



Computer Information Technology Credential: Certificate in Database Programming C25260DP

Students will solve business computer problems through programming techniques and procedures, using appropriate languages and software. The primary emphasis of the curriculum is hands-on training in programming, database design, database application, and related computer areas that provide the ability to adapt as information systems evolve.

Graduates should qualify for employment in business, industry, and government organizations as entry-level programmers, programmer trainees, software developers, database developers, software specialists, or information managers.

Program Length: 2 semesters

Career Pathway Options: Associate in Computer Information Technology

Program Sites: Lee Campus - Day Program and Selected Evening Courses

Course Requirements for Database Programming Certificate

CIS 110	Introduction to Computers	2-2-3
CIS 115	Introduction to Programming and Logic	2-3-3
CSC 139	Visual Basic Programming	2-3-3
CSC 151	Java Programming	2-3-3
DBA 110	Database Concepts	2-3-3
(Select one)		
DBA 115	Database Applications	2-2-3
DBA 120	Database Programming I	2-2-3

Total Semester Hours Credit: 18

CIS 110 Introduction to Computers 2-2-3
This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option). This course is also available through the Virtual Learning Community (VLC).*

CIS 115 Intro to Prog & Logic 2 3 3
Prerequisites: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175
This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option). This course is also available through the Virtual Learning Community (VLC).*

CSC 139 Visual BASIC Prog 2-3-3
This course introduces computer programming using the Visual BASIC programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level. *This course is also available through the Virtual Learning Community (VLC).*

CSC 151 JAVA Programming 2-3-3
This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement*

DBA 110 Database Concepts 2-3-3
This course introduces database design and creation using a DBMS product. Emphasis is placed on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports, and forms.

DBA 115 Database Applications 2-2-3
Prerequisites: DBA 110
This course applies concepts learned in DBA 110 to a specific DBMS. Topics include manipulating multiple tables, advanced queries, screens and reports, linking, and command files. Upon completion, students should be able to create multiple table systems that demonstrate updates, screens, and reports representative of industry requirements.

DBA 120 Database Programming I 2-2-3
This course is designed to develop SQL programming proficiency. Emphasis is placed on data definition, data manipulation, and data

control statements as well as on report generation. Upon completion, students should be able to write programs which create, update, and produce reports.