



# Mahatma Gandhi University Kottayam

<b>Programme</b>	<b>BSc (Honours) Electronics with Computer Technology and Computer Science (Double Major)</b>				
<b>Course Name</b>	<b>Responsive Web Design and Frontend Development</b>				
<b>Type of Course</b>	SEC				
<b>Course Code</b>	MG5SECECC300				
<b>Course Level</b>	<b>300-399</b>				
<b>Course Summary &amp; Justification</b>	The course provides students with fundamental and practical knowledge of modern web technologies including HTML5, jQuery and Bootstrap. The prime focus is on developing responsive, user-friendly websites that work across different devices.				
<b>Semester</b>	5	<b>Credits</b>	3	<b>Total Hours</b>	
<b>Course Details</b>	<b>Learning Approach</b>	<b>Lecture</b>	<b>Tutorial</b>		<b>Practical</b>
		3			45
<b>Pre-requisites</b>					

### COURSE OUTCOMES (CO)

CO No:	Expected Course Outcome	Learning Domains *	PO No:
1	Understand fundamentals of web technologies and HTML	U	1,2
2	Use jQuery to develop interactive and dynamic web applications	A	1,2
3	Design responsive and user-friendly websites using Bootstrap framework	A	1,2
4	Introduce modern tools and real-world web development practices	A	1,2,10

*\*Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)*

### COURSE CONTENT

#### Content for Classroom transaction (Units)

Module	Units	Course description	Hours	CO No.
1	<b>HTML, Web Fundamentals &amp; CSS Basics</b>			1
	1.1	Introduction to HTML, history, objectives, Basic structure (head, body), Heading, paragraph, formatting tags	3	
	1.2	HTML Elements & Forms-Tables, forms, input elements, TEXTAREA, SELECT, FIELDSET, IMG, IFRAME, ANCHOR	4	
	1.3	Lists, Layout & CSS Introduction-Lists in HTML, DIV and basic layout design, Navigation bar design, Introduction to CSS (inline, internal, external), Selectors and responsiveness	5	

	1.4	Web Technology Basics-WWW, HTTP/HTTPS protocols, Web browsers, DNS, Web hosting and cloud hosting, Types of hosting, Basic server setup (Windows/Linux/Unix)	3	
2	<b>jQuery</b>			2
	2.1	Introduction to jQuery - Overview of jQuery: history, features, advantages; Setting up jQuery: installation methods; Understanding the jQuery syntax; Selecting elements with jQuery: CSS selectors, basic filters	5	
	2.2	DOM Manipulation with jQuery - Traversing the DOM with jQuery; Modifying HTML content with jQuery; Adding, removing, and modifying DOM elements; Handling events with jQuery: click, hover, submit, etc.	5	
	2.3	Working with Forms and Form Validation - Handling form submissions with jQuery; Validating forms with jQuery; Using jQuery plugins for form validation; Implementing custom form validation with jQuery	5	
3	<b>Responsive Design &amp; CSS Frameworks</b>			3,4
	3.1	Introduction to Bootstrap - Features, advantages; Setting up Bootstrap: installation methods; Understanding the Bootstrap grid system; Using Bootstrap components: navigation bars, buttons, forms.	5	
	3.2	Responsive Design with Bootstrap - Introduction to responsive web design; Using Bootstrap's responsive utilities; Creating responsive layouts with Bootstrap grid system; Designing for different screen sizes: mobile, tablet, desktop	5	
	3.3	Bootstrap components - Working with Bootstrap typography; Using Bootstrap's CSS classes for styling text and headings; Creating and customizing buttons and button groups; Building responsive navigation bars and dropdowns.	5	
4		Teacher specific content		

**MGU-UGP (HONOURS)**

<b>Teaching and Learning Approach</b>	<b>Classroom Procedure (Mode of transaction)</b> Leverage a blended learning approach with a mix of lectures, interactive discussions, and hands-on lab sessions
<b>Assessment Types</b>	<b>MODE OF ASSESSMENT</b> <b>A. Continuous Comprehensive Assessment (CCA)</b> <b>Theory - 25</b> Internal Test, Assignment, Case Study/Project/ Site Visit/Workshop.
	<b>B. End Semester Evaluation (ESE)</b> <b>Written Test (50 marks) -1 Hour 30 Minutes (Duration of Examination)</b> 1.MCQ - 35x1= 35 Marks 2.Short Essay Question = 15 Marks ( 3 out 5:- 3x5)

## REFERENCES:

1. Thomas A. Powell, The Complete Reference HTML & CSS, Fifth Edition, 2017
2. Jon Duckett, “Web Design with HTML, CSS, JavaScript and jQuery”, 1st Ed., Wiley, 2014.
3. Jake Spurlock, “Bootstrap: Responsive Web Development”, O'Reilly Media, 2013.

## SUGGESTED READINGS:

1. Duckett, J. "HTML and CSS: Design and Build Websites/Jon Duckett. Robson E. Head First HTML and CSS: A Learner's Guide to Creating Standards-Based Web Pages/E. Robson, E." (2012): 768.
2. Silvio Moreto, Bootstrap 4 By Example, ebook, 2016.
3. Tanweer Alam, Web Technologies, Khanna Book Publishing, 2011.
4. Haverbeke, Marijn. *Eloquent JavaScript: A modern introduction to programming*. No Starch Press, 2018.



**MGU-UGP (HONOURS)**

**Syllabus**