



Course Number and Title: CIS 238 - Database Design and Programming

Campus Location:

Georgetown, Dover, Wilmington

Effective Date:

2018-51

Prerequisite:

CIS 120

Co-Requisites:

none

Course Credits and Hours:

4.00 credits

3.00 lecture hours/week

2.00 lab hours/week

Course Description:

This course introduces students to database programming using structured query language (SQL). Students acquire working knowledge of the databases necessary to apply and manage the key features such as creating, updating, and reporting.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

None

Schedule Type:

Classroom Course

Hybrid Course

Online Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Explain database design theories and the normalization process. (CCC 1, 2, 6; PGC 3)
2. Develop SQL statements. (CCC 1, 2, 6; PGC 3)
3. Design, create, and update a database. (CCC 2, 6; PGC 3)
4. Design and maintain database security. (CCC 1, 2, 4, 6; PGC 1, 3, 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Explain database design theories and the normalization process.
 1. Describe database design theories and the normalization process.
 2. Develop relationships between database tables.
 3. Construct the table structures through the data normalization process.
2. Develop SQL statements.
 1. Describe relational database systems and SQL.
 2. Explain SQL commands.
 3. Identify system objects and processes.
 4. Examine the basic structure of the SELECT statement and its options.
 5. Construct SQL SELECT statements.
3. Design, create, and update a database.
 1. Formulate a plan to create a database.
 2. Create, modify, rename, and delete database tables.
 3. Write database queries using SQL statements.
 4. Construct multiple queries and views.
 5. Develop and modify reports.
4. Design and maintain database security.
 1. Identify and describe database security issues.
 2. Explain database administration.
 3. Develop a plan for database security.
 4. Create and maintain user accounts and groups.
 5. Define the constraints to protect data integrity in database tables.
 6. Set up access and security for database tables.

Evaluation Criteria/Policies:

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	-	100	=	A
83	-	91	=	B
75	-	82	=	C
0	-	74	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

1. Install, configure and secure computer applications and operating systems.
2. Design, write, and debug computer programs.
3. Design and integrate databases in computer programs
4. Analyze and design complex computer applications to solve business problems.
5. Integrate the principles of the Internet into web development.
6. Incorporate the principles of networking and information security in computer application development.

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.