UNIVERSITY OF ALBERTA
FACULTY OF EXTENSION

SYLLABUS

EXSM 3935 WI2 - JavaScript Fundamentals

Full Stack Web Development Diploma

Faculty of Extension | University of Alberta

Course Dates: March 7, 2022 to April 17, 2022 (online classes each Thursday starting March 10)

7:00 PM to 9:00 PM MT

Location/Format: online synchronous learning through eClass

Course instructor(s) and contact information:	**James Grieve** jgrieve@ualberta.ca **Responses within 48 hours during business days; office hours from 4:00 PM to 9:00 PM.**
Program office information:	If you have any concerns or questions regarding the course, you can contact the program staff, Monday through Friday, at techprog@ualberta.ca
Date of last syllabus revision:	WINTER 2022

The University of Alberta acknowledges that we are located on Treaty 6 territory, and respects the histories, languages, and cultures of First Nations, Metis, Inuit, and all First Peoples of Canada, whose presence continues to enrich our vibrant community.

ABOUT THE COURSE

Course Description

JavaScript is a coding language that allows you to implement complex features on web pages, from timely content updates to interactive maps to animated graphics and more. It is the third layer of standard web technologies, which also include HTML and CSS. Be introduced to JavaScript as you explore the fundamentals of the language and learn to apply these concepts via interactive web pages to create visually interesting websites.

Course Outcomes

After completing this course, students should be able to:

- Demonstrate a basic understanding of JavaScript and its purpose in the web.
- Add JavaScript code and functionality to a web page.

Course Materials

- All course materials available online and/or via eClass.

Other Course Fees

- We cover free hosting tiers during the course, but students are free to purchase and explore additional options at their own expense.

COURSE SCHEDULE

Key Course Dates

All assignment submission deadlines follow **Mountain Time (MT)**, and are listed below.

Please note that online synchronous class times will be recorded.
Please refer to the "Recording in the Classroom" policy section of this document for further details.

Module	Key Dates & Times
Module 1 Introduction and Data-Types	**March 10, 2022 @ 7:00PM - 9:00PM** Assignments and Activities ● Module 1 Quiz ○ March 13, 2022 @ 11:59PM
Module 2 Navigating Files and Folders	**March 17, 2022 @ 7:00PM - 9:00PM** Assignments and Activities ● Module 2 Quiz ○ March 20, 2022 @ 11:59PM
Module 3 Comparisons and Decisions	**March 24, 2022 @ 7:00PM - 9:00PM** Assignments and Activities ● Module 3 Quiz ○ March 27, 2022 @ 11:59PM
Module 4 Loops	**March 31, 2022 @ 7:00PM - 9:00PM** Assignments and Activities ● Module 4 Quiz ○ April 3, 2022 @ 11:59PM
Module 5 Functions	**April 7, 2022 @ 7:00PM - 9:00PM** Assignments and Activities ● Module 5 Quiz ○ April 10, 2022 @ 11:59PM
Module 6 JSON and Objects	**April 14, 2022 @ 7:00PM - 9:00PM** Assignments and Activities ● Module 6 Quiz ○ April 17, 2022 @ 11:59PM

(Week 7) Putting it all together.	Assignments and Activities ● **Cumulative Project** ○ **April 17, 2022 @ 11:59PM**

MODULE OVERVIEWS

Module 1: Introduction and Data-Types

Topics

- Introduction to programmatic problem solving
- What is JavaScript?
- Data types in JavaScript
- Variables in JavaScript
- Console output in JavaScript

Learning Outcomes

After completing this module, students should be able to:

- Run JavaScript in a web page.
- Demonstrate an understanding of JavaScript, its purpose, and data-types.

Supplementary (Optional) Readings

- Brown, E. (February 2016). *Learning JavaScript, 3rd Edition.* O'Reilly Media, Inc.
  - Preface
    - A Brief History of JavaScript
    - ES6
  - Chapter 1. Your First Application
    - Where to Start
    - The Tools
    - A Comment on Comments
    - Getting Started
    - The JavaScript Console
  - Chapter 3. Literals, Variables, Constants, and Data Types
    - Variables and Constants
    - Variables or Constants: Which to Use?

- Identifier Names
- Literals
- Primitive Types and Objects
- Numbers
- Strings
- Special Characters
- Booleans
- null and undefined
- Objects
- Arrays
- Data Type Conversion

Activities & Assignments

- Module 1 Quiz

Module 2: Primitives and Arrays

Topics

- Working with strings
- Working with numbers
- Working with arrays

Learning Outcomes

After completing this module, students should be able to:

- Use and manipulate both strings and numbers in JavaScript.
- Create, read from, edit values in, and remove values from JavaScript arrays.

Supplementary (Optional) Readings

- Brown, E. (February 2016). *Learning JavaScript, 3rd Edition.* O'Reilly Media, Inc.
    - Chapter 3. Literals, Variables, Constants, and Data Types
        - Numbers
        - Strings
        - Special Characters
        - Booleans
        - null and undefined
        - Objects
        - Arrays
    - Chapter 5. Expressions and Operators
        - Arithmetic Operators
        - String Concatenation
    - Chapter 8. Arrays and Array Processing
    - Chapter 16. Math
    - Chapter 17. Regular Expressions

Activities & Assignments

- Module 2 Quiz

Module 3: Comparisons and Decisions

Topics

- Common comparison operators
- Common equality operators
- Common logical operators
- If statements
- Switch statements

Learning Outcomes

After completing this module, students should be able to:

- Demonstrate knowledge of comparisons and decisions in JavaScript.

Supplementary (Optional) Readings

- Brown, E. (February 2016). *Learning JavaScript, 3rd Edition.* O'Reilly Media, Inc.
    - Chapter 4. Control Flow
        - A Control Flow Primer
            - Block Statements
            - Whitespace
            - if...else Statement
            - if Statement
        - Control Flow Statements in JavaScript
            - Chaining if...else Statements
            - switch Statements
    - Chapter 5. Expressions and Operators
        - Operator Precedence
        - Comparison Operators
        - Comparing Numbers
        - Logical Operators
        - AND, OR, and NOT

Activities & Assignments

- Module 3 Quiz

Module 4: Loops

Topics

- for loop
- for...of loop
- do...while loop
- while loop

Learning Outcomes

After completing this module, students should be able to:

- Demonstrate knowledge of loops in JavaScript.

Supplementary (Optional) Readings

- Brown, E. (February 2016). *Learning JavaScript, 3rd Edition.* O'Reilly Media, Inc.
    - Chapter 4. Control Flow
        - A Control Flow Primer
            - while Loops
            - do...while Loop
            - for Loop
            - Putting It All Together
        - Control Flow Statements in JavaScript
            - Control Flow Exceptions
            - Metasyntax
            - Additional for Loop Patterns
            - for...of Loop

Activities & Assignments

- Module 4 Quiz

Module 5: Functions

Topics

- Functions

Learning Outcomes

After completing this module, students should be able to:

- Demonstrate knowledge of functions in JavaScript.

Supplementary (Optional) Readings

- Brown, E. (February 2016). *Learning JavaScript, 3rd Edition.* O'Reilly Media, Inc.
    - Chapter 6. Functions
        - Return Values
        - Calling Versus Referencing
        - Function Arguments
            - Do Arguments Make the Function?
            - Default Arguments
        - The this Keyword
        - Function Expressions and Anonymous Functions
        - Arrow Notation
        - call, apply, and bind
    - Chapter 7. Scope
        - Scope Versus Existence
        - Lexical Versus Dynamic Scoping
        - Global Scope
        - Block Scope
        - Variable Masking
        - Functions, Closures, and Lexical Scope
        - Immediately Invoked Function Expressions
        - Function Scope and Hoisting

    - Function Hoisting
    - The Temporal Dead Zone

Activities & Assignments

- Module 5 Quiz

Module 6: JSON and Objects

Topics

- JavaScript objects
- Object properties and values
- JSON

Learning Outcomes

After completing this module, students should be able to:

- Demonstrate knowledge of JSON.
- Demonstrate knowledge of objects in JavaScript.

Supplementary (Optional) Readings

- Brown, E. (February 2016). *Learning JavaScript, 3rd Edition.* O'Reilly Media, Inc.
    - Chapter 3. Literals, Variables, Constants, and Data Types
        - Objects

Activities & Assignments

- Launch a Website

COURSE ASSESSMENT & GRADED ACTIVITIES

Assessments Overview and Weighting

Please refer to the "Key Course Dates" section for a list of all assessment due dates.

Assessment	Module	Due	Weighting
• Project	All	April 17, 2022 @ 11:59PM	**40** %
• Module 1 Quiz	1	March 13, 2022 @ 11:59PM	**10** %
• Module 2 Quiz	2	March 20, 2022 @ 11:59PM	**10** %
• Module 3 Quiz	3	March 27, 2022 @ 11:59PM	**10** %
• Module 4 Quiz	4	April 3, 2022 @ 11:59PM	**10** %
• Module 5 Quiz	5	April 10, 2022 @ 11:59PM	**10** %
• Module 6 Quiz	6	April 17, 2022 @ 11:59PM	**10** %
TOTAL			**100 %**

Marking criteria for all assignments will be specified within the instructions for the assignment. Please review these criteria before completing your assignments.

Assessment Details and Evaluation Criteria

Project

Description / Instructions

A course-long assignment that is built on each class, intended to demonstrate competency and understanding of each module.

Evaluation Criteria

See the rubric on eClass for details.

Module 1 Quiz

Description / Instructions

A quiz covering topics included in Module 1 (JavaScript, data types, and variables.)

Evaluation Criteria

Evaluation information is available on eClass.

Module 2 Quiz

Description / Instructions

A quiz covering topics included in Module 2 (strings, numbers, and arrays.)

Evaluation Criteria

Evaluation information is available on eClass.

Module 3 Quiz

Description / Instructions

A quiz covering topics included in Module 3 (operators, if statements, and switch statements.)

Evaluation Criteria

Evaluation information is available on eClass.

Module 4 Quiz

Description / Instructions

A quiz covering topics included in Module 4 (for loops and while loops.)

Evaluation Criteria

Evaluation information is available on eClass.

Module 5 Quiz

Description / Instructions

A quiz covering topics included in Module 5 (functions.)

Evaluation Criteria

Evaluation information is available on eClass.

Module 6 Quiz

Description / Instructions

A quiz covering topics included in Module 5 (JSON and objects.)

Evaluation Criteria

Evaluation information is available on eClass.

COURSE-SPECIFIC POLICY STATEMENTS

Penalty for Late Assessments

In this course, the penalty for late assessments will be a loss of **10**% of the assessment's weight **per day**. If you have extenuating circumstances that will prevent you from handing in your assignments on-time, please contact your instructor *before* the due date to discuss the potential options.

Citation Style

Written assignments must comply with a University-accepted citation style, either MLA or APA. For more information, visit the University Libraries website (www.library.ualberta.ca) and click 'Citation Guides' in the Library Services menu.

Understanding Your Grades

The University of Alberta uses a letter grading system with a four-point scale of numerical equivalents for calculating grade point averages. Grades reflect judgments of student achievement made by instructors. These judgments are based on a combination of absolute achievement and relative performance in a class.

All final results are reported using a letter grade or grade point value.

The following table presents an approximate guide for understanding the relationship between percentage grades and letter grades:

A+	A	A-	B+	B	B-	C+	C	C-	D+	D	F	Letter Grade
96–100	91–95	86–90	81–85	77–80	72–76	69–71	64–68	60–63	55–59	50–54	< 50	% range

UNIVERSITY & FACULTY OF EXTENSION GRADING POLICY

Official Grade Notification

Students can access and print their final grades ***only*** through Bear Tracks, an online service provided to University of Alberta students. To log into Bear Tracks, visit https://www.beartracks.ualberta.ca. To learn more about Bear Tracks and your CCID please visit https://www.ualberta.ca/registrar/registration-and-courses/bear-tracks-resources.

Any other edition or statement of a final grade should be considered unofficial, including those released in eClass or by other means. In the rare event access is not available, a hard copy may be requested through the Program Office. Program Offices will not release grades over the telephone under any circumstances. ***If you would like to receive an email notifying you when your final grades are available, please sign on to Bear Tracks and visit the Grades section.***

The University of Alberta Grading System

The following table provides information about the meaning of letter grades:

Grading in Continuing Education Courses *		
Descriptor	**Letter Grade**	**Grade Point Value**
Excellent	A+	4.0
	A	4.0
	A-	3.7
Good	B+	3.3
	B	3.0
	B-	2.7
Satisfactory	C+	2.3
	C	2.0
	C-	1.7
Poor	D+	1.3
	D	1.0
Failure	F	0

*These descriptors above to continuing education and undergraduate courses using alpha grades. Graduate courses use an alternative descriptor set.

Courses that are graded using the “completed requirements” criteria use the following grades and remarks:

Final Grades	Description
CR	Completed requirements; no grade point value assigned.
NC	Failure; no grade point value assigned.

A complete list of current final grades and remarks can be found §23.4 of the University Calendar.

Failing Grades

Students will receive a failing grade under the following conditions:

- if the student has failed to meet the course requirements at the required standards stipulated by the course instructor, e.g. the student's aggregate grade on submitted assignments is lower than the minimum passing grade for the course;
- if the student has failed to withdraw from the course. Non-attendance does not constitute notice of withdrawal from a course. If the student chooses to withdraw from a course, the student must contact the Faculty of Extension Registration Office and submit a written withdrawal request.

Grade Appeals

The assignment of grades is the responsibility of the course instructor. Any concerns regarding grades should first be discussed with the instructor. If the problem is not resolved, students may wish to consult the Faculty of Extension regulations regarding grade appeals. The Faculty of Extension has developed procedures in order that learners who encounter concerns and problems related to academic standing, learning assessment/grades, program requirements, or other matters may have them reviewed equitably and expeditiously. Copies of these procedures can be obtained from the Office of the Dean at 2-240 Enterprise Square, 10230 Jasper Avenue, phone (780) 492-2681.

UNIVERSITY AND FACULTY OF EXTENSION POLICY STATEMENTS

Course Outline Policies

Policy about course outlines can be found in the Academic Regulations section of the University Calendar.

Academic Integrity

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (https://www.ualberta.ca/governance/resources/policies-standards-and-codes-of-conduct/code-of-student-behaviour.html) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

Recording in the Classroom

Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

Please note that online synchronous class times for this course may be recorded for the benefit of the class. Any recordings of this course will be disclosed to other students enrolled in this section of the class, the instructor, and any other teaching assistants and/or course administrators who may support the course. It is recommended that students remove all identifiable and personal belongings from the space in which they will be participating. Students do have the right to not participate in the recording, and in such cases are advised to turn off their cameras and audio recording devices prior to recording; students can still participate in online synchronous sessions through text-based chat. Unless otherwise specified, recordings will be saved to Zoom cloud storage, accessible via eClass, and made available for as long as the course eClass section remains active. Please direct any questions about this digital collection of recordings to your course instructor.

Accommodating Disabilities

If you have a disability or condition that may require some modifications, please contact Accessibility Resources (1-80 Students' Union Building; PH: (780) 492-3381; TTY: (780) 248-1665) and obtain a determination as to what accommodations should be made.

Withdrawal, Refunds, and Transfer Information

If you wish to drop or withdraw from this course, you must do so by the official drop or withdrawal deadline. Please refer to https://www.ualberta.ca/extension/information/for-students/forms/cancel-registration for information related to official drop and withdrawal policies and deadlines, as well as guidelines to the withdrawal process. Non-attendance does not constitute notice of withdrawal from a course. In graded courses, please note that a failing grade can be assigned to any student who has not officially withdrawn from the course.

Your @ualberta.ca Email Address

The University of Alberta uses email to communicate important information and notices to our students, and you have been automatically assigned an @ualberta.ca email account. It is your responsibility to check your @ualberta.ca email account regularly.

Visit https://www.ualberta.ca/extension/information/for-students/checklist#email for more information.

Applying for Graduation

Continuing Education students who expect to complete the requirements of a certificate or citation program by the end of winter term must apply for graduation by Feb. 1 using Bear Tracks under Academics > My Academics > Graduation.

See https://ext.ualberta.ca/information/policies/graduation for more information.

In Case of Emergency

All students attending classes at Enterprise Square MUST be familiar with the Faculty of Extension's Emergency Protocols in the event of a fire or other emergency situation. Click here to visit emergency protocols: https://bit.ly/2NAZFmR.

Records in General Studies Courses

Faculty of Extension general studies courses (those with the prefix EXGEN) are non-graded and will appear on the transcript as "Non-graded."

Records in Courses in Certificate and Citation Programs

Faculty of Extension courses offered as part of certificate or citation programs are assessed. Any learner, meeting course prerequisites, can take a course that is part of a credentialed program. If you are not registered to take the full program at this time, taking a graded course gives you the opportunity to participate in assessments and earn a grade that reflects your achievement. Grades earned can later be applied to applicable program requirements. Grades earned in Continuing Education courses contribute to your University of Alberta Continuing Education GPA. University of Alberta undergraduate and graduate GPAs are calculated independently.

If you do not wish to complete assessments, receive a grade, or apply course credit to a credential, you must register to "audit" the course. Courses will appear on the transcript as "Audit." Students registered into graded courses that do not self-identify and officially register an audit student will receive the grade earned.