Course Code	Course name	L	T	P	C
CSEG2071	Advanced Web Technologies	3	0	1	4
Total Units to be Covered: 5		Total Contact Hours: 75			
Prerequisite(s):	Web Technologies - CSEG1042	Syllabus version: 1.0			

Syllabus

Unit I: Introduction to jQuery **9 Lecture Hours**

What is jQuery? Setting up jQuery code environment, linking to a jQuery file on a CDN server, understanding jQuery selectors to target HTML elements, jQuery Filters, Event Handling (Click, hover, submit etc.), creating animations with jQuery, Applying CSS properties.

Unit II: Front End Development using Angular JS **9 Lecture Hours**

Introduction to Angular JS – Role of angular JS in web development, basic architecture and core concepts, creating a simple angular JS application, Angular JS Directives – built-in directives and custom directives, two-way data binding and basic usage of filters for data formatting, Controllers, angular forms and events, form validation, Debugging AngularJS applications using developer tools.

Unit-III: Server-Side Development using Node JS **9 Lecture Hours**

Introduction: What is Node JS? Advantages of Node JS, Traditional Web Server Model, Node.js Process Model, Environment Setup, Installing on Windows, Node JS console, Node JS modules and its types, Functions, Buffer, Understanding Node event driven framework, Event Emitter class, Events and Event Loop, inheriting events, Node Package Manager.

Unit-IV: State Management and Working with Data **9 Lecture Hours**

Sessions and Cookies: Introduction to session control, creating and destroying sessions and session variables, starting a session, registering session variables, what is a Cookie? Setting up Cookies, Deleting Cookies, Query string. Introduction to MongoDB: Setting up MongoDB, hosting and authenticating into database, Model Creation, Managing Database Connections, and Performing basic operations.

Unit-V: Data visualization with D3.js **9 Lecture Hours**

Overview of Object-Oriented Concepts, Object Model of ODMG, Object Definition Language, Object Query Language, Object Database Conceptual Design, Distributed Database Concepts, Data Fragmentation, Replication and Allocation Techniques for Distributed Design, Types of Distributed Database Systems, Query Processing in Distributed Databases, Overview of Concurrency Control and recovery techniques in Distributed Databases.

Total lecture Hours 45

References*

Textbooks	1. B. Green and S. Seshadri, AngularJS. "O'Reilly Media, Inc.," 2013. 2. M. Wandschneider, Learning Node.js : a hands-on guide to building Web applications in JavaScript. Upper Saddle River, Nj: Addison-Wesley, 2013. 3. M. Dewar, Getting started with D3. Sebastopol, Ca: O'reilly Media, 2012. 4. iCode Academy, Jquery for Beginners. Independently Published, 2017.
Reference books	1. J. Duckett, G. Ruppert, and J. Moore, JavaScript & JQuery: interactive front-end web development. Indianapolis, In: John Wiley & Sons, 2014. 2. F. Coury, A. Lerner, N. Murray, and C. Taborda, Ng-book : the complete guide to Angular. San Francisco, California: Fullstack.Io, 2018. 3. D. Herron, Node.js Web Development. Packt Publishing Ltd, 2018.
Web Resources	
Journals	
MOOCs, online courses	

Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination

Examination Scheme

Components	**IA**	**MID SEM**	**End Sem**	**Total**
Weightage (%)	50	20	30	100