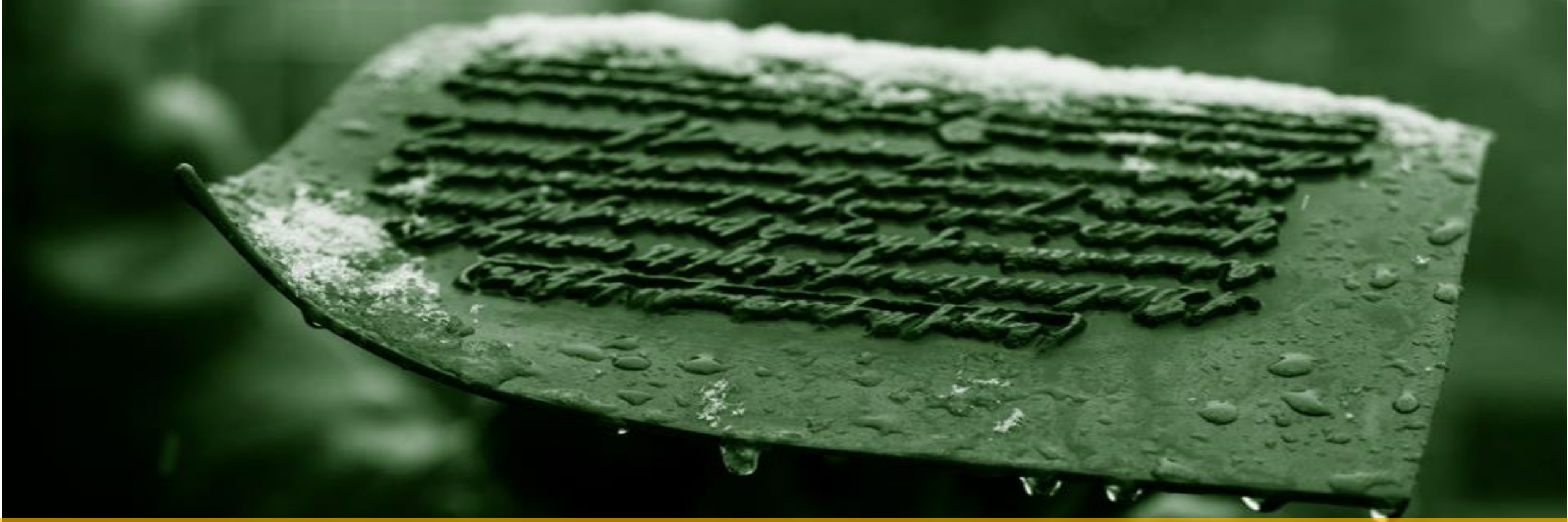

MODULE 0 – COURSE OVERVIEW

IT 207 – IT Programming

GEORGE MASON UNIVERSITY

Course Focus and Rationale

❖ Catalog Description:

Building on fundamentals of problem solving, logic and algorithm development, and procedural programming, this course further develops these skills while covering server-side scripting languages and relational database connectivity. Students will use open-source software tools to develop database-enabled web applications.

❖ Course Rationale:

This course enables students to further advance their skills and knowledge gained in programming and databases to manage persistent data on the server-side using recent server-side technologies and web development tools.

Course Perquisites

- The prerequisites for this course are:
  - IT 102: Discrete Structures or MATH 112 or MATH 125
  - IT 106: Introduction to IT Problem Solving Using Computer Programming or IT 109: Introduction to Computer Programming or IT 196 or CS 112
  - IT 214: Database Fundamentals or IT 194

COURSE OUTLINE

Week	Modules	Module Topic	Module Assessment	
			Exercises/Labs	Assignment/Quiz
	Module 0	*Course Introductory Module*		
Week 1	**Module 1**	*The Big Picture*	Programming Exercise 1	
Week 2	**Module 2**	*NodeJS Synchronous File Systems APIs*	Lab 1	
Week 3	**Module 3**	*NodeJS Asynchronous File Systems APIs*	Programming Exercise 2	Quiz 1 Assignment 1
Week 4	**Module 4**	*Server-Side Fundamentals*	Lab 2	
Week 5	**Module 5**	*Server-Side data Formats*	Programming Exercise 3	Quiz 2 Assignment 2
Week 6	**Module 6**	*Simple REST API Server-Side Implementation Example*	Lab 3	
Week 7	**Midterm**	***Midterm Practicum***		
Week 8	**Module 7**	*SQL Review*	Programming Exercise 4	
Week 9	**Module 8**	*Connecting MySQL to Nodejs Server*	Lab 4	Assignment 3
Week 10	**Module 9**	*SQL injection with Examples*	Programming Exercise 5	Quiz 3
Week 11	**Module 10**	*Stored Procedures in DB*	Lab 5	Assignment 4
Week 12	**Module 11**	*Calling Stored Procedures from Nodejs*	Programming Exercise 6	Quiz 4
Week 13	**Module 12**	*Final review*		
Week 14	**Final**	***Final Practicum***		

Course Assessments & Requirements

- Graded Activities
  - Labs
  - Quizzes
  - Assignments
  - Practica

Assessment Component	Percentage
Labs	20%
Assignments	20%
Quizzes	20%
Midterm Practicum	20%
Final Practicum	20%

- Ungraded Activities
  - Programming Exercises
  - Weekly Readings

Please read the
Late Submission Policy
in the course syllabus

Rubrics

- Lab rubrics

- Assignment Rubrics

Grading Scheme

- Grades of "C-" and "D" are considered passing grades for undergraduate courses. However, a minimum grade of "C" is required in the undergraduate Information Technology program for any course that is
  - foundation,
  - core,
  - capstone,
  - gateway,
  - concentration, or
  - prerequisite course for other courses.

- This course is a core course and/or a prerequisite/corequisite for other courses.

Percentage %	Grade	Status
98 - 100%	A+	Passing
93 - 97%	A	
90 – 92%	A-	
87 – 89%	B+	
83 – 86%	B	
80 – 82%	B-	
77 – 79%	C+	
73 – 76%	C	
70 – 72%	C-	
60 – 69%	D	Conditional
0 – 59%	F	Failing

DEVELOPMENT ENVIRONMENT AND TOOLS

Development Environment

- Nodejs
  - https://nodejs.org/en
- VSCode
  - Website : https://code.visualstudio.com
- For Windows – VsCode with WSL
  - Remote development in WSL
  - https://code.visualstudio.com/docs/remote/wsl-tutorial

Development Tools

- cURL (Client URL)
  - cURL Command Tutorial with Examples
  - https://www.booleanworld.com/curl-command-tutorial-examples/

- POSTMAN
  - https://www.postman.com

Course Expectations

- Not a JS programming course
- Hands on programming course
- Reading manuals, documentation, blogs, articles, etc…
- Self study