

CURRICULUM STANDARD

Effective Term
Summer 2006
*[2006*02]*

Curriculum Program Title

Computer Programming

Code

A25130

Concentration

(not applicable)

Curriculum Description

The Computer Programming curriculum prepares individuals for employment as computer programmers and related positions through study and applications in computer concepts, logic, programming procedures, languages, generators, operating systems, networking, data management, and business operations.

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 and related computer areas that provide the ability to adapt as systems evolve.

Graduates should qualify for employment in business, industry, and government organizations as programmers, programmer trainees, programmer/analysts, computer operators, systems technicians, or database specialists.

*Curriculum Requirements**

[for associate degree, diploma, and certificate programs in accordance with 23 NCAC 02E.0204(3)]

- I. General Education.** Degree programs must contain a minimum of 15 semester hours including at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural sciences/mathematics. Degree programs must contain a minimum of 6 semester hours of communications. Diploma programs must contain a minimum of 6 semester hours of general education; 3 semester hours must be in communications. General education is optional in certificate programs.
- II. Major Hours.** AAS, diploma, and certificate programs must include courses which offer specific job knowledge and skills. Work experience, including cooperative education, practicums, and internships, may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit. *(See second page for additional information.)*
- III. Other Required Hours.** A college may include courses to meet graduation or local employer requirements in a certificate, diploma, or associate in applied science program. These curriculum courses shall be selected from the Combined Course Library and must be approved by the System Office prior to implementation. Restricted, unique, or free elective courses may not be included as other required hours.

	AAS	Diploma	Certificate
Minimum General Education Hours	15	6	0
Minimum Major Hours	49	30	12
Other Required Hours	0-7	0-4	0-1
Total Semester Hours Credit (SHC)	64-76	36-48	12-18

**Within the degree program, the institution shall include opportunities for the achievement of competence in reading, writing, oral communication, fundamental mathematical skills, and basic use of computers.*

Major Hours

[ref. 23 NCAC 02E.0204(3)]

- A. Core.** The subject/course core is comprised of subject areas and/or specific courses which are required for each curriculum program. A diploma program offered under an approved AAS program standard or a certificate which is the highest credential level awarded under an approved AAS program standard must include a minimum of 12 semester hours credit derived from the subject/course core of the AAS program.
- B. Concentration** *(if applicable)*. A concentration of study must include a minimum of 12 semester hours credit from required subjects and/or courses. The majority of the course credit hours are unique to the concentration. The required subjects and/or courses that make up the concentration of study are in addition to the required subject/course core.
- C. Other Major Hours.** Other major hours must be selected from prefixes listed on the curriculum standard. A maximum of 9 semester hours of credit may be selected from any prefix listed, with the exception of prefixes listed in the core or concentration. Work experience, including cooperative education, practicums, and internships, may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit.

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	AAS	Diploma	Certificate
<i>Minimum Major Hours Required</i>	49 SHC	30 SHC	12 SHC
A. CORE <i>A diploma offered under this AAS degree requires a minimum of 12 SHC extracted from the required subject/course core of the AAS degree.</i> Required Courses: CIS 115 Intro to Prog & Logic 3 SHC CTS 285 Systems Analysis & Design 3 SHC CSC 289 Programming Capstone Proj 3 SHC DBA 110 Database Concepts 3 SHC NOS 110 Operating Systems Concepts 3 SHC SEC 110 Security Concepts 3 SHC Required Subject Areas: Basic Computer Skills. Select one: CIS 110 Introduction to Computers 3 SHC CIS 111 Basic PC Literacy 2 SHC Business. Select one: BUS 110 Introduction to Business 3 SHC CTS 115 Info Sys Business Concepts 3 SHC Networking. Select one: NET 110 Networking Concepts 3 SHC NET 125 Networking Basics 3 SHC Operating Systems. Select one: NOS 120 Linux/UNIX Single User 3 SHC NOS 130 Windows Single User 3 SHC NOS 149 Operating System – MVS™ 3 SHC NOS 244 Operating System - AS/400 3 SHC	41-42 SHC	12 SHC	
<i>Continued on next page</i>			

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<p>Programming. Select two:</p> <p>CSC 133 C Programming 3 SHC CSC 134 C++ Programming 3 SHC CSC 135 COBOL Programming 3 SHC CSC 136 Fortran Programming 3 SHC CSC 138 RPG Programming 3 SHC CSC 139 Visual BASIC Progr 3 SHC CSC 141 Visual C++ Progr 3 SHC CSC 142 Visual COBOL Progr 3 SHC CSC 150 Visual RPG Progr 3 SHC CSC 151 JAVA Programming 3 SHC CSC 153 C# Programming 3 SHC</p> <p>Advanced Programming. Select two:</p> <p>CSC 233 Adv C Programming 3 SHC CSC 234 Adv C++ Programming 3 SHC CSC 235 Adv COBOL Programming 3 SHC CSC 236 Adv Fortran Programming 3 SHC CSC 238 Adv RPG Programming 3 SHC CSC 239 Adv Visual BASIC Prog 3 SHC CSC 241 Adv Visual C++ Prog 3 SHC CSC 242 Adv Visual COBOL Prog 3 SHC CSC 250 Adv Visual RPG Prog 3 SHC CSC 251 Adv JAVA Programming 3 SHC CSC 253 Adv C# Programming 3 SHC</p>			
<p>B. CONCENTRATION <i>(not applicable)</i></p>			
<p>C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i></p>			
<p>ACC, BUS, CET, CIS, COE, CSC, CTS, DBA, ECM, ECO, GRA, GRD, ISC, MAT, NET, NOS, OMT, OST, SEC, SGD, SGR, and WEB</p> <p><i>Foreign language courses (including ASL) that are not designated as approved other major hours may be included in all programs up to a maximum of 3 semester hours of credit.</i></p>			