



**CSIS 3380 – 002 – FULL STACK DEVELOPMENT WITH JAVASCRIPT – 36372**

<b>Semester:</b>	<i>Fall 2024</i>	<b>Instructor:</b>	<i>Anupama Gupta</i>
<b>Course Time:</b>	<i>Thursday 12:30 pm – 3:20 pm*</i>	<b>Room:</b>	<i>N5111</i>
<b>Email:</b>	<i>guptaa10@douglascollege.ca</i>	<b>Telephone:</b>	<i>604-777-6679</i>
<b>Office Hours:</b>	Monday 10:20 am to 11:20 am Tuesday 11:20 am to 12:20 pm please book a prior appointment	<b>Location:</b>	<i>N4315</i>

\*All times shown are in Pacific Standard times (Vancouver, Canada time)

**COURSE MATERIALS**

Reference Text: *Learning React, 2nd Edition by Alex Banks and Eve Porcello Publisher: O'Reilly Media, Inc.*

Online Resources: <http://www.w3schools.com/js> , <https://reactjs.org/>. Other resources may be introduced during the course.

**COURSE PREREQUISITES**

CSIS 1280 with grade C or better

**COURSE SPECIFIC TECHNICAL REQUIREMENTS**

All components of the course (except the assignments/project which are take home) will require synchronous participation during the scheduled lecture and/or exam times in-person on campus.

Software: Text Editor (Visual Studio Code recommended <https://code.visualstudio.com/>), Web Browser (Chrome or Firefox), Node.js (Latest Stable <https://nodejs.org/en/>), MongoDB. Various packages may be introduced during the course.

Operating System: All the software demo built for the course, the labs and the tests are designed in a Windows-based operating system. If you have a Mac OS machine, the instructor may not be able to provide significant guidance in setting up the environment and on how to do the labs, assignments and project.

Note: It is the responsibility of the students to setup the required software for doing assignments and project. It is expected that students can find proper resources and be able to configure their systems.

**CALENDAR COURSE DESCRIPTION**

This course provides the fundamental knowledge necessary to design and develop dynamic web pages using JavaScript. The course will also introduce students to client-side JavaScript frameworks (e.g., React.js) and how client-side scripts interact with server-side programs using Ajax. Furthermore, the course will introduce students to back-end concepts and tools for end-to-end (i.e., full-stack) JavaScript web development, including back-end JavaScript technologies and frameworks (e.g., Node.js, Express), REST concepts and NoSQL databases. Students will learn how to architect, develop, deploy, and manage a RESTful Web Service, and develop a fully functioning full-stack web application.

Comprehensive hands-on exercises are integrated throughout the course to reinforce learning and develop real competency.

## COURSE OBJECTIVES

At the end of this course, successful students should be able to:

1. Apply functional programming concepts to develop dynamic web applications.
2. Use Ajax to fetch information from the server and display it on the web page.
3. Build and configure a back-end server using JavaScript technologies and frameworks (e.g., Node.js, Express).
4. Build a RESTful API service using Express and Node.js.
5. Develop a CRUD application with Express, Node.js, and a database (e.g., MongoDB).
6. Create and build a web application using JavaScript front-end framework (e.g., React.js).
7. Create and build a full-stack web application using various JavaScript technologies and frameworks (e.g., MERN).

## METHODS OF INSTRUCTION:

*Lectures, seminars, hands-on exercises, labs, assignments, and project(s) – in-person on campus.*

## MEANS OF ASSESSMENT:

*A final course grade will be determined based on the following instruments and their corresponding weighted percentages:*

Assignments– 2	10%
Project	10%
Quizzes – 2**	15%
Mid Term Exam - 1**	30%
Final Exam – 1**	35%
<b>TOTAL</b>	<b>100%</b>

## Notes:

- *\*\*In order to pass the course, students must, in addition to receiving an overall course grade of 50%, also achieve a grade of at least 50% on the combined weighted examination components (including quizzes, tests, and exams).*
- *Minimum 75% of the final exam must be in practical hands-on computer programming format.*
- *A student must complete at least 70% of all the evaluations for this course in order to obtain credits; otherwise, the student will be assigned an UN Grade as the final grade.*
- *Attendance is required for this course. If you miss more than 30% of the class, you will receive UN Grade for your course grade.*
- *FINAL EXAM IS MANDATORY. If you do not attempt final exam, you will receive UN as your final grade.*

## GRADING POLICY:

Grade	Numerical Value	Achievement Level	Description & Notes
A+	4.33	90% to 100%	<b>Outstanding Achievement</b>
A	4.00	85% to 89%	
A-	3.67	80% to 84%	
B+	3.33	77% to 79%	<b>Good Achievement</b>
B	3.00	73% to 76%	
B-	2.67	70% to 72%	
C+	2.33	65% to 69%	<b>Satisfactory Achievement</b>
C	2.00	60% to 64%	
C-	1.67	55% to 59%	<b>Marginal Achievement</b>
D	1.00	50% to 54%	<b>Minimal Achievement</b> Student may not use the course as a prerequisite for another course
F	0.00	49% and below	<b>Unsatisfactory Achievement</b>
UN	0.00		<b>Unofficial Withdrawal</b> Student complete less than 70% of the total evaluation of the course, or missed more than 30% of the classes where the Instructor's Course Outline specifies that attendance is a course requirement.

## REGULATIONS FOR STUDENTS:

**Late assignments:** Late assignments/labs will not be graded and receive an automatic zero mark except for extraordinary circumstances or prior arrangements with the instructor. Students are encouraged to keep extra copies (i.e., photocopies or file backups) of their assignments in case of data loss in the digital world.

**Missed tests or final examination:** Student will receive a zero mark for any missed test(s). Exceptions may be considered in cases of extraordinary circumstances such as accidents, deaths in the family, family emergencies' including sick children. It is the responsibility of the student to inform the College and/or the instructor at the earliest reasonable opportunity. Notification of the possibility of missing the test or exam must be done prior to the test or exam date/time and based on the instructor's preference might require supportive documentation where applicable.

**Classroom Civility and Shared Responsibility:** Class time, online or in-person, will include interactive lectures, class-participative case analysis and the occasional computer simulation or project workshop. So, class time is valuable to us all. Students are expected to attend, complete all assignments and activities and are responsible for communicating with the instructor if they are unable to complete an assessment.

Student Conduct: Any student who displays disruptive or dangerous behavior will be asked to leave the classroom/lab by the instructor. Such behavior will be classified as misconduct. Reprimands and appeals will be exercised according to the [Douglas College Student Conduct policy](#).

Timeliness: Students are expected to be in class at the start of class. Any late student should enter the session and try to not interrupt the flow of class activity as per [Douglas College Student Conduct policy](#).

Class Cancellation: If a class is cancelled due to unforeseen circumstances, a notification will be made through Blackboard to every student enrolled in the course. It is the responsibility of students to be proactive and to check their announcements and/or e-mail before coming to class. Every effort will be made to ensure that the notification is made as soon as possible.

Illness and other unavoidable circumstances: Except in extraordinary circumstances, quizzes, tests, exam and assignment deadlines must be adhered to. If unable to attend or submit, advance notice must be provided via email at your earliest opportunity. On the email include

- Course and section number (e.g., CSIS3380-002)
- Your name and student number (e.g., Student Number 212121212)
- Late assignment or missed quiz (e.g., Missed Quiz #1)
- Brief comment (e.g., Explanation of reasoning)

Without documentation such as a doctor's letter, the instructor will discuss the most appropriate course of action that will lead to fair evaluation of your overall learning in the course. Students must use their Douglas College email account to communicate with the instructor and communication must be in English.

Preparation, Attendance and Participation: Attendance will be taken on a regular basis. The method of delivery includes classroom discussion and lab exercises; and students need to be present in order to participate and to learn.

Student Effort: In addition to the scheduled times for classes and labs, students are expected to spend at least 6 hours a week on this course. If you are consistently spending more time than this, consider speaking with your instructor or reaching out to the [Accessibility Centre](#) for assistance.

This following schedule is tentative and subject to change, as per the College policy.

Please do not make any travel arrangements during the final examination period – final exam scheduling is beyond the instructor's control. Please see the Registrar's office immediately with any conflict(s).

### **COURSE TENTATIVE SCHEDULE:**

<b>WEEK #</b>	<b>DATES</b>	<b>WEEKLY TOPICS AND ACTIVITIES</b>	<b>READINGS AND ASSIGNMENT DUE DATES</b>
Week 01	2024-09-05	Course objectives and structure, Course introduction, Introduction to Frontend and Backend (Node.js), Building web applications using JavaScript	Review Java Script
Week 02	202-09-12	DOM manipulation, Functional Programming, Exercises	
Week 03	2024-09-19	More Functional Programming Concepts, React (Introduction)	Receive Assignment #1
Week 04	2024-09-26	React (Components, JSX)	Quiz #1
Week 05	2024-10-03	React (State, Events, DOM), React hooks	Project Information Due
Week 06	2024-10-10	React Routers	Assignment #1 Due
Week 07	2024-10-17	<b>Mid Term Exam</b>	
Week 08	2024-10-24	RESTful web services using Express and Node JS	
Week 09	2024-10-31	RESTful web services using Express and Node JS	Receive Assignment #2
Week 10	2024-11-07	Asynchronous JavaScript, Fetch API, Promises, Async-await promise-based framework	Project – Checking in
Week 11	2024-11-14	MongoDB - CRUD operations	Quiz #2
Week 12	2024-11-21	Integrating all technologies - Full Stack Web Development	Assignment #2 Due
Week 13	2024-11-28	Project Presentations	Project Final Submission
Week 14	2024-12-06 – 2024-12-15	FINAL EXAMINATION PERIOD	Check the exam schedule as soon as it becomes available for potential scheduling conflicts.

## LINKS TO IMPORTANT INFORMATION AVAILABLE ON COLLEGE WEBSITE:

1. [Minimum technical requirements for taking courses online at Douglas College](#)
2. [Technical support information for students on the College website](#)
3. [Academic Integrity Policy \(Douglas College Educational Policy\)](#)

Plagiarism and Cheating:

The use and/or reference of any/all websites (e.g. coursehero.com or similar) which host copies of Douglas College course work assessments such as but not limited to Quizzes, assignments, midterms, labs, exams, practical work, etc. constitutes plagiarism.

4. [Course transferability](#)
5. [COVID-19 safety and guidance](#)
6. [Dates and Deadlines](#)
7. [Bookstore](#)
8. [Accessibility Services](#) – Carrie Keen for CBA Students
9. [Library](#)

!!!\*\*\* WISH YOU ALL THE VERY BEST FOR THIS COURSE \*\*\*!!!