COMPUTER SCIENCE: RELATIONAL DATABASE DEVELOPMENT CERTIFICATE

Program code: CSRD-CC

Location: Capital, Gateway, Housatonic, Norwalk

Program Description

This certificate program is designed for students who are preparing to enter the job market and want to earn a certificate on their way to earning an associate or bachelor's degree. It also benefits students who already have college degrees and are seeking retraining in the technology. The program provides an understanding of client/server environment, relational database design and development, and Database Administration.

Learning Outcomes

Upon successful completion of this certificate, the student will:

1. Understand the art of data modeling, database design, and database implementation.
2. Identify the components of a database.
3. Utilize the normalization process and implement designs.
4. Understand the role of the data and database administrators.
5. Use Structured Query Language using elements of a popular and widely used relational database package like MS SQL.
6. Identify and use appropriate programming constructs to fulfill application logic needs.
7. Manipulate database tables using SQL programming.
8. Build error trapping facilities within SQL programs.
9. Create SQL program units including: procedures, functions, triggers.
10. Use supplied packages in SQL program units.
11. Load data into tables from external files using the SQL utilities.
12. Identify uses of dynamic SQL and object technology.
13. Establish an in-depth understanding of Database Administration using the DBMS Interfaces.
14. Apply the Relational Database Model to understand the Logical and Physical aspects of the DBMS architecture.
15. Understand the functions of the Oracle Database Server and Oracle Database Client.
16. Create, maintain and manipulate an Oracle Database.
17. Understand and apply the Data Dictionary.
18. Understand and apply database statistics in relation to performance and integrity of the database.
19. Create and understand the application of user roles, privileges, and the security of the database.
20. Discuss and understand the concepts of Backup and Recovery Procedures.

Certificate Requirements

Code	Title	Credits
Required Courses		
CSC 1231	Database Development and Design I	4
CSC 2232	Database Development II	4
CSC 2233	Database Development III	4
Total Credits		**12**

There are four Associate degree options within Computer Science. Students may earn only one degree but can earn additional certificates.

- Computer Science: Mobile Programming, AAS
- Computer Science: Smartphone Application Development
- Computer Science: Software Development
- Computer Science: Software Engineering, AAS
- Computer Science: Web Developer Certificate
- Computer Science: Web Development, AAS