COURSE SYLLABUS

COURSE TITLE:	ICS211 Web Applications
CLASS SECTION:	X03A, X03B
TERM:	Fall 2024
COURSE CREDITS:	3
DELIVERY METHOD(S):	Face-to-face

For COVID-19 information please visit https://legacy.camosun.ca/covid19/index.html.

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME:	Brandon Devnich
EMAIL:	devnichb@camosun.bc.ca
OFFICE:	TEC 240
HOURS:	By appointment in person or via Collaborate

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

CALENDAR DESCRIPTION

Students will expand their knowledge in website building by adding dynamic and interactive components. Through applied activities, students will be introduced to how client-side scripts interact with server-side programs and back-end concepts and tools for end-to-end (e.g., full-stack) web development.

PREREQUISITE(S):	C in ICS 121 or ICS 128
	and
	C in ENGR 155, or ICS 125
CO-REQUISITE(S):	-
EXCLUSION(S):	-

COURSE LEARNING OUTCOMES / OBJECTIVES

Learn web technologies to create dynamic and interactive web applications. You will learn the underlying client and server-side web technologies to create dynamic web applications. The intended learning outcomes are as follows:

- Design, implement and test a web application using current web technologies including client-side markup, server-side programming for data processing and authentication techniques.;
- Describe the major areas and challenges of web programming;
- Explain the function of each web application component using domain-specific terminology;
- Describe different security issues with web applications and apply the appropriate technique to secure data integrity; and
- Apply accepted standards to ensure security, privacy, and integrity of data while recognizing the ethical, legal, and social implications of web applications

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

- Materials on the D2L course page:
    - presentation slides for lectures, lab assignment instructions for labs, etc. see
      https://online.camosun.ca/d2l/home/292397

- Materials on the ICS 211 course page:
    - Code snippets for quick access
      https://211.compsci.cc

- Required Textbooks
    - None

- Recommended Hardware
    - Although not required, a personal laptop would be an asset.

General Schedule

The course will meet in-person, four times per week over a 14-week semester. Each week will consist of three one-hour lectures and one two-hour lab. Additional time over and above the allotted lab time may be required to complete lab assignments.

Lectures will be delivered in-person at regular times. Recordings of lectures may be made available.
Labs will be assigned and then due before the next scheduled lab block.

Please see lecture and lab schedule at http://my.camosun.ca for detailed information about class hours and locations. Please consult the calendar tool in D2L frequently for any updates.

Topics

Lectures will contain topics that will help you complete the weekly lab. These topics will teach you the basics of web application development using the React platform, as well as experience building a web application that interfaces with a real-world API. Please see course schedule and topics table below for more detail.

Activities

Lectures

During lectures, you will be expected to participate in in-class code practice. Successful completion of the course will hinge on your ability to implement the content that is being presented. You will submit these up to your allocated course web space.

Quizzes

There will be weekly at-home open-book quizzes to reinforce your comprehension of course material covered during the week. You will have unlimited opportunities to complete each quiz. There is no due date on these quizzes and you may do them as many times throughout the semester, for review, as you like.

Labs

You will be expected to attend all lab blocks as you will be required to demonstrate your completed lab assignment, due the night before, during the following lab block. Prior to demonstrating your lab to the instructor, within the first 15 minutes of the lab block, you will be asked to form into small groups to reflect upon your learning of the previous week's assignment, and share your knowledge and understanding with students. This exercise reflects the ideas of the Circle of Courage indigenous learning framework that involves Belonging, Mastery, Independence, and then Generosity. This exercise will work to build a sense of community and interpersonal skills, mastery through sharing of ideas, independence through reflection on failures and successes, and generosity through the sharing of experience to your classmates. Once the reflection an sharing has completed, the class will move on to one-on-one demonstrations of your lab assignment tasks and demonstration of your comprehension of the skills that would be developed during the lab assignment. Your instructor will provide you critiques and feedback which you will be required to implement before completing the next

assignment. Your lab assignment will only be considered completed once those critiques have been implemented.

Term Project
There will be a term project in the last third of the course that will satisfy the primary course objective to "design, implement, and test a web application".   This project may be completed alone or in teams of 2-3. If in a team, the project scope will be increased and there will be a peer review piece that will be completed by each team member about each team member's involvement. This project will have a self-assessment component to it.

Final Exam
The final exam will be a restricted open-book practical exam – this means that you will have access to course material (your own labs, lecture slides, handouts) only. There will be a separate self-assessment piece that will be to be completed at home after the final exam has completed.

Expected Workload
For highest results, you should expect to spend, outside of scheduled lecture and lab times, an additional 20-25 minutes daily (or 2-3 hours weekly) to complete lab assignments, practice examples, review material, and complete quizzes.

Evaluation
You will self-evaluate your progress regularly through the at-home quizzes, and completion of the weekly labs. Throughout the term, you will have regular opportunities to offer critical self reflection on your progress to the instructor.   The instructor will also be providing feedback on your progress on a weekly basis, as you moved towards mastery of the content. Building towards the final exam, you will complete the term project which will further give you practice applying the knowledge you acquire through the course. At the end of the course, you will complete a practical exam and a self reflection and self assessment.

To address concerns that focus on grades, I will shift the focus of this course to your learning experience, not the grading experience. As such I will provide assessment in the form of feedback which will allow you to work towards mastery instead of the form of a letter grade or percentage. As the College requires each Learner to receive a graded assessment for their course completion, this grade will be determined with YOU. This is your learning experience.

Assigning the Final Grade
There will be weekly check-ins with the instructor during lab time, as well as optional appointments during instructor office hours. his final grading assessment will be a combination of self-assessment and self-assessment. If your self-assessment is not in alignment with my own assessment, I reserve the right to change this final grade – higher or lower – based upon my own observations, feedback, and assessment of your work.

If, at any time, you are concerned about this process, pleas contact me.

Schedule of Sessions and Topics

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Week	Start	Topics	Labs	Quiz
1	Sept 2	XX: Labour Day 01: Course Outline 02: Introduction to Web Apps	Lab 01: Setting Up Your Development Environment Requires: Lesson 1	Q1
2	Sept 9	03: Intro to React 04: Intro to JSX 05: Intro to React Components	Lab 02: Node.JS, JSX Requires: Lesson 4,5	Q2
3	Sept 16	06: ES6, Arrow Function 07: Destructuring & Using map() 08: Styling React Components	Lab 03: React Components (ES6izing) Requires: Lesson 6, 7, 8	Q3
4	Sept 23	09: React Hooks, Component Lifecycle 10: Data Interchange and the JSON Data Format 11: Fetching Data	Lab 04: Styling Your React Components Requires: Lesson 9	Q4
5	Sept 30	XX: National Day for Truth and Reconciliation 12: Async Programming, ES6 Promises 13: The Effect Hook & React DOM Events	Lab 05: Fetching Data From a JSON-based API Requires: Lesson 10, 11, 12, 13	Q5
6	Oct 7	14: Forms in React 15: Form Submission 16: Conditional Rendering	Lab 06: Adding a Form to Your Application Requires: Lesson 14, 15, 16	Q6
7	Oct 14	XX: Thanksgiving Day 17: Forms and Data Security 18: UX Design	Lab 07: Submitting the Form / Data Security Requires: Lesson 17, 18, 19	Q7
8	Oct 21	19: Client-Side URL Routing 20: MERN Stack 1 21: MERN Stack 2	Lab 08: Material UI and React Router Requires: Lesson 20, 21	Q8
9	Oct 28	22: Server Side Data Security 23: React Next JS Framework 24: Next JS 2	Lab 09: MERN Stack Requires: Lesson 22, 23, 24	Q9
10	Nov 4	25: Intro to Jest 26: Intro to Markdown with GIT 27: State Management	Lab 10: NextJS, Jest and React Testing Requires: Lesson 25, 26, 27	Q10
11	Nov 11	XX: Remembrance Day 28: Project Introduction 29: Redux Client Side State Management	Project: Chatbot Milestone 1 – Login & Security Requires: Lessons 1-30	
12	Nov 20	30: Code Challenge – W2 31: Code Challenge – W3 32: Code Challenge – W4	Project: Chatbot Milestone 2 – Send & Receive Requires: Lessons 1-31	
13	Nov 27	33: Code Challenge – W5 34: Code Challenge – W6 39: Code Challenge – W7	Project: Chatbot Milestone 3 -- Store & Fetch Requires Lessons 1-34	
14	Dec 4	35: Code Challenge – W8 36: Code Challenge – W9 / Project Demos 37: Code Challenge – W10 / Project Demos	Project Demos	
15	Dec 11	Final Exam (Practical)		

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced noticed is required. Deadlines scan be reviewed on the CAL exams page. http://camosun.ca/services/accessible-learning/exams.html

EVALUATION OF LEARNING

DESCRIPTION		WEIGHTING
Lab Assignments Must complete **all** labs.		25%
Quizzes Ten, at-home open book quizzes. Unlimited opportunities to complete each quiz.		5%
Term Project Can be individual or group work.		25%
Lecture Participation Completion of 20 lecture in-class examples		5%
Final Exam Restricted Open-Book practical (access to course material only, no internet access). Minimum achievement of 65% to pass the course.		35%
Final Reflection / Self Assessment Upon completion of the course work, you will be asked to write a reflection, at home, on what was learned.		5%
If you have a concern about a grade that you have received for an evaluation, please see instructor as soon as possible. Refer to the Grade Review and Appeals policy for more information. https://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf	**TOTAL**	100%

COURSE GUIDELINES & EXPECTATIONS

Late assignments and/or labs will not be accepted, except by the instructor's prior written permission or in the presence of a dire and documented short-term medical or family emergency. Student must complete **all** labs.

Students must achieve all of the following in order to pass the course *.

- a minimum 65% average on all labs
- all labs must be completed
- a minimum 65% on the term project
- a minimum 65% on the final exam

* if there is failure to meet any of these requirements, regardless of the course average, the final course mark will be reduced to an F.

Must achieve a C (60%) in the course to use as a pre-requisite.

SCHOOL OR DEPARTMENTAL INFORMATION

Supplemental department policies:

Grade review: You have 7 days after marks are posted to review with your instructor.

Academic Integrity Violations:

- 1st violation: **minus the weight of the deliverable** and a note on your departmental file.
- 2nd violation: F in the course
- 3rd violation: Student Conduct Policy E-2.5 is applied

Missed Examinations/Quizzes: If a student misses a quiz, project or an exam, a mark of zero will be assigned unless there are extenuating circumstances. You must provide a note from a medical practitioner (Doctor, Nurse, Psychologist, Counsellor, etc.) In such cases, the proportion of grade assigned to the missed quiz or exam will be added to the proportion assigned to the final exam.

Electronic Devices: The school's policy regarding electronic devices is that any student who has a cell phone or other unauthorized electronic device (ie. ipad, laptop, playbook, etc.) on their person or around their desk during a closed-book exam will be guilty of cheating and will receive a grade of "F" for the course.

STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit http://camosun.ca/students/.

Support Service	Website
Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres

Support Service	Website
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Accommodations for Students with Disabilities
The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the Centre for Accessible Learning (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started: http://camosun.ca/services/accessible-learning/

Academic Integrity
Please visit http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress
Please visit http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit http://camosun.ca/learn/fees/#deadlines.

Grading Policy

Please visit http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf for further details about grading.

Grade Review and Appeals

Please visit http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures" (http://camosun.ca/learn/calendar/current/procedures.html) and the Grading Policy at http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at

http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf to understand the College's expectations of academic integrity and student behavioural conduct.

Changes to this Syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.