



## COURSE OUTLINE: CSD0213 - INFO. TECHNOLOGY

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<b>Course Code: Title</b>	CSD0213: WEB DEVELOPMENT II
<b>Program Number: Name</b>	1120: COMMUNITY INTEGRATN
<b>Department:</b>	C.I.C.E.
<b>Academic Year:</b>	2022-2023
<b>Course Description:</b>	<p>CICE students, with the assistance of a learning specialist, in this course learn how to take static web sites and turn them into dynamic and interactive web applications using modern web technologies. The Document Object Model (DOM) of web browsers is introduced, and students learn to create and manipulate DOM objects in response to user actions and system events. Specific focus is given to securing and validating HTML Forms. Students also learn how to interact securely with Web APIs and various client-side APIs, such as the Web Storage and Geolocation APIs.</p> <p>The programming languages JavaScript and TypeScript are used in this course.</p>
<b>Total Credits:</b>	4
<b>Hours/Week:</b>	4
<b>Total Hours:</b>	56
<b>Prerequisites:</b>	There are no pre-requisites for this course.
<b>Corequisites:</b>	There are no co-requisites for this course.
<b>Vocational Learning Outcomes (VLO's) addressed in this course:</b>	<b>1120 - COMMUNITY INTEGRATN</b>
<b>Please refer to program web page for a complete listing of program outcomes where applicable.</b>	VLO 1 Integrate fully in academic, social and community activities.
<b>Essential Employability Skills (EES) addressed in this course:</b>	<p>EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.</p> <p>EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication.</p> <p>EES 5 Use a variety of thinking skills to anticipate and solve problems.</p> <p>EES 6 Locate, select, organize, and document information using appropriate technology and information systems.</p> <p>EES 10 Manage the use of time and other resources to complete projects.</p> <p>EES 11 Take responsibility for ones own actions, decisions, and consequences.</p>
<b>Course Evaluation:</b>	<p>Passing Grade: 50%, D</p> <p>A minimum program GPA of 2.0 or higher where program specific standards exist is required</p>



for graduation.

**Other Course Evaluation & Assessment Requirements:**

To successfully pass this course, the student must receive passing grades for both the Test and Evaluation portion of the class AND the Laboratory portion.

Grade  
Definition Grade Point Equivalent  
A+ 90 - 100% 4.00  
A 80 - 89%  
B 70 - 79% 3.00  
C 60 - 69% 2.00  
D 50 - 59% 1.00  
F (Fail) 49% and below 0.00

CR (Credit) Credit for diploma requirements has been awarded.  
S Satisfactory achievement in field /clinical placement or non-graded subject area.  
U Unsatisfactory achievement in field/clinical placement or non-graded subject area.  
X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.  
NR Grade not reported to Registrar's office.  
W Student has withdrawn from the course without academic penalty.

**Books and Required Resources:**

Learn Web Development by MDN  
Publisher: MDN  
<https://developer.mozilla.org/en-US/docs/Learn>  
  
Eloquent JavaScript, 3rd edition by Marijn Haverbeke  
<https://eloquentjavascript.net/>

**Course Outcomes and Learning Objectives:**

Upon successful completion of this course, the CICE student, with the assistance of a Learning Specialist will acquire varying levels of skill development relevant to the following learning outcomes:

<b>Course Outcome 1</b>	<b>Learning Objectives for Course Outcome 1</b>
1. Use JavaScript to build working programs	1.1 Write programs that use variables, conditionals, loops, functions, I/O, and error handling 1.2 Use built-in string and mathematics functions 1.3 Use basic data types such as strings, numbers, arrays, objects, Maps, and Dates 1.4 Explain JavaScript's type coercion and weak type system 1.5 Create inheritance hierarchies using classes 1.6 Describe JavaScript's prototype system 1.7 Discuss how JavaScript's dynamic typing precludes the need for explicit interfaces 1.8 Describe the difference between client-side and server-side JavaScript programming 1.9 Use JavaScript debugging tools to debug JavaScript applications
<b>Course Outcome 2</b>	<b>Learning Objectives for Course Outcome 2</b>
2. Use the DOM API to manipulate and enhance static web pages	2.1 Access elements by id, tag name, class, name, or selector 2.2 Read and change element content, CSS properties, and attributes



	2.3 Add and remove document nodes 2.4 Create and close new browser tabs and windows
<b>Course Outcome 3</b>	<b>Learning Objectives for Course Outcome 3</b>
3. Use events and event handling to respond to user interactions and system events	3.1 Define events and event handlers 3.2 Discuss the nature of callback functions 3.3 Create programs that respond to user and system events 3.4 Create programs that feature timed/periodic operations
<b>Course Outcome 4</b>	<b>Learning Objectives for Course Outcome 4</b>
4. Enhance HTML forms with custom validation	4.1 Enhance form usability with JavaScript 4.2 Customize browser-based HTML validation 4.3 Implement custom validation to check for errors and display error messages 4.4 Discuss the security vulnerabilities that may arise when using forms, and how to prevent them 4.5 Use encoding and decoding to prevent cross-site scripting (XSS) attacks 4.6 Explain the how cross-site request forgery (CSRF) tokens prevent CSRF attacks
<b>Course Outcome 5</b>	<b>Learning Objectives for Course Outcome 5</b>
5. Create secure, asynchronous HTTP requests and handle responses	5.1 Create and use XMLHttpRequest objects to make dynamic HTTP requests 5.2 Discuss the Same-Origin Policy and its role in web security 5.3 Use the Cross-Origin Resource Sharing (CORS) mechanism to make cross-origin requests 5.4 Explain the difference between synchronous and asynchronous operations 5.5 Describe the disadvantages of using callbacks in asynchronous operations 5.6 Describe the nature of Promises 5.7 Write Promise-based code using both the raw and the async/await syntax 5.8 Create HTTP requests using the Fetch API
<b>Course Outcome 6</b>	<b>Learning Objectives for Course Outcome 6</b>
6. Use other common Web APIs such as Web Storage, Geolocation, etc, as time permits	6.1 Use the History, Location, Navigation, and Screen objects to manipulate the browser window 6.2 Explain what cookies are and how they are used in web applications 6.3 Describe the Web Storage APIs, and explain when they are useful instead of cookies 6.4 Write programs that use cookie, localStorage, and sessionStorage data 6.5 Write programs using other browser APIs as time permits
<b>Course Outcome 7</b>	<b>Learning Objectives for Course Outcome 7</b>
7. Use TypeScript to add type safety to web code	7.1 Describe the structural type system that TypeScript adds to JavaScript 7.2 Configure a TypeScript development environment 7.3 Add simple type annotations to existing JavaScript code



**Evaluation Process and Grading System:**

Evaluation Type	Evaluation Weight
Lab Assignments	40%
Test 1	20%
Test 2	20%
Test 3	20%

**CICE Modifications:****Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

**A.** Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

**B. Tests may be modified in the following ways:**

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

**C. Tests will be written in CICE office with assistance from a Learning Specialist.*****The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

**D. Assignments may be modified in the following ways:**

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.



***The Learning Specialist may:***

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

**E. Evaluation:**

Is reflective of modified learning outcomes.

**NOTE:** Due to the possibility of documented medical issues, CICE students may require alternate methods of evaluation to be able to acquire and demonstrate the modified learning outcomes

**Date:**

September 7, 2022

**Addendum:**

Please refer to the course outline addendum on the Learning Management System for further information.

