

HTTP 5221 [B]

Critical Path

Web Development: Security & Usability

Summer 2025

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The Critical Path is the course schedule. It is an important document that lays out weekly and/or module objectives that you are responsible for to ensure academic success. Download and/or print out a copy of the Critical Path and refer to it regularly.

Week #	Date	Module	Topics	Activities	Type	Description	Weight	Due Date	Last Date to Submit
1	May 8	Level Up Your Code!	<ul style="list-style-type: none">• object, class, constructor• querySelector, querySelectorAll, onclick, unload, keyup• variables scopes• window.location object (search, href, host, hostname, path, hash)	Lab Exercise 1	Individual	<ul style="list-style-type: none">• Create a list of friends using JS.• Complete Quiz on knowledge of JS variables, objects.• Create a page using routing.	3%	May 10	May 14
2	May 15	Coding Standards	<ul style="list-style-type: none">• B.E.M. naming convention• JS Lint• "use strict"	Lab Exercise 2	Individual	<ul style="list-style-type: none">• Create a form with Name, Salary and Postal code inputs JS validation.• Complete Quiz on knowledge	6%	May 17	May 21

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						of JS regex.			
3	May 22	Test Design	<ul style="list-style-type: none"> Testing strategies, spec, requirements, bug prevention. Dynamic, static testing, boundary conditions, tests to pass, to fail. Unit testing, TDD 	Lab Exercise 3	Individual	<ul style="list-style-type: none"> Create a JS function to validate Humber ID. Create unit tests for this function. 	6%	May 24	May 28
4	May 29	Testing Frameworks & Encryption	<ul style="list-style-type: none"> Encryption libraries with JS (md5, hash, salt) Jasmine Testing Framework 	Lab Exercise 4	Individual	<ul style="list-style-type: none"> Create a JS function to guess a month. Create Jasmine unit tests for this function. 	4%	May 31	Jun 4
				Assignment 1: Jasmine Testing	Individual	<ul style="list-style-type: none"> Create a form with JS validation and error/success messages. Create Jasmine unit tests for JS code. 	15%	Jun 11	Jun 18
5	Jun 5	Hacker Prevention	<ul style="list-style-type: none"> Hacking, black hat, white hat, grey hat Intent & permission. Penetration testing, exploits. 	Assignment 2	Group	<ul style="list-style-type: none"> Research a vulnerability of your choice. Create html page with vulnerability description. 	10%	Jun 7	Jun 11

Week #	Date	Module	Topics	Activities	Type	Description	Weight	Due Date	Last Date to Submit
6	Jun 12	End to End (E2E) Testing	<ul style="list-style-type: none"> • Test coverage, testing pyramid. • Integration testing, e2e, user testing, automated testing. • Cypress. 	Lab Exercise 5	Individual	<ul style="list-style-type: none"> • Create a subscription form • Create Cypress tests for the form. 	4%	Jun 14	Jun 18
7	Jun 19	Ad Hoc Testing	<ul style="list-style-type: none"> • Ad hoc testing, web testing checklist • functionality testing (valid html, css, js, links, forms, cookies). • Compatibility testing, performance testing, security testing, usability testing. 	Lab Exercise 6	Individual	<ul style="list-style-type: none"> • Fix accessibility, CSS, HTML & performance issues • Use browser extensions for Ad Hoc testing. 	2%	Jun 21	Jun 25
Reading Week (no classes) Jun 23 - 29									
Midterm Marks due July 11									
8	Jul 3	Accessibility: The DOM and assistive devices	<ul style="list-style-type: none"> • Accessibility definition • Headings • Semantics 	Quiz 1	Individual	<ul style="list-style-type: none"> • Quiz on accessibility • Correct headings, semantics 	2.5%	Jul 5	Jul 9
9	Jul 10	Content, Inputs & Navigation	<ul style="list-style-type: none"> • ARIA attributes • Accessible Links • Tabs and tab order • Accessible form controls & error 	Quiz 2	Individual	<ul style="list-style-type: none"> • Quiz on aria attributes • Tabs, links, images 	2.5%	Jul 12	Jul 16

Week #	Date	Module	Topics	Activities	Type	Description	Weight	Due Date	Last Date to Submit
			handling						
10	Jul 17	Usability definitions, heuristic evaluations	<ul style="list-style-type: none"> Usability definition 10 Heuristics of Usability 	Assignment 3: 10 Heuristics of Usability	Group	<ul style="list-style-type: none"> Evaluate a website based on Heuristics 	10%	Jul 23	Jul 27
11	Jul 24	Planning and preparing usability Testing	<ul style="list-style-type: none"> The Brief Planning usability tests 	Lab Exercise 7	Individual	<ul style="list-style-type: none"> Creating testing scenarios 	5%	Jul 26	Jul 27
				Assignment 4: Usability report	Individual	<ul style="list-style-type: none"> Creating plan and test 	15%	Aug 6	Aug 10
12	Jul 31	Collecting data - conducting Usability	<ul style="list-style-type: none"> Collecting data for Usability testing Conducting Usability testing 	Lab Exercise 8	Individual	<ul style="list-style-type: none"> Observing a User Test (Krug Method) 	5%	Aug 2	Aug 6
13	Aug 7	Usability Test Analysis and Reporting	<ul style="list-style-type: none"> Usability Test Analysis Creating Usability report 	Lab Exercise 9	Individual	<ul style="list-style-type: none"> Testing methods and evaluation 	5%	Aug 9	Aug 13
14	Aug 14	Usability Report	<ul style="list-style-type: none"> Presentations of the reports 	Presentation	Individual	<ul style="list-style-type: none"> Presentations 	5%	Aug 14	Aug 14
Final Marks due August 19									

Summary of Graded Components

Component	Module	Weight
Group Assignment	Security	10%
Individual Assignment	Security	15%
Lab Exercise (6)	Security	25%
Group Assignment	Usability	10%
Lab Exercise (3)	Usability, Accessibility	15%
Usability Report	Usability	15%
Quiz (2)	Accessibility	5%
Presentation	Usability	5%
Total		100%