through a matching ecosystem for building successful careers.

Institute Mission

1. Serving the needs of the society at large through establishment of a state-of-art Engineering Institute.
2. Imparting right Attitude, Skills, Knowledge for self-sustenance through Quality Education.
3. Creating globally competent and Sensible engineers, researchers and entrepreneurs with an ability to think and act independently in demanding situations.

EOMS Policy

“We at PCCOE are committed to offer exemplarily Ethical, Sustainable and Value Added Quality Education to satisfy the applicable requirements, needs and expectations of the Students and Stakeholders.

We shall strive for technical development of students by creating globally competent and sensible engineers, researchers and entrepreneurs through Quality Education.

We are committed for Institute’s social responsibilities and managing Intellectual property.

We shall achieve this by establishing and strengthening state-of-the-art Engineering Institute through continual improvement in effective implementation of Educational Organizations Management Systems (EOMS).”

Course Approval Summary

Board of Studies - Department of Computer Engineering

Sr. No.	Name of the Course	Course Code	Page number	Signature and stamp of BoS chairman
1	Fundamentals of Web Development	BCE23MD07	5	
2	Web Designing using HTML & CSS	BCE24MD08	8	
3	Web Development with Java Script	BCE25MD09	12	
4	Web Development Lab	BCE25MD10	14	
5	Web Design and Development Tools	BCE26MD11	21	
6	Capstone Project	BCE27MD12	24	

Approved by Academic Council:

Chairman, Academic Council
Pimpri Chinchwad College of Engineering

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PREFACE

In today's digital age, the Internet serves as a cornerstone of communication, commerce, and information dissemination. At the heart of this vast digital landscape lies the art and science of web development, a field that continually evolves to meet the demands of users and businesses alike.

This minor program, "Web Development," serves as your gateway into this dynamic realm. Whether you're a budding programmer, a creative designer, or an aspiring entrepreneur, understanding the fundamentals of web development is essential for navigating the digital landscape effectively. In this minor program, students will embark on a journey to explore the foundational principles, languages, and technologies behind creating dynamic and interactive websites. From understanding the basics of HTML, CSS, and JavaScript to advanced concepts like server-side scripting and web frameworks, students will gain the skills necessary to design, develop, and deploy web applications. Whether your goal is to pursue a career in web development, enhance students' existing skill set, or simply satisfy the curiosity about how the web works, this course provides a solid foundation upon which to build. So, let's embark on this journey together, as we unlock the mysteries of the web and unleash our creative potential in the digital realm.

Objectives of MDM

1. Understand the basics of web development and its importance in modern technology.
2. Learn HTML and CSS for creating structured and visually appealing web pages.
3. Explore JavaScript for adding interactivity and dynamic content to web pages.
4. Apply best practices in web development, including accessibility, usability, and responsive design.

Outcome of MDM

Upon successful completion of this course, students will be able to:

1. Understand the core concepts and technologies underlying web development, including HTML, CSS, and JavaScript.
2. Apply CSS styling techniques to enhance the visual presentation and layout of web pages, ensuring responsiveness across various devices.
3. Implement client-side interactivity and dynamic behavior using JavaScript
4. Design and develop a complete web application from scratch, incorporating both front-end and back-end components.

MDM is offered by the Computer Engineering department.

And Applicable to students of Civil Engineering, Electronics & Telecommunication Engineering and Mechanical Engineering.

Curriculum Structure MDM in
Web Development

CURRICULUM STRUCTURE

MDM in Web Development (Regulations 2023)

(With effect from Academic Year 2024-25)

Course Code	Course Name	Credit Scheme				Teaching Scheme (Hours/Week)			Evaluation Scheme and Marks						
									FA		SA	TW	PR	OR	Total
		L	P	T	Total	L	P	T	FA1	FA2					
Semester III															
BCE23MD07	Fundamentals of Web Development	2	-	-	2	2	-	-	10	10	30	-	-	-	50
Semester IV															
BCE24MD08	Web Designing using HTML & CSS	2	-	-	2	2	-	-	10	10	30	-	-	-	50
Semester V															
BCE25MD09	Web Development With Java Script	3	-	-	3	3	-	-	20	20	60	-	-	-	100
BCE25MD10	Web Development Lab	-	1	-	1	-	2	-	-	-	-	50	-	-	50
Semester VI															
BCE26MD11	Web Design and Development Tools	2	-	-	2	2	-	-	10	10	30	-	-	-	50
Semester VII															
BCE27MD12	Capstone Project	-	4	-	4	-	8	-	-	-	-	100	-	50	150
Total		**9**	**5**	**-**	**14**	**9**	**10**	**-**	**50**	**50**	**150**	**150**	**-**	**50**	**450**

L-Lecture, **P**-Practical, **T**-Tutorial, **FA**–Formative Assessment, **SA-** Summative Assessment, **TW**- Term Work, **OR**-Oral, **PR**-Practical

Course Syllabus
Semester – III

MDM :	BTECH: (Civil/E&TC/Mech)			Semester: III			
Course :	Fundamentals of Web Development			Code :	BCE23MD07		
Credits	Teaching Scheme (Hrs./Week)			Evaluation Scheme and Marks			
	Lecture	Practical	Tutorial	FA		SA	Total
				FA1	FA2		
2	2	-	-	10	10	30	50

Prior knowledge of

Basics of Computer fundamentals

is essential.

Course Objectives

This course aims at enabling students,

1. To make aware of the fundamentals of web development.
2. To make the use of HTML tags to create Static Web pages
3. To explore principles of responsive design for web pages linking and addressing
4. To get acquainted with Basic HTML tags for Visual Design

Course Outcomes

After learning the course, the students should be able to:

1. Understand the fundamentals of web development.
2. Apply the concepts of HTML to create Static Web pages
3. Apply principles of responsive design for web pages linking and addressing
4. Apply the Basic HTML tags for Visual Design

Detailed Syllabus

Units	Description	Duration [Hrs]
I	**Web Development Overview** – Need for careful web development, Basic Web Process Model, Approaching Website Project –Goals and Problems, Audience, Site Requirement, The site plan, Design Phase Dissected – wireframes, screen and paper coms, Creating a mock sites, producing HTML, HTML Production tips, Beta site implementation and Testing.	8

II	**Introduction to HTML** -HTML: A Structure language, Document types, elements and characters, the rules of HTML, Major Themes, Logical and Physical HTML, Standards vs Practice, Myths about HTML and XHTML, Core HTML Attributes, Headings, paragraph and Breaks, Division and Centering, Quotations, text level elements	7
III	**Link and Addressing -** Linking basics, URLs- concept, special features, formula, relative URLs, Linking in HTML, Anchor Attributes, Images and Anchors, Image Maps, Semantic Linking with the Link Element, URls- Problems, URNs, URCs, URIs, Emerging URL Forms	7
IV	**Presentation and Layout -** Image preliminaries, HTML Image Basics, Images as buttons, Image maps, HTML approach to Visual Design- fonts, colours in HTML, Colour attributes for Body, Tables and Layouts.	8
	Total	**30**

Text Books:

1. Powell, Thomas. HTML & XHTML: the complete reference. McGraw-Hill, Inc., 2003.
2. Godbole, Achyut, and Atul Kahate. "Web Technologies." McGraw Hill Education (India) Private Limited, 2013.

Reference Books:

1. McGrath, Mike. HTML, CSS & JavaScript in easy steps. In Easy Steps Limited, 2020.
2. Casabona, Joe. HTML and CSS: Visual QuickStart Guide. Peachpit Press, 2020.
3. Beaird, Jason, Alex Walker, and James George. The principles of beautiful web design. SitePoint Pty Ltd, 2020.

e-sources:

1. User Interface Design By Prof. Saptarshi Kolay-https://onlinecourses.nptel.ac.in/noc21_ar05/preview
2. Web Technology By Dr. Ashutosh Kumar Bhatt https://onlinecourses.swayam2.ac.in/nou24_cs09/preview
3. HTML By Prof Kannan Moudgalya -https://onlinecourses.swayam2.ac.in/aic20_sp11/preview

Course Syllabus
Semester – IV

MDM :	BTECH: (Civil/E&TC/Mech)					Semester: IV	
Course :	Web Designing using HTML & CSS					Code :	BCE24MD08
Credits	Teaching Scheme (Hrs./Week)			Evaluation Scheme and Marks			
	Lecture	Practical	Tutorial	FA		SA	Total
				FA1	FA2		
2	2	-	-	10	10	30	50

Prior knowledge of

Web Browsing Skills, Familiarity with Text Editors/Code Editors, Basic knowledge of URLs, web servers, and web browsers **are essential.**

Course Objectives:

This course aims at enabling students,

1. To understand the basic concepts and principles of HTML and CSS.
2. To learn to create well-structured and semantically meaningful HTML documents.
3. To apply the styling web pages using CSS to achieve desired layouts and designs.
4. To develop the skills necessary to integrate HTML and CSS effectively to create visually appealing and functional websites.

Course Outcomes:

After learning the course, the students should be able to:

1. Demonstrate a solid understanding of the fundamental concepts and principles of HTML and CSS, including syntax, structure, and functionality.
2. Design well-structured and semantically meaningful HTML documents that adhere to best practices for web development.
3. Apply CSS effectively to style web pages, achieving desired layouts, typography, colors, and visual designs.
4. Apply the HTML and CSS seamlessly to design visually appealing and functional websites that meet user requirements and design specifications.

Detailed Syllabus:		
Units	**Description**	**Duration [Hrs]**
I	**Introduction to HTML:** Understanding the basics of HTML, Creating HTML documents and structure, Working with text, images, links, and lists, Introduction to semantic markup.	7
II	**Exploring CSS Fundamentals:** Introduction to Cascading Style Sheets (CSS), Applying CSS rules for styling HTML elements, Understanding typography and text formatting, Working with colors, backgrounds, margins, and padding, Introduction to CSS selectors.	8
III	**Styling with CSS Layouts:** Understanding CSS layout techniques, Working with CSS box model, Creating responsive layouts using CSS media queries, Exploring CSS frameworks for layout and design, Applying advanced CSS techniques for layout customization.	8
IV	**Building Responsive Web Pages:** Understanding the principles of responsive web design,Creating responsive web pages using HTML and CSS, Testing and optimizing web pages for different devices and screen sizes, Introduction to CSS preprocessors for enhanced styling capabilities.	7
	Total	**30**

Text Books:

1. Powell, Thomas. HTML & XHTML: the complete reference. McGraw-Hill, Inc., 2003.
2. Jon Duckett, "HTML and CSS: Design and Build Websites" 2020

Reference Books:

1. Robbins, Jennifer Niederst. Learning web design: A beginner's guide to HTML, CSS, JavaScript, and web graphics. " O'Reilly Media, Inc.", 2012.
2. Keith, Jeremy, and Rachel Andrew. HTML5 for web designers. No. 1. New York, NY: A Book Apart, 2010.
3. Sawyer McFarland, David. "CSS. The Missing manual." (2006): 35.
4. Meyer, Eric. CSS Pocket Reference: Visual Presentation for the Web. " O'Reilly Media, Inc.", 2018.
5. Verou, Lea. CSS Secrets: Better Solutions to Everyday Web Design Problems. " O'Reilly Media, Inc.", 2015.
6. Cederholm, Dan. Sass for web designers. A Book Apart, 2013.
7. Grant, Keith. CSS in Depth. Simon and Schuster, 2018.

e-sources:

1. W3Schools HTML Tutorial: https://www.w3schools.com/html/
2. MDN Web Docs: https://developer.mozilla.org/en-US/docs/Web/HTML
3. CSS-Tricks: https://css-tricks.com/
4. MDN Web Docs: https://developer.mozilla.org/en-US/docs/Web/CSS
5. CSS Grid Layout: https://css-tricks.com/snippets/css/complete-guide-grid/
6. Bootstrap Documentation: https://getbootstrap.com/docs/5.0/getting-started/introduction/
7. Sass Basics: https://sass-lang.com/guide
8. Google PageSpeed Insights: https://developers.google.com/speed/pagespeed/insights/

Course Syllabus
Semester – V

MDM :	BTECH: (Civil/E&TC/Mech)					Semester: V	
Course :	Web Development With Java Script					Code :	BCE25MD09
Credits	Teaching Scheme (Hrs./Week)			Evaluation Scheme and Marks			
	Lecture	Practical	Tutorial	FA		SA	Total
				FA1	FA2		
3	3	-	-	20	20	60	100

Prior knowledge of

Prior knowledge of : Web Browsing Skills, Familiarity with Text Editors/Code Editors, Basic knowledge of URLs, web servers, and web browsers

are essential.

Course Objectives:

This course aims at enabling students,

1. To make understand the fundamental concepts of JavaScript programming, including variables, data types, and operators.
2. To learn how to create and utilize functions and loops
3. To explore classes, objects, and inheritance concepts in java script.
4. To be familiar with JavaScript web APIs and their applications.
5. To develop proficiency in using JavaScript to enhance web forms, including form object manipulation and handling form elements

Course Outcomes:

After learning the course, the students should be able to

1. Develop foundational skills in JavaScript programming, including syntax, variables, and data types.
2. Explore various types of loops and functions in JavaScript
3. Understand the concept of classes and objects in JavaScript and their significance in organizing and managing code.
4. Explore the JavaScript Validation API .
5. Apply acquired knowledge to create interactive and responsive web forms.

Detailed Syllabus		
Units	**Description**	**Duration [Hrs]**
I	**Introduction to Basic JavaScript :** Introduction to javascript? What does javascript do? Why javascript? How to develop Javascript?, Variables ,data types: number, boolean, strings, arrays.	9
II	**Functions and loops in JavaScript:** operators: conditional, switch, Conditionals checking :if-then-else, immediate if, for, while, do-while, Functions: What is function?built in functions and user defined functions with event handling.	9
III	**Classes and Objects:** JavaScript Class Syntax, Class inheritance, static class methods, object definition, object properties, object methods, object display.	9
IV	**JavaScript web API's:** HTML5 API's: Understanding how API's work, JavaScript Validation API,Web History API, Web Geolocation API	9
V	**Web Forms using JavaScript:** Form object: builtin object and user defined object, Form object methods: get() and post(), Form elements: text, password, button, checkbox, radio, text area. **case study :** create a sample registration form using form objects and form elements.	9
	Total	**45**

Text Books:

1. Chris Minnick, Evan Holland ,"Coding with Javascript for dummies" by Wiley Publication
2. Perl CGI", Ivan Bayeross "Web Enabled Commercial Applications Development Using" HTML, DHTML, JavaScript,, Tech Publications.

Reference Books:

1. Robbins, Jennifer Niederst. Learning web design: A beginner's guide to HTML, CSS, JavaScript, and web graphics. " O'Reilly Media, Inc.", 2012.
2. Ralph Moseley, M.T. Savaliya.,"Developing Web Applications".
3. Keith, Jeremy, and Rachel Andrew. HTML5 for web designers. No. 1. New York, NY: A Book Apart, 2010.

e-sources:

1. W3Schools HTML Tutorial: https://www.w3schools.com/html/
2. MDN Web Docs: https://developer.mozilla.org/en-US/docs/Web/HTML

MDM :	BTECH: (Civil/E&TC/Mech)					Semester: V	
Course:	Web Development Lab					Code:	BCE25MD10
Credits	Teaching Scheme (Hrs. /Week)			Evaluation Scheme and Marks			
	Theory	Practical	Tutorial	TW	OR	PR	Total
1	-	2	-	50	-	-	50

Prior knowledge of

Web Designing using HTML and CSS

is essential.

Course Objectives:

This course aims at enabling students,

1. To learn how to declare and manipulate variables of each data type and use of conditional statements in JavaScript.
2. To understand loop control statements and Functions in JavaScript.
3. To define classes and objects in JavaScript and understand their relationship
4. To learn to interact with APIs to fetch data, manipulate the browser history, and access geolocation information.
5. To explore form validation techniques using JavaScript.

Course Outcomes:

After completion of this course, the students will be able to,

1. Implement conditional statements effectively to control the flow of program execution based on different conditions and data types.
2. Use loops and functions in JavaScript .
3. Implement object-oriented JavaScript programs using classes and objects.
4. Utilize various Web APIs to enhance the functionality and interactivity of web applications.
5. Develop interactive web forms using JavaScript.

Guidelines:

Guidelines for Students:

1. The laboratory assignments are to be submitted by students in the form of a journal.
2. Each assignment write-up should have Title, Objectives, Outcomes, Theory- Concept in brief, dataset used, data description, conclusion, and assessor's sign.
3. Program codes with sample output of all performed assignments should be submitted.

Guidelines for Laboratory/Term Work Assessment:

1. Continuous assessment of laboratory work is done based on the overall performance and laboratory performance of the students.
2. Each laboratory assignment assessment should assign grade/marks based on parameters with appropriate weightage.
3. Suggested parameters for overall assessment as well as each laboratory assignment assessment include- timely completion, performance, innovation, efficiency, punctuality and neatness.

Guidelines for Laboratory Conduction

1. For a mini project, select a real-world application in the group of 3-4 students and formulate a problem statement for the application to be developed.
2. Student groups are required to continue the same problem statement throughout all the assignments in order to design and develop an application as a part of a mini project. Further assignments will be useful for students to develop an application.

Detailed Syllabus

Expt. No.	Suggested List of Experiments
1	**Title :** WAP using number, boolean and string data type **Objective:** The objective of this practical assignment is to provide hands-on experience with JavaScript Data types **Contents/Tasks:** Number, Boolean, String **Problem statements:** 1. Number - Write a JavaScript program that calculates the area of a rectangle. You will prompt the user to enter the length and width of the rectangle as numbers, and then output the calculated area. Ensure to handle cases where the user inputs non-numeric values. 2. Boolean - Create a program that determines if a student is eligible to take a driving test. Prompt the user to enter their age. If the age is 18 or above, output true (eligible); otherwise, output false (not eligible). 3. String - Create a program that checks if a given string is a palindrome or not. Prompt the user to enter a word or phrase, then output whether it's a palindrome or not. Remember, a palindrome is a word or phrase that reads the same backward as forward.
2	**Title:** WAP using Conditional statements **Objective:** The objective of this practical assignment is to provide hands-on experience with JavaScript If-Else

	statement , Switch-Case Statement. **Contents/Tasks:** If Else statement, Switch Case **Problem Statements:** 1. If else - Create a program that prompts the user to enter a number. If the number is positive, output "The number is positive." If the number is negative, output "The number is negative." If the number is zero, output "The number is zero." 2. Switch-case - Write a JavaScript program that prompts the user to enter a number representing a month (1 for January, 2 for February, etc.). Use a switch-case statement to output the number of days in that month. If the number entered is not within the range of 1 to 12, output "Invalid input."
3	**Title:** WAP using Looping Statements **Objective:** The objective of this practical assignment is to provide hands-on experience with JavaScript For, While Loop **Contents/Tasks:** For, While Loop **Problem Statement:** 1. For loop - Create a program that calculates the factorial of a given number using a for loop. Prompt the user to enter a positive integer, then output the factorial of that number. 2. While loop - Create a program that generates the Fibonacci sequence up to a specified number of terms using a while loop. Prompt the user to enter the number of terms they want in the Fibonacci sequence, then output the sequence accordingly.
4	**Title:** WAP using Functions **Objective:** The objective of this practical assignment is to provide hands-on experience with JavaScript Functions **Contents/Tasks:** Functions **Problem Statement:** 1. Write a JavaScript function called calculateGCD that takes two numbers as parameters and calculates their greatest common divisor (GCD) using recursion. Output the calculated GCD. Prompt the user to enter two numbers, then call the calculateGCD function with the provided values.
5	**Title:** WAP using Class - Object **Objective:** The objective of this practical assignment is to provide hands-on experience with JavaScript Class & Object

	Contents/Tasks: Class & Object **Problem Statement:** **1. Class Creation:** **Task 1:** Create a JavaScript class called Book with properties title, author, and pages. Include a constructor method that initializes these properties. **Task 2:** Create a method within the Book class named displayInfo that outputs information about the book in the following format: "Title: [title], Author: [author], Pages: [pages]". **2. Object Creation:** **Task 1:** Instantiate an object of the Book class with title "The Great Gatsby", author "F. Scott Fitzgerald", and pages 180. Call the displayInfo method to output the information about the book. **Task 2:** Instantiate another object of the Book class with title "To Kill a Mockingbird", author "Harper Lee", and pages 281. Call the displayInfo method to output the information about this book
6	**Title:** Web API's **Objective:** The objective of this practical assignment is to provide hands-on experience with JavaScript Web API's **Contents/Tasks:** Web History, Geolocation API **Problem Statement:** **1. Web History API:** **Task 1:** Write a JavaScript program that uses the Web History API to display the user's browsing history. Retrieve the user's browsing history using the appropriate Web History API method and output it to the console. **Task 2:** Create a program that allows the user to search their browsing history by specifying a keyword. Prompt the user to enter a keyword, then use the Web History API to search for matches in the browsing history. Output the URLs of the pages that contain the keyword. **2. Geolocation API:** **Task 1:** Write a JavaScript program that uses the Geolocation API to retrieve the user's current location (latitude and longitude). Output the user's latitude and longitude to the console.

	Task 2: Create a program that calculates the distance between the user's current location and a specified destination. Prompt the user to enter the latitude and longitude of the destination, then use the Geolocation API to retrieve the user's current location. Calculate the distance between the two points using appropriate mathematical formulas and output the result.
7	**Title:** Java Script Web Form **Objective:** The objective of this practical assignment is to provide hands-on experience with JavaScript Web Forms **Contents/Tasks:** Elements: Text, Password, Button **Problem Statement:** **1. User Information Input:** **Task 1:** John navigates to the registration page on the website. He sees a form with fields for entering his name, email address, and password. **Task 2:** John enters his name into the "Name" field and his email address into the "Email" field. He also creates a password and enters it into the "Password" field. **2. Form Validation:** **Task 1:** Before submitting the form, John notices that the "Name" field is required. He tries to submit the form without entering his name. **Task 2:** Upon clicking the submit button without entering his name, John sees an alert box informing him that the "Name" field is required. **Task 3:** John enters his name into the "Name" field and clicks the submit button again. **3. Password Security:** **Task 1:** After submitting the form, John sees an alert confirming that his registration information has been submitted successfully. **Task 2:** John notices that the website requires passwords to be at least 8 characters long and to contain at least one uppercase letter, one lowercase letter, and one special character. **Task 3:** John enters a password that meets the criteria and submits the form again.

	4. Button Interaction: **Task 1:** Upon successful submission of the form, John sees a confirmation message. He also notices a button labeled "Click Me" below the form. **Task 2:** John clicks the "Click Me" button and sees an alert box with a custom message. **Task 3:** After clicking the button, John notices that the text of the button changes to "Clicked!".

Reference Books:

1. Chris Minnick, Evan Holland ,"Coding with Javascript for dummies" by Wiley Publication
2. Perl CGI", Ivan Bayeross "Web Enabled Commercial Applications Development Using" HTML, DHTML, JavaScript,, Tech Publications.
3. Ralph Moseley, M.T. Savaliya.,"Developing Web Applications

e-sources:

1. W3Schools HTML Tutorial: https://www.w3schools.com/html/
2. MDN Web Docs: https://developer.mozilla.org/en-US/docs/Web/HTML

Course Syllabus
Semester – VI

MDM :	BTECH: (Civil/E&TC/Mech)				Semester: VI		
Course :	Web Design and Development Tools				Code :	BCE26MD11	
Credits	Teaching Scheme (Hrs./Week)			Evaluation Scheme and Marks			
	Lecture	Practical	Tutorial	FA		SA	Total
				FA 1	FA2		
2	2	-	-	10	10	30	50

Prior knowledge of

Web Design fundamentals

are essential.

Course Objectives:

This course aims at enabling students,

1. To gain proficiency in using popular web development platforms such as WordPress, Canva, Bootstrap, and Wix.
2. To develop skills in setting up, managing, and customizing websites for various purposes, including personal, e-commerce, and business.
3. To understand the integration between different tools and platforms to create cohesive and visually appealing web applications.
4. To apply theoretical knowledge and practical skills learned in real-world case studies to design secure and functional web portals and websites.

Course Outcomes:

After learning the course, the students should be able to:

1. Design the websites and web application contents using WordPress.
2. Explore the different themes for web design and business portfolios.
3. Use the bootstrap to enhance website design and functionality.
4. Use the Wix for designing secure and functional web portals and websites that meet industry standards and user requirements

Detailed Syllabus:

Unit	Description	Duration [Hrs]
I	**Working with Wordpress:** Introduction to WordPress, Setting Up Your WordPress Site, Creating and Managing Content, Customizing , WordPress Site, Launching and Maintaining WordPress Site, Design of web application using wordpress , Case Study : Designing of Secure Banking Web portal	8
II	**Working with canva:** Introduction to Canva and its features for graphic design, Understanding the synergy between WordPress and Canva, Choosing a suitable theme, Canva designs, Creating Custom Graphics with Canva, Designing Custom Templates	7
III	**Working with Bootstrap:** Introduction to Bootstrap, Bootstrap Grid System, Bootstrap Components- Glyphicons, Dropdowns, Button groups, Button dropdowns, Input groups, Bootstrap Utilities, Customization of Bootstrap, case study: Designing of E-commerce website	8
IV	**Working with Wix:** Fundamentals of Wix, Wix Editor, Working with Wix Templates, Managing Wix Site, personalization, advance web designing tools, Case Study: Designing of personal website	7
	Total	**30**

Text Books:

1. Dr. Andy Williams, “WordPress for Beginners 2024: A Visual Step-by-Step Guide to Mastering WordPress" Dec 2023
2. Alice Lee, “Canva for Beginners: Design Beautiful Graphics for WordPress”, 2019
3. John Sonmez , "Bootstrap Reference Guide: Bootstrap Cheat Sheet and Tutorial for Beginners" 2020
4. Peter Kent "Wix Website Tutorial: A Comprehensive Guide to Building a Stunning Website on Wix" 2020

e-sources:

1. Bootstrap Documentation: https://getbootstrap.com/docs/5.0/getting-started/introduction/
2. User Interface Design By Prof. Saptarshi Kolay https://onlinecourses.nptel.ac.in/noc21_ar05/preview

Course Syllabus
Semester – VII

MDM :	BTECH: (Civil/E&TC/Mech)						Semester: VII	
Course:	Capstone Project						Code:	BCE27MD12
Credits	Teaching Scheme (Hrs. /Week)			Evaluation Scheme and Marks				
	Theory	Practical	Tutorial	TW	OR	PR	Total	
4	-	8	-	100	50	-	150	

Prior knowledge of

Dig Web Designing and Development

are essential.

Course Objectives:

This course aims to enable students,

1. To make understand the fundamental concepts and technologies involved in web development.
2. Learn to create interactive and visually appealing user interfaces using HTML, CSS, and JavaScript.
3. Explore server-side programming languages to build dynamic web applications.
4. Familiarize with popular web development tools and frameworks such as Bootstrap, jQuery, and React to streamline development processes.
5. Explore strategies to optimize website performance, including minimizing load times, reducing file sizes, and implementing caching mechanisms.

Course Outcomes:

After learning the course, the students will be able to:

1. Plan, design, and implement a complex web application.
2. Apply best practices in web development including responsive design, accessibility, and security.
3. Utilize appropriate tools and technologies for project management, version control, and deployment.
4. Collaborate effectively within a team environment
5. Present and defend their project to peers and industry stakeholders.

Guidelines for Students:

1. The intention of Capstone project work is to conceive an idea and to implement it systematically by using knowledge derived during education mainly to innovate or facilitate.
2. A group of UG students at Final Year will undertake project work. Work involves study of feasibility of the project, planning of project, studying existing systems, tools available to implement the project and state of art software testing procedures and technology with use of case tools, design is to be implemented into a working model.
3. Project work should be done in groups and each group formed in 3-4 students.

Self-sponsored project: The expenses incurred towards the completion of the project work will be borne by the students.

Industry / Research institutes sponsored project: The expenses incurred towards the completion of the project work will be supported by the sponsoring industry or research institute. Students shall submit the sponsorship letter or relevant document mentioning all the necessary details like the student's name, guide name, problem definition, work to be carried out, sponsorship details, etc.

Institute-sponsored project: The expenses incurred towards the completion of the project work will be supported by any of the institutes or organizations. Students shall submit the sponsorship letter or relevant document mentioning the sponsorship in monetary support from the institutes or organizations.

Guidelines for Assessment:

1. The project work assessment will be done in the following stages:
   - Review 1: Starting of the semester (within 15 Days) [Presentation & proposal/synopsis]
   - Review 2: After 1 month of review 1 [Presentation]
   - Review 3: After 1 month of review 2 [Presentation and Report]
   - Final Examination: At the end of the semester
2. Expected work to be completed in the review:
   - Review 1: Problem definition identification and feasibility
   - Review 2: Design and Analysis of the work
   - Review 3: Implementation, Testing and Report Writing
3. It is mandatory for students to remain present for all the reviews and examinations well before the scheduled time.
4. For the final examination, students shall complete the project report in all aspects including formatting.
5. Each Student shall prepare the report duly signed by the project guide, Head of the department, and Director. Students should prepare three copies of the dissertation report.
6. Students shall submit all the data related to project work in soft copy to their guides which shall include project report, A3 size poster, Presentation, etc.

VISION AND MISSION OF COMPUTER DEPARTMENT

Department Vision

To be a premier Computer Engineering program by achieving excellence in Academics and Research for creating globally competent and ethical professionals.

Department Mission

M1: To develop technologically competent and self-sustained professionals through contemporary curriculum.

M2: To nurture innovative thinking and collaborative research, making a positive impact on society.

M3: To provide state-of-the art computing environment and learning opportunities through Center of Excellence.

M4: To foster leadership skills and ethics with holistic development.