National Institute of Technology Meghalaya
An Institute of National Importance

CURRICULUM

Programme	**Master of Computer Applications**		Academic Year of Regulation		**2024-25**
Department	**Computer Science and Engineering**		Semester		**III**

Course Code	Course Name	Pre-Requisite	Credit Structure				Marks Distribution			
			L	T	P	C	INT	MID	END	Total
CA571	**Web Design Using JavaScript**		**2**	**0**	**0**	**2**	**50**	**50**	**100**	**200**

Course Objectives		Course Outcomes	CO's	Statement	Bloom's Taxonomy
	To gain a solid grasp of fundamental JavaScript concepts including variables, data types, operators, functions, and control structures.		CA571.1	Able to understand HTML documents with JavaScript to prepare interactive web pages that respond to user actions through event handling, DOM manipulation, and dynamic content generation.	Apply
	To enhance HTML documents with JavaScript to create dynamic and interactive web pages, utilizing events, methods, and DOM manipulation effectively.		CA571.2	Able to design JavaScript code, applying fundamental concepts such as variables, functions, loops, and conditional statements to solve programming challenges.	Create
	To acquire skills to script forms for user input validation, automated formatting, and dynamic calculations using JavaScript, ensuring robust and user-friendly web forms.		CA571.3	Able to develop the ability to script web forms using JavaScript to perform client-side validation, automate data formatting, calculate values dynamically, and enhance user experience with responsive form behavior.	Create
	To master techniques to dynamically change web page content based on time, date, user interactions, or external data sources, leveraging arrays, objects, and external file access for richer user experiences.		CA571.4	Able to dynamically modify web page content based on time, user interactions, or external data sources, utilizing arrays, objects, and external file access to create engaging and responsive web applications.	Create

COs	Mapping with Program Outcomes (POs)												Mapping with PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CA571.1				1	2				1			1	1		1
CA571.2	1	1		1	1										
CA571.3	2	2	3	2	3							2	2	2	1
CA571.4	3	2	3	2	3							2	2	2	1
CA571	2.00	1.67	3.00	1.50	2.25				1.00			1.67	1.67	2.00	1.00

SYLLABUS

No.	Content	Hours	COs
I	**Introduction**: Introduction to Objects, Methods, and Events, Events and Program Flow, Running Scripts. **Script Writing Basics**: Enhancing HTML Documents with JavaScript, The Quintessential Building Blocks, Script Mechanics	6	**CA571.1**
II	**Names, Objects and Methods**: Names and References in JavaScript, Built-in Objects, Home-Built Objects, The Hierarchy of Names, Using Methods, Operators and Variables, Keywords, Functions, Object interaction. **Control, Looping and functions**: Controlling Script Flow, Storing Tasks within Functions, Using Conditional Statements for Decision Making, if Statements, if-else Conditional Statements, Using the Date Object, for Conditional Statements, while Conditional Statements, break and continue Statements, with Statements, Creating Functions in JavaScript, declaring a Function, Designing a Simple Function.	8	**CA571.2**
III	**Creating Dynamic web page**: Changing Pages Based on Time and Date, Displaying the Quote of the Day, Using Arrays, Constructing the Quotes Script, Considerations When Accessing External Files, Changing the Background Color through a Random Number, Turning the Color Generator into a Function, Using the Image and Area Objects, Creating an Image Object, Creating an Area Object, Selecting a Guide.	8	**CA571.3, CA571.4**
IV	**Java Scripting Your Forms**: Basic Script Construction, Talking to Your Form Objects, Organizing Your Objects and Scripts, Field-Level Validation, Check Required Fields ,Validate Zip Code, Automated Formatting, Format Phone, Format Money, Automatic Calculation, Calculate Expiration Date, Calculate Amount	6	**CA571.3, CA571.4**
	Total Hours	28	

Essential Readings

1. Laurence Lars Svekis, Maaike van Putten, Rob Percival, "JavaScript from Beginner to Professional" , Packt Publishing, 2021
2. David Flanagan, "JavaScript: The Definitive Guide", 7th Edition, O'Reilly Media, 2020
3. Fritz Schneider, Thomas Powell, "JavaScript : The Complete Reference", 3rd Edition, Tata McGraw - Hill Education,2012
4. David Flanagan, "JavaScript: Pocket Reference", 3rd Edition, O'Reilly, 2012

Supplementary Readings

1. Danny Goodman Michael Morrison Paul Novitski Tia GustaffRayl, "Javascript Bible", 7th Edition, Wiley India Pvt Ltd, 2010
2. Douglas Crockford , "JavaScript: The Good Parts", 2nd Edition, Tata McGraw - Hill Education, 2008

3. Ivan Bayross, "Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML (With CD) and PHP", 4th Edition, BPB Publication, 2010

3. Ivan Bayross, "Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML (With CD) and PHP", 4th Edition, BPB Publication, 2010