



COURSE OUTLINE: CSD220 - DATABASE PROGRAM/SQL

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Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	CSD220: DATABASE PROGRAMMING USING SQL
Program Number: Name	2090: COMPUTER PROGRAMMER 2091: COMPUTER - PROG/ANAL
Department:	COMPUTER STUDIES
Semesters/Terms:	21W
Course Description:	This course is a continuation of CSD210, Database Modelling, where more advanced design and implementation of systems will be completed. A major focus of the course is on the physical implementation and manipulation of databases. More advanced SQL (Structured Query Language) will be used for processing and managing relational databases. The DBMS platform that will be used is MySQL. Database design/modeling will be revisited to ensure the student has grasped the major concepts taught in the previous course. The course will also extend the concepts of database management to include such topics as managing multi-user databases and data warehouse design.
Total Credits:	4
Hours/Week:	4
Total Hours:	60
Prerequisites:	CSD210
Corequisites:	There are no co-requisites for this course.
This course is a pre-requisite for:	CSD320
Vocational Learning Outcomes (VLO's) addressed in this course:	2090 - COMPUTER PROGRAMMER
Please refer to program web page for a complete listing of program outcomes where applicable.	VLO 6 Select and apply strategies for personal and professional development to enhance work performance.
	VLO 9 Support the analysis and definition of software system specifications based on functional and non-functional requirements.
	VLO 11 Apply one or more programming paradigms such as, object-oriented, structured or functional programming, and design principles, as well as documented requirements, to the software development process.
	VLO 12 Model, design, implement, and maintain basic data storage solutions.
Essential Employability Skills (EES) addressed in this course:	EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.
Course Evaluation:	Passing Grade: 50%, D

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2020-2021 academic year.



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A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.

Other Course Evaluation & Assessment Requirements:

EVALUATION PROCESS/GRADING SYSTEM:

Evaluation Methods Weight

Tests 60%
 Assignments 40%
 100%

The following semester grades will be assigned to students in postsecondary courses:

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

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Review the concepts of database design/modeling taught in the previous course.	1.1 Identify entities and allocate attributes to them 1.2 Assign primary/unique identifiers to entities 1.3 Understand how entities and relationships are represented 1.4 Create a database design/model and implement its physical representation
Course Outcome 2	Learning Objectives for Course Outcome 2
Discuss and apply the more advanced concepts related to SQL (Structured Query Language) using MySQL	2.1 Apply the concepts of grouping, joins and sub-queries 2.2 Apply the concepts of data definition and manipulation 2.3 Apply the concepts of data control using database users, roles, views, and triggers 2.4 Create and use stored procedures 2.5 Perform backup and restore procedures on a database
Course Outcome 3	Learning Objectives for Course Outcome 3
Understand the role of data/database management with respect to multi-user database processing and learn techniques for controlling the consequences of concurrent	3.1 Identify problems caused by concurrent processing 3.2 Explain the need for and use transactions 3.3 Explain methods to prevent loss of updates and the deadlocking

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	data access	
	Course Outcome 4	Learning Objectives for Course Outcome 4
	Understand how databases interact with applications	4.1 Distinguish between database users and application users 4.2 Explain the importance of software layers to isolate database code from business logic 4.3 Describe different database system architectures and their comparative advantages and disadvantages 4.3 Use a database connector library in an application to retrieve information from a database 4.4 Describe and mitigate the problems associated with security in database applications
	Course Outcome 5	Learning Objectives for Course Outcome 5
	Discuss cloud based databases and understand how they differ from on premise	5.1 Understand limiting query results to keep data small, relevant, and cost efficient 5.2 Demonstrate writing slim queries to only capture the data needed 5.3 Understand how keeping data offsite is different than onsite 5.4 Understand the advantages and disadvantages of cloud based databases

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	40%
Tests	60%

Date: July 22, 2020

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

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