



Introduction to Database Management Systems (DBMS) – CIST 104 Computer Information Systems Technology Program

Course Outline

COURSE IMPLEMENTATION DATE: September 2024
OUTLINE EFFECTIVE DATE: September 2024
COURSE OUTLINE REVIEW DATE: March 2029

GENERAL COURSE DESCRIPTION:

In this course students will learn how to manage SQL database systems, including performing basic database administration. Students will learn how to configure a database to support different applications and to perform tasks such as creating users and database schema, applying constraints, setting up access control, assigning memory, defining storage structures and manipulating data. Since database administration does not end after the database is created, students will learn the importance of backup and recovery strategy. Students will become familiar with fundamental concepts in the field such as transnational operations, ACID property, backup and redundancy, data integrity, various database roles (database admin, database programmer, database designer), database normal forms, join operations, and how to perform queries.

Program Information: This course is required for the first year of the Computer Information Systems Technology program.

Delivery: This program is delivered hybrid (includes both face-to-face and online components).

COTR Credits: 4

Hours for this course: 80 hours

Typical Structure of Instructional Hours:

Instructional Activity	Duration
Lecture Hours	40
Seminars / Tutorials	
Laboratory / Studio Hours	40
Practicum / Field Experience	
Other Contact Hours	
Total	80

Practicum Hours (if applicable):

Type of Practicum	Duration
On-the-Job Experience	
Formal Work Experience	
Other	
Total	N/A

Course Outline Author or Contact:

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Signature

APPROVAL SIGNATURES:

Department Head
Joy Brown
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Dean of Trades and Technology
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Department Head Signature

Dean Signature

EDCO

Valid from: September 2024 – March 2029

Education Council Approval Date

COURSE PREREQUISITES AND TRANSFER CREDIT:

Prerequisites: Admission to the Computer Systems Technician program.

Corequisites: None

Flexible Assessment (FA):

Credit can be awarded for this course through FA Yes No

Learners may request formal recognition for flexible assessment at the College of the Rockies through one or more of the following processes: External Evaluation, Worksite Assessment, Demonstration, Standardized Test, Self-assessment, Interview, Products/Portfolio, Challenge Exam. Contact an Education Advisor for more information.

Transfer Credit: For transfer information within British Columbia, Alberta and other institutions, please visit <http://www.cotr.bc.ca/Transfer>.

Student should also contact an academic advisor at the institution where they want transfer credit.

Prior Course Number: N/A

Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Resources available digitally through the online platform.

Please see the instructor's syllabus or check COTR's online text calculator <https://textbook.cotr.bc.ca/> for a complete list of the currently required textbooks.

LEARNING OUTCOMES:

Upon the successful completion of this course, students will be able to

- explain physical database design considerations that inform database configuration and management;
 - manage SQL database systems, from configuring databases to performing basic administration tasks;
 - generate reports and queries to retrieve and present data effectively;
 - configure databases to support a variety of applications, ensuring compatibility and optimal performance;
 - design forms to create a user interface;
 - apply fundamental database concepts, including transnational operations, ACID property, backup and redundancy, data integrity, query, normalization, and join operations, to work proficiently in the database management domain; and
 - implement basic security, backup, and security strategies to safeguard data, including tuning and troubleshooting strategies.
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COURSE TOPICS:

- Database tools
- Databases and tables
- Data relationships
- Queries and tables
- Queries and manipulating data
- Microsoft SQL Server 2016
- Forms and reports functionality
- Code procedures and functions

See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.

EVALUATION AND ASSESSMENT (Face-to-Face Delivery):

Assignments	% of Total Grade
Assignments (x4)	40%
Participation	5%
Project	15%
Midterm Exam	20%
Final Exam	<u>20%</u>
Total	100%

Please see the instructor's syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments and use of electronic aids.

EXAM POLICY:

Students must attend all required scheduled exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled exam without approval will be given a grade of "0" for the exam.

COURSE GRADE:

Course grades are assigned as follows:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	F
Mark (Percent)	≥ 90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	< 50

A grade of "D" grants credit but may not be sufficient as a prerequisite for sequential courses.

ACADEMIC POLICIES:

See www.cotr.bc.ca/policies for general college policies related to course activities, including grade appeals, cheating and plagiarism.

COURSE CHANGES:

Information contained in course outlines is correct at the time of publication. Content of the courses is revised on an ongoing basis to ensure relevance to changing educational, employment and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add or delete material from courses.