

PROG20261 Mobile Web Application Development

Sheridan

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Land Acknowledgement

First Nations peoples have lived on this part of Turtle Island for millennia, stewarding the land, the water and all that contributes to life in this region. Today, the culture and presence of First Nations, Inuit and Metis peoples enrich the lands and people of this territory.

Over two centuries ago, the Mississauga people welcomed settlers to this territory, providing sustenance and engaging in trade and commerce. Between 1781 to 1820, eight treaties were signed with the Mississaugas of the Credit First Nation who opened their territory to settlement. Today, Sheridan campuses are located on Treaty 14, also known as the Head of the Lake Purchase of 1806 and Treaty 22 and 23 of 1820.

Treaty history is foundational, and it is our collective responsibility to honour the land, as we honour and respect those who have gone before us, those who are here and those who have yet to come. We are grateful for the opportunity to be learning, working and thriving on this land, and we commit to learn the truth and be active in the process of reconciliation.

Section I: Administrative Information

Program(s): Hon Bach CompSci - Mobile Comp

Total hours: 42.0

Program Coordinator(s): Magdin Stoica

Credit Value: 3.0

Course Leader or Contact: Alex Babanski

Credit Value Notes: N/A

Version: 20260105_00

Effective: Winter 2026

Status: Approved (APPR)

Prerequisites: INFO16206

Section I Notes: N/A

Corequisites: N/A

Equivalents: N/A

Pre/Co/Equiv Notes: N/A

Section II: Course Details

Detailed Description

Students gain a comprehensive understanding of the architecture of the mobile ecosystem and acquire practical skills and knowledge to develop and maintain mobile-friendly web applications. Students learn how to use mobile device APIs such as camera, geolocation, orientation, storage, etc. to create cross-platform mobile web applications. Students learn best techniques and practices used to develop, package and publish secure hybrid mobile application.

Students learn through a combination of interactive lectures and demonstrations, hands-on exercises and assignments.

Program Context

Hon Bach CompSci - Mobile Comp**Program Coordinator(s):** Magdin Stoica

This required second year course provides an end-to-end exploration of the development, testing and deployment of rich mobile-friendly applications. This course builds on the students skills and knowledge in web technologies.

Course Critical Performance and Learning Outcomes**Critical Performance:**

By the end of this course, students will have demonstrated the ability to create mobile-friendly websites that uses server-side and client-side technologies to deliver appropriate content to multiple mobile form factors based on server side device detection of client device.

Learning Outcomes:

To achieve the critical performance, students will have demonstrated the ability to:

1. Apply knowledge of the Document Object Model to manipulate browser content so that it is appropriate for the mobile device display.
2. Apply knowledge of Object Oriented Programming techniques and the necessary Javascript syntax to develop robust and maintainable Object-Oriented client scripts in support of a rich mobile-friendly website.
3. Apply knowledge of Relational or Object-Oriented Database Design to design and implement a backing database in support of a rich mobile-friendly website.
4. Design, implement, test and deploy a full mobile-friendly website using web technologies such as Javascript and HTML, currently popular libraries, and database access.
5. Assess the constraints and strengths of different mobile device User Interface capabilities and implement web pages appropriate for that UI.
6. Implement an application that effectively utilizes the location-aware capabilities of a mobile device.
7. Implement an application that effectively utilizes the graphical and multimedia features of a mobile device.
8. Evaluate appropriate target devices for a given scenario and implement a solution that uses device detection to provide appropriate content for more than one form-factor.

Evaluation Plan

Students demonstrate their learning in the following ways:

Evaluation Plan: IN-CLASS

Quizzes (2 @ 5%) - approximately weeks 6, 12	10.0%
Labs/In-class Exercises (2 @ 5%) - approximately weeks 5, 11	10.0%
Assignments (2 @ 10%) - approximately weeks 7, 13	20.0%
Midterm Exam - approximately week 8	30.0%
Final Exam - approximately week 14	30.0%

Total	100.0%
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Evaluation Notes and Academic Missed Work Procedure:

To pass the course, students must achieve a 50% weighted average across the tests and the exams and at least 50% overall in the course.

Students must submit/complete all assignments, in-class activities and projects by the scheduled due date and write all tests on the specified date/time. Exceptions will only be made under extraordinary circumstances.

Refer to the School of Applied Computing's Academic Procedures for Evaluations for more details regarding missed work: [Procedures for Evaluations](#)

Provincial Context

The course meets the following Ministry of Colleges and Universities requirements:

Prior Learning Assessment and Recognition

PLAR Contact (if course is PLAR-eligible) - Office of the Registrar

Students may apply to receive credit by demonstrating achievement of the course learning outcomes through previous relevant work/life experience, service, self-study and training on the job. This course is eligible for challenge through the following method(s):

- Challenge Exam

Notes:

- Portfolio

Notes:

- Other

Notes: Challenge exam, portfolio, and project are required for PLAR.

Section III: Topical Outline

Some details of this outline may change as a result of circumstances such as weather cancellations, College and student activities, and class timetabling.

Instruction Mode: In-Class

Professor: Multiple Professors

Resource(s):

Course material costs can be found through the [Sheridan Bookstore](#)

Type	Description
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Optional Other Materials will be provided by the professor.

Applicable student group(s): Honours Bachelor of Computer Science - Mobile Computing

Course Details:

Module 1: Technologies and Best Practices for Mobile-Friendly Websites

- Fundamentals of Mobile-Friendly Web-Design. Best Practices in Page Layout, Site Architecture and Navigation for Mobile Devices.
- Responsive Design
- Mobile-Friendly Application Development with Bootstrap, jQuery, jQuery Mobile,

ReactJS and Other Frameworks

Module 2: Document Object Model

- Elements of the Document Object Model
- Navigating the Document Object Model using Javascript
- Manipulating the Document Object Model using Javascript

Module 3: Asynchronous Content Negotiation

- Asynchronous Methods for Updating Client Content with Data in Text, JSON, or XML Files on a Remote Server
- AJAX
- WebSockets
- Parsing XML
- JSON

Module 4: Web Application Architecture and Programming Interfaces

- Working with Web APIs: Storage, Web Workers, and Web Notifications
- Coding and Design Patterns
- SPA (Single Page Application) Architecture

Module 5: Hybrid Mobile Application Development

- Hybrid Mobile Application Development with Cordova and React Native
- Working with Mobile Device APIs such as Device, Geolocation, Camera, Dialogs, etc.
- Device Interaction and Usability
- Packaging and Publishing

Module 6: Server-Side Technologies

- Retrieving Information from Remote Databases
- Using Dynamic Pages to Optimize Content for Mobile Devices

Module 7: Future Trends

- Trend Analysis for Web Application Development
- Comparative Analysis (Pros and Cons of Native, Web, and Hybrid), and Future Direction

Note: The topics within each module are grouped semantically and are not meant to suggest a time sequence. A course plan must be provided by the professor identifying the class-by-class arrangement of topics.

Sheridan Policies

It is recommended that students read the following policies in relation to course outlines:

- **Academic Integrity**

- **Copyright**
- **Intellectual Property**
- **Respectful Behaviour**
- **Accessible Learning**

All Sheridan policies can be viewed on the [Sheridan policy website](#).

Appropriate use of generative Artificial Intelligence tools: In alignment with Sheridan's Academic Integrity Policy, students should consult with their professors and/or refer to evaluation instructions regarding the appropriate use, or prohibition, of generative Artificial Intelligence (AI) tools for coursework. Turnitin AI detection software may be used by faculty members to screen assignment submissions or exams for unauthorized use of artificial intelligence. Students are encouraged to engage with generative AI in teaching and learning contexts thoughtfully. Please review the [Guidelines for the Responsible Use of Generative Artificial Intelligence at Sheridan College](#).

Course Outline Changes: The information contained in this Course Outline including but not limited to faculty and program information and course description is subject to change without notice. **Any changes to course curriculum and/or assessment shall adhere to approved Sheridan protocol.** Nothing in this Course Outline should be viewed as a representation, offer and/or warranty. Students are responsible for reading the [Important Notice and Disclaimer](#) which applies to Programs and Courses.

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