



Approved by Chair:

Signature

T175

**Backend Web Development
Blockchain Development Program**

Teacher's Name Mike Denton

Course Code BCDV1022

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Course Section T175

Phone

Academic Year 2022-2023

Office

Term 1

Out of Class Assistance

All academic inquiries will be replied to within three business days.

LIST OF TEXTBOOKS AND OTHER TEACHING AIDS:

Required:

N/A

Recommended Resources:

Instructor to provide

Detailed Evaluation System

Assessment:	Description:	Outcome(s) assessed:	EES assessed:	Date/Week:	% of Final Grade:
Participation	Class participation	1,2,3,4,5,6	1,4,5,6,8,9,10,11	1,2	10%
Labs	In class instructor guided interactive work	1,2,3,4,5,6	1,2,3,4,5,6,7,8,9,10,11	1,2	30%

Assignment	Individual student assignment	1,2,3,4,5	2,4,5,6,7,9,10	2	30%
Exam	Final exam	1,2,3,4,5,6	2,3,4,5,6,7,10,11	2	30%

Learning Schedule / Topical Outline (subject to change with notification)

TOPICAL OUTLINE:

Week	Topic	Outcome	Content	Reference
1	1	5, 6	<u>NPM: Node Package Manager</u> <ul style="list-style-type: none"> • Packages and Package Managers • npm and npm Registry • Versioning and package.json <u>Getting started with Node.js</u> <ul style="list-style-type: none"> • V8: The JavaScript Engine • The Node Architecture 	
1	2	1, 5	<u>Node Fundamentals</u> <ul style="list-style-type: none"> • Module, Export, Require • Events and Event Emitter <u>HTTP module and Web Server</u>	
1	3	1, 2	<u>Working with Express</u> <ul style="list-style-type: none"> • Routes and Routing • Query String and Post Parameters • RESTful API and JSON <u>Working with Nest.js</u> <ul style="list-style-type: none"> • Project structure • Modules, controllers and services • Swagger 	
1	4	2, 5, 6	<u>Node Fundamentals II</u> <ul style="list-style-type: none"> • Asynchronous Code, Event Loop, Libuv • Streams and Pipes • Built-in Node Modules 	
1	5	3, 4	<u>Interacting with the Local System</u> <ul style="list-style-type: none"> • Buffer • Streams and Pipes <u>Node Core Concepts</u> <ul style="list-style-type: none"> • Event Loop Architecture 	
2	6	1, 2, 3, 4, 5	Lab Test	
2	7	1, 3, 4	<u>Working with NoSQL and MongoDB</u> <ul style="list-style-type: none"> • NoSQL vs SQL • Mongo Shell 	

			<u>Working with SQL and Postgress SQL</u>	
2	8	1, 4, 5	<u>Mongoose and Middleware</u> <ul style="list-style-type: none"> • Model & Schema • Queries • Integrating Mongoose with Node <u>Node Advanced Topics</u>	
2	9	2, 3, 5	Microservices, docker containers	
2	10	1, 2, 3, 4, 5, 6	Final Exam	
<p>Please note: this schedule may change as resources and circumstances require.</p> <p>For information on withdrawing from this course without academic penalty, please refer to the College Academic Calendar: http://www.georgebrown.ca/Admin/Registr/PSCal.aspx</p>				