

Lesson Plan

T.E. (ECS) (Semester V)

Subject: Web Technologies

Subject code: ECC 504

Teacher-in-charge: Prof. Vaibhav Godbole

Academic Term: July – October 2022

Module	Unit No.	Contents	Hrs.
1		Introduction to HTML5	4
	1.1	Basic structure of an HTML5 document, Creating an HTML5 document, Mark up Tags, Heading-Paragraphs, line Breaks HTML5 Tags - Introduction to elements of HTML, Working with Text, Lists, Tables and Frames, Hyperlinks, Images and Multimedia, Forms and other HTML5 controls.	
	1.2	Self-Learning: HTML5 based game development	
2		Static Web Page Design	4
	2.1	Concept of CSS, Creating Style Sheet, CSS Properties, CSS Styling (Background, Text Format, Controlling Fonts), Working with block elements and objects, Lists and Tables, CSS Id and Class, Box Model(Introduction, Border properties, Padding Properties, Margin properties) CSS Advanced: (Grouping, Dimension, Display, Positioning, Floating, Align, Pseudo class, Navigation Bar, Image Sprites, Attribute selector)	
	2.2	Self-Learning: Creating page Layout and Site Designs	
3		Client-side scripting	6
	3.1	JavaScript	
		Introduction to JavaScript, Lexical Structure, Types, Values, Variables, Expressions and Operators, Statements, Objects, Arrays, Functions, Pattern matching with regular expressions, JavaScript in Web Browsers, The Window object, Scripting Documents, Scripting CSS, Handling Events	
	3.2	jQuery	4
		jQuery Basics, jQuery Getters and Setters, Altering Document Structure, Handling events with jQuery, Animated Effects, Utility functions, jQuery Selectors and Selection Methods, Extending jQuery with Plug-ins, The jQuery UI Library	
	3.3	Self-Learning: JavaScript Framework -AngularJS	
4		Bootstrap	6
	4.1	Introduction to Bootstrap, downloading and installing Bootstrap. The Grid System: Introducing the Grid, Offsetting and Nesting, Responsive Features, Utility Classes, and Supported Devices. CSS Foundations: Typography in Bootstrap, Styling Tables, Styling Forms, Styling Buttons, Images, icons, and Thumbnails. Navigation Systems: Tabs, Pills, and Lists, Breadcrumbs and Pagination, Navigation Bar, Making the Navigation Bar Responsive. JavaScript Effects: Drop-downs, Modal Windows, Tooltips and Popovers, Navigation Aids: Tabs, Collapse, Affix, Carousel.	
	4.2	Self-Learning: Bootstrap Customization: Combining Elements in Bootstrap, Customizing by Components, Plugins, and Variables	
5		Server side-scripting	10
	5.1	Introduction to PHP, PHP Tags, Adding Dynamic content, Accessing form variables, Identifiers, user-declared variables, Data types, Constants,	

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		Operators, Control structures, Conditionals, Iteration constructs, Using arrays, string manipulation and regular expressions, reusing code and writing functions, Designing and creating your web database, Accessing MySQL database from the Web with PHP, Session Control in PHP.	
	5.2	Self-Learning: PHP-NoSQL Database connectivity e.g. PHP-MongoDB connectivity	
6	Web Development Framework		
	6.1	MVC architecture - Introduction and applications	5
		Server side-scripting – Laravel Framework Managing Your Project Controllers, Layout, Views, and Other Assets, Talking to the Database, Model Relations, Scopes, and Other Advanced Features, Integrating Web Forms, Authenticating and Managing Your Users, Deploying, Optimizing and Maintaining Your Application	
	6.2	Self-learning: Django Framework, Interactive web sites, web-based information system, blogs, social networking sites.	
	Total		39

Text Books:

1. Ralph Moseley, M.T. Savliya , “Developing Web Applications”, Willy India, Second Edition,
2. “Web Technology Black Book”, Dreamtech Press, First Edition, 978-7722-997
3. Robin Nixon, "Learning PHP, MySQL, JavaScript, CSS & HTML5" Third Edition, O'REILLY, 2014. (http://www.ebooksbucket.com/uploads/itprogramming/javascript/Learning_PHP_MySQL_Javascript_CSS_HTML5_Robin_Nixon_3e.pdf)
4. Professional Rich Internet Applications: AJAX and Beyond, Dana Moore, Raymond Budd, Edward Benson, Wiley publications. <https://ebooks-it.org/0470082801-ebook.htm>
5. Jennifer Kymin, “SAMS Teach Yourself Bootstrap in 24 hours”, 1st edition, Pearson Education.
6. Martin Bean, “Laravel 5 Essentials”, PACKT Publishing Ltd

Reference Books:

1. Harvey & Paul Deitel& Associates, Harvey Deitel and Abbey Deitel, “Internet and World Wide Web - How To Program”, Fifth Edition, Pearson Education, 2011.
2. Achyut S Godbole and Atul Kahate, “Web Technologies”, Second Edition, Tata McGraw Hill, 2012.
3. Thomas A Powell, Fritz Schneider, “JavaScript: The Complete Reference”, Third Edition, Tata McGraw Hill, 2013.
4. David Flanagan, “JavaScript: The Definitive Guide, Sixth Edition”, O'Reilly Media, 2011
5. Steven Holzner, “The Complete Reference – PHP”, Tata McGraw Hill, 2008
6. Mike Mcgrath, “PHP & MySQL in easy Steps”, Tata McGraw Hill, 2012.
7. J. Millman and A. Grabel, “Head First HTML and CSS”, 2nd edition, O’ Reilly.
8. Ben Frain, “Responsive Web design with HTML5 and CSS3”, PACKT Publishing Ltd.
9. L. Welling and L. Thomson, “PHP and MySQL Web Development”, 4th edition, Adison Wesley Professional.

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Course Objectives:-

- To design and create web pages using HTML5 and CSS3.
- To implement client-side scripting to static web pages.
- To create dynamic web pages using server-side scripting.
- To use MVC framework for web application development.

Course Outcomes:-

At the end of the course, the students will be able to:-

- **ECC 504.1:** - Design static web pages using HTML5.
- **ECC 504.2:** - Design the layout of web pages using CSS3
- **ECC 504.3:** - Apply the concepts of client-side validation and scripts to static web pages using JavaScript and JQuery
- **ECC 504.4:** - Build responsive web pages using front-end framework Bootstrap
- **ECC 504.5:** - Develop a web application using appropriate web development framework

Mapping of CO with PO:-

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12
ECC 504.1	1		3									
ECC 504.2	1				3							
ECC 504.3	3				2							
ECC 504.4			3									
ECC 504.5			3		3				3			

Mapping of CO with PO with Justification:-

ECC 504.1	PO-1	Apply engineering knowledge for website design
	PO-3	Design a website for the given complex scenario
ECC 504.2	PO-1	Apply engineering knowledge to decide look and feel of website
	PO-5	Design a website with good look and feel using modern tools
ECC 504.3	PO-1	Apply engineering knowledge to decide basic features of user validation
	PO-5	Use modern tools and algorithms for user password encryption and validation
ECC 504.4	PO-3	Design a website with responsive web pages
ECC 504.5	PO-3	Design a complete website as per given problem statement
	PO-5	Use modern tools for complete website design
	PO-9	Work in a team for complete website development

Mapping of CO with PSO:-

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	ECC 504.1	ECC 504.2	ECC 504.3	ECC 504.4	ECC 505.5	ECC 504.6
PSO-1						2
PSO-2						

Mapping of CO with PSO with Justification:-

ECC 504.6	PSO-1	Solution to real life problem in the field of Automation
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Modes of Content Delivery:-

Modes of Delivery	Brief Description of Content Delivered	Attained COs	Attained POs
Class Room Lectures	Lectures conducted as per the overall theory lesson plan covering 48 contact hours in total	ALL	PO-1 PO-3 PO-5 PO-7 PO-9
Experiment (Practical)	A total of 06 practical experiments based on syllabus that reinforce theoretical concepts into practice	ALL	
TPS activity	Think-Pair-Share (TPS) activity to be conducted in the class	CO-1 CO-2 CO-5	
Video Lecture	Video lectures on various topics	-	PO-12

Course Outcomes (CO) Assessment Tools:-

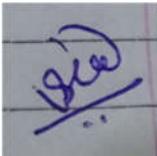
Course Outcomes (CO)	Assessment Methods					
	Direct Methods (80 %)					Indirect Method (20 %)
	Unit Tests	Assignments*		Quiz	End Semester Exam (ESE)	Course Exit Survey (CES)
ECC 504.1	20 %	20 %		10 %	50 %	100 %
ECC 504.2	40 %	---		10 %	50 %	100 %
ECC 504.3	5 %	45 %		---	50 %	100 %
ECC 504.4	20 %	20 %		10 %	50 %	100 %
ECC 504.5	50 %	-		---	50 %	100 %

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Rubrics for Assignment & Experiments (Journal) Grading:-

Indicators & Marks	Timeline, Involvement, Participation & Skills	Structure, Approach, Organization & Presentation	Contents, Understanding, Procedure & Methodology
01 Mark	After the due date & late submission next week	Very shabby & haphazard work with casual approach	No understanding shown & seemingly copied contents
02 Marks	On or before due date, during the college hours	Major topics covered & are delivered with proper structure	Little understanding but improper procedure followed
03 Marks	---	Addressed all major points & delivered what was expected	Slight improvement in the methodology & understanding
04 Marks	---	---	Proper contents, procedure followed & well understood
05 Marks	---	---	Original work – precise, concise & systematic details

Submission & Approval:-

SUBMITTED BY :-	APPROVED BY :-
Prof. Jayen Modi & Prof. Vaibhav Godbole	(i) Prof. K. Narayanan Sign :-
Sign: 	(i) Prof. Sapna Prabhu Sign :-
	(iii) Prof. Shilpa Patil Sign :-
	(iv) Prof. Monica Khanore Sign :-
Date of Submission :-	Date of Approval :-
Remarks by PAC (if any) :-	

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Class & Division		T.E. (Electronics & Computer Science) – Semester V							
Academic Term		July 2021 – October 2021							
Subject		Web Technologies (WT) – ECC 504							
Periods (Hours) per week		Lectures		03					
		Practical		02					
		Tutorials		--					
Evaluation System				Hours	Marks				
		Theory examination		03	80				
		Internal Assessment		--	20				
		Oral Examination		--	25				
		Term work		--	25				
		Total		--	150				
Time Table		Days		Time					
		Monday		9.00 – 10.00					
		Tuesday		10.10 – 11.10					
		Thursday		12.30 – 1.30					
COURSE CONTENTS & LESSON PLAN									
Week No.	Lecture No.	Date		Topic	CO	PO	Mode of Delivery	Ass. tool	
		Planned	Actual						
Module 1: Introduction to HTML5									
	1	12/07/22	12/07/22	Basic structure of an HTML5 document, Creating an HTML5 document			Online lecture, Video on Moodle	Assignment, unit Test, quiz and posts on Moodle forum	
	2	13/07/22	13/07/22	HTML5 Tags					
	3	16/07/22	16/07/22	Working with Text, Lists, Tables and Frames					
	4	19/07/22	19/07/22	Hyperlinks, Images and Multimedia, Forms					
Module 2: Introduction to CSS									
	5	20/07/22	20/07/22	Concept of CSS, Creating Style Sheet, CSS Properties, CSS Styling					
	6	23/07/22	23/07/22	Working with block elements and objects, Lists and Tables					
	7	26/07/22	26/07/22	CSS Id and Class, Box Model					
	8	27/07/22	27/07/22	CSS Advanced:					
Module 3: Client side programming									
	9	29/07/22	29/07/22	Introduction to JavaScript, Lexical Structure, Types			Class room	Assignment,	

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	10	02/08/22	02/08/22	Values, Variables, Expressions and Operators, Statements, Objects			lectur e	unit Test and quiz
	11	03/08/22	03/08/22	Arrays, Functions, Pattern matching with regular expressions				
	12	05/08/22	09/08/22	JavaScript in Web Browsers				
	13	09/08/22	09/08/22	The Window object, Scripting Documents				
	14	10/08/22	10/08/22	Scripting CSS, Handling Events				
	15	12/08/22	12/08/22	jQuery Basics, jQuery Getters and Setters				
	16	23/08/22	23/08/22	Altering Document Structure, Handling events with jQuery				
	17	24/08/22	26/08/22	Animated Effects, Utility functions, jQuery Selectors and Selection Methods				
	18	26/08/22	26/08/22	Extending jQuery with Plug-ins, The jQuery UI Library				
Module 4: – Bootstrap								
	19	06/09/21	06/09/21	Introduction to Bootstrap, downloading and installing Bootstrap.			PPT	Mini Project , Assign ment
	20	07/09/22	07/09/22	The Grid System				
	21	09/09/22	09/09/22	CSS Foundations				
	22	13/09/22	13/09/22	Navigation Systems				
	23	14/09/22	14/09/22	JavaScript Effects				
	24	16/09/22	16/09/22	JavaScript Effects				
Module 5: - Server side-scripting								
	25	20/09/22	20/09/22	Introduction to PHP, PHP Tags, Adding Dynamic content			PPT	Unit Test, Mini Project Unit
	26	21/09/22	21/09/22	Accessing form variables, Identifiers, user-declared variables				
	27	23/09/22	23/09/22	Data types, Constants				
	28	27/09/22	27/09/22	Operators, Control structures, Conditionals				
	29	28/09/22	28/09/22	Iteration constructs, Using arrays, string manipulation and regular expressions				
	30	30/09/22	30/09/22	reusing code and writing functions				
	31	04/10/22	04/10/22	Designing and creating your web database				
	32	05/10/22	05/10/22	Accessing MySQL database from the Web with PHP				
	33	07/10/22	07/10/22	Session Control in PHP				
	34	18/10/22	07/10/22	Session Control in PHP				

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Module 6: Web Development Framework							
	35	19/10/22	19/10/22	MVC architecture - Introduction and applications			PPT Unit Test
	36	21/10/22	21/10/22	Laravel Framework			
	37	21/10/22	21/10/22	Managing Your Project Controllers, Layout, Views, and Other Assets			
	38	21/10/22	21/10/22	Talking to the Database, Model Relations, Scopes, and Other Advanced Features			
	39	28/10/22	28/10/22	Web Forms, Authenticating and Managing Your Users, Deploying, Optimizing and Maintaining Your Application			
END OF SEMESTER (TERM)							

With only 45 turns available out of the prescribed 52 turns (hours), extra lectures on working Saturdays (1st) are proposed to cover up the lost time on account of sports, cultural activities & public holidays. Students are requested to co-operate in this regard for effective syllabus completion in lieu of their own benefit.

Text Books:

1. Ralph Moseley, M.T. Savliya, "Developing Web Applications", Willy India, Second Edition,
2. "Web Technology Black Book", Dreamtech Press, First Edition, 978-7722-997
3. Robin Nixon, "Learning PHP, MySQL, JavaScript, CSS & HTML5" Third Edition, O'REILLY, 2014. (http://www.ebooksbucket.com/uploads/itprogramming/javascript/Learning_PHP_MySQL_Javascript_CSS_HTML5_Robin_Nixon_3e.pdf)
4. Professional Rich Internet Applications: AJAX and Beyond, Dana Moore, Raymond Budd, Edward Benson, Wiley publications. <https://ebooks-it.org/0470082801-ebook.htm>
5. Jennifer Kyrnin, "SAMS Teach Yourself Bootstrap in 24 hours", 1st edition, Pearson Education.
6. Martin Bean, "Laravel 5 Essentials", PACKT Publishing Ltd

Internal Assessment (IA):-

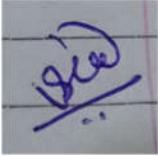
Two tests must be conducted which should cover at least 80% of syllabus. The average marks of both the tests will be considered as final IA marks.

End Semester Examination:-

1. Question paper will comprise of 6 questions, each carrying 20 marks.
2. Total 4 questions need to be solved.
3. Question No.1 will be compulsory and based on entire syllabus wherein sub questions of 2 to 5 marks will be asked.
4. Remaining questions will be selected from all the modules

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Submission & Approval:-

SUBMITTED BY :-	APPROVED BY :-
Prof. Vaibhav Godbole	(i) Prof. K. Narayanan Sign :-
Sign: 	(i) Prof. Sapna Prabhu Sign :-
	(iii) Prof. Shilpa Patil Sign :-
	(iv) Prof. Monica Khanore Sign :-
Date of Submission:- 1 st July 2022	Date of Approval:-
Remarks by PAC (if any) :-	