COURSE SECTION INFORMATION

Full Stack Development II
(T127)

Delivery Mode Online

Teacher's Name Pritesh Patel

Email Pritesh.patel2@georgebrown.ca

Phone

Office

Out of Class Assistance

Course Code COMP3133

Course Section ALL

Academic Year 2021-2022

Term Winter 2022

All academic inquiries will be replied to within three business days.

LIST OF TEXTBOOKS AND OTHER TEACHING AIDS:

Node.js, MongoDB and Angular Web Development: The definitive guide to using the MEAN stack to build web applications (2nd Edition) – Oct 23, 2017, by Brad Dayley, Brendan Dayley, Caleb Dayley

The free online full text here, access through Toronto Public Library

Recommended Resources:
1. https://angular.io/docs
2. https://nodejs.org/api/

Detailed Evaluation System

Assessment	Description	Outcome(s) assessed:	EES assessed:	Week	Weight
Lecture Quiz 8	The best 8 out of 10 quizzes will count. **Note:** • **Due Same DAY end of lecture**	3,4,5,6	1,2,3,4,5	TBA	8%

Course Name: Full Stack Development II / Winter 2022

	• **No extension, No extra time and No makeup quizzes are allowed as these may affect other courses and 8/10 quizzes are available**				
Lab Test x 2	Hands on test, covers previous weeks topics	1,2,4,5,7	1,2,3,4,5, 6,7,10	5, 12	12%
Lab exercises 8	8 Weekly lab exercises and AtKlass participation **Note:** • **Due Sunday DAY end of lecture** • **No extension, No extra time and No makeup quizzes are allowed as these may affect other courses**	1,2,3,4, 5,6,7	1,2,3,4,5	TBA	8%
Assignment 1	Individual assignment **GitHub required for code verification**	1,2,3,4, 5,6,7	1,2,3,4,5,6, 7,10,11	6	12%
Assignment 2	Individual assignment **GitHub required for code verification**	1,2,3,4, 5,6,7	1,2,3,4,5,6, 7,10,11	13	16%
Mid-Term Exam	Mixed format and multiple-choice test.	1,2,3,4	1,2,4	7	18%
Final Exam	Mixed format and multiple-choice test on week 1 to week 14	4,5,6,7	2,4,5	15	26%
				TOTAL	**100%**

COURSE OUTCOMES:

At the end of this course, the student will reliably demonstrate the ability to:

1. Design and implement a simple front-end web solution using Angular
2. Utilize native features of Node.js using built-in modules.
3. Implement a data storage solution using MongoDB.
4. Store and retrieve data to a MongoDB using Mongoose ODM.
5. Implement and consume REST APIs with Node.js and Express

TOPICAL OUTLINE:

Week	Outcome(s)	Topics	Chapter/ Reference
1	1	− Administrative & Course Outline − Introduction to MEAN Stack − Review of JavaScript & ES6 features − Review Node's core concept	Class notes, Chapter 2 https://nodejs.org/api/

2	2	Node.js
		− Accessing Local File System (read/create/update/delete/rename file or directory)
		− Readable & Writable Streams
		   o reading & writing chunk of data
		   o using pipe
		− Buffer Object
			Chapter 5, 6, 8
			https://nodejs.org/api/

3	2	− Interaction with Socket.IO − Working with Multiple Sockets − Testing and Debugging o Intro to testing framework Mocha	Chapter 9, https://nodejs.org/api/ https://mochajs.org/

4	3, 4	− MongoDB and Mongoos
		− Review building the Schema and Models
		   o Query and Sorting with Mongoose
		   o Methods and Statics
		− Middleware
			Chapter 16
			https://mongoosejs.com/docs/

5	3, 4	− Mongoose Validation
		   o Built-in Validators
		   o Custom Validators
		   o Handling Validation Errors
			https://mongoosejs.com/docs/

6	2, 5	− Introduction to GraphQL
		   o REST vs GraphQL
		   o Setting up GraphQL to work with Express
		   o Schemas
		   o Types and Queries
			https://graphql.org/

7		---------- Midterm Exam -------	
8		**** Intersession week ****	

Course Name: Full Stack Development II / Winter 2022

9	1, 2	– NPM: Node Package Manager – Getting started with Angular – Introduction to TypeScript	Chapter 20,

10	2	– The Architecture of Angular Apps
		    o Structure of Angular Projects
		– Angular Fundamentals
		– Components
		    o Angular CLI
			Chapter 21, 22

11	2	– Displaying Data and Handling Events o Data Binding and Event Binding – Directives	Chapter 24, 25, 27
12	2	– Building Reusable Components o View Encapsulation/Shadow DOM – Routing & Navigation	Chapter 22, https://angular.io/api/

13	2, 5	– Consuming HTTP Services
		    o Observables & RxJS
		    o Pipes
		– Template Driven Forms
		    o Angular Material
			Chapter 23, 27, 28
			https://material.angular.io/

14	2	– Authentication & Authorization	
15		---------- Final Exam -------	

Please note: this schedule may change as resources and circumstances require.

For information on withdrawing from this course without academic penalty, please refer to the College Academic Calendar: **http://www.georgebrown.ca/Admin/Registr/PSCal.aspx**