HTTP Critical Path

HTTP 5126 - Database Design & Development Winter 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.

Unless discussed and specifically approved in advance by your instructor, the use of generative artificial intelligence (also known as "GAI" or "AI", for example, ChatGPT) **is not permitted** for this course and its use will be considered academic misconduct.

Module Breakdown

Week	Topics and Activities	Due Dates	Weight
1	**Module 1: Introduction to Data Design** **Topics:** ● Introduction to the course ● Introduction to data and database core concepts **Activities:** ● Lab 1 (5%)	Jan. 9	5%
2	**Module 2: Accessing Data Part 1** **Topics:** ● Retrieving data from a database table with SQL queries ● Limiting columns ● Limiting rows with the WHERE clause and comparison operators ● Creating Aliases for columns **Activities:** ● Lab 2 (5%)	Jan. 16	5%
3	**Module 3: Accessing Data Part 2** **Topics:** ● Removing duplicate rows with DISTINCT ● Refining results with logical operators ● Refining results with LIKE, BETWEEN, IN and IS NULL	Jan. 23	5%

Week	Topics and Activities	Due Dates	Weight
	● Sorting the result set with ORDER BY **Activities:** ● Lab 3 (5%)		
4	**Module 4: Using Built-in Functions** **Topics:** ● Aggregate functions MAX, MIN, COUNT, AVG, SUM, GROUP BY, HAVING **Activities:** ● Quiz 1 (3%) ● Lab 4 (6%)	Jan. 30 Jan. 30	3% 6%
5	**Module 5: Join Operations to Combine Tables** **Topics:** ● Retrieving data from multiple tables **Activities:** ● Lab 5 (8%)	Feb. 6	8%
6	**Module 6: Database Design Part 1** **Topics:** ● Database design fundamentals ● Identifying tables & assigning columns ● Relationships between tables ● Primary keys and foreign keys ● Data types in MySQL **Activities:** ● Lab 6 (6%)	Feb. 13	6%
7	**Module 7: Database Design Part 2** **Topics:** ● General principles of database design ● Relationship types ● Constraints ● Normalization **Activities:** ● Lab 7 (6%)	Feb. 20	6%

Week	Topics and Activities	Due Dates	Weight
	READING WEEK		

8	**Module 8: Database Design Part 3**
	Topics:
	  ● CRUD functionality
	  ● Optimizing with indices
	Activities:
	  ● Quiz 2 (3%)
	  ● Lab 8 (8%)
		Mar. 6
		
		Mar. 6
			3%
			
			8%

9	**Module 9: Views & Triggers**
	Topics:
	  ● Views
	  ● Triggers
	Activities:
	  ● Lab 9 (8%)
		Mar. 13	8%

10	**Module 10: Custom Functions**
	Topics:
	  ● Creating custom functions
	  ● Implementing conditions & loops
	Activities:
	  ● Quiz 3 (3%)
		Mar. 20	3%

11	**Module 11: Stored Procedures**
	Topics:
	  ● Creating and using stored procedures
	  ● Parameters for procedures
	  ● Cursors
	Activities:
	  ● Quiz 4 (4%)
		Mar. 27	4%

12	**Module 12: User Management**
	Topics:
	  ● Providing access to your data
	  ● Passwords in MySQL
	  ● Permissions & privileges
		Apr. 3	6%

Week	Topics and Activities	Due Dates	Weight
	Activities: ● Project Proposal (6%)		
13	**Module 13: Data Management with NoSQL** **Topics:** ● Introduction to NoSQL options ● Setup and installation ● Basic CRUD functionality **Activities:** ● Lab 10 (4%)	Apr. 10	4%
14	**Final Project Presentations** **Activities:** ● Database Project Presentation (5%) ● Database Project (15%)	Apr. 17 Apr. 19	5% 15%

Summary of Graded Course Components

Summary	Weight
Total for all Quizzes (x 4)	13%
Total for all Lab Exercises (x 10)	61%
Final Database Project Proposal Document	6%
Final Database Project	15%
Final Project Presentation	5%
Total	100%