

# CURRICULUM STANDARD

Effective Term  
Summer 2006  
[2006\*02]

Curriculum Program Title

**Information Systems Security**

Code

**A2527A**

Concentration

**Operating Systems**

## *Curriculum Description*

Operating Systems is a concentration under the curriculum title of Information Systems Security. This curriculum provides individuals with the skills required to implement effective and comprehensive information security controls.

Course work includes networking technologies, advanced operating systems administration, information policy, intrusion detection, information assurance, security administration, attack methodology, and industry best practices to protect communications.

Graduates should be prepared for employment as security analysts, system administrators, or security administrators. Additionally, they will acquire the skills that allow them to pursue operating system and security certifications.

## *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.

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

*\*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
<b>Minimum Major Hours Required</b>	<b>49 SHC</b>	<b>30 SHC</b>	<b>12 SHC</b>
<b>A. CORE</b> <i>Courses restricted to this curriculum are designated with ***</i> <b>Required Courses:</b> <ul style="list-style-type: none"> <li>CIS 115 Intro to Programming and Logic 3 SHC</li> <li>DBA 110 Database Concepts 3 SHC</li> <li>NET 125 Networking Basics 3 SHC</li> <li>NET 126 Routing Basics 3 SHC</li> <li>NOS 110 Operating System Concepts 3 SHC</li> <li>NOS 130 Windows Single User 3 SHC</li> <li>SEC 110 Security Concepts 3 SHC</li> <li>SEC 150 Secure Communications 3 SHC</li> <li>SEC 160 Secure Admin I 3 SHC</li> <li>SEC 210 Intrusion Detection 3 SHC</li> <li>*** SEC 220 Defense-in-Depth 3 SHC</li> <li>*** SEC 289 Security Capstone Project 3 SHC</li> </ul> <b>Required Subject Areas:</b> <b>Basic Computer Skills. Select one:</b> <ul style="list-style-type: none"> <li>CIS 110 Introduction to Computers 3 SHC</li> <li>CIS 111 Basic PC Literacy 2 SHC</li> </ul> <b>Business. Select one:</b> <ul style="list-style-type: none"> <li>BUS 110 Introduction to Business 3 SHC</li> <li>CTS 115 Info Sys Business Concepts 3 SHC</li> </ul> <b>Operating Systems. Select one:</b> <ul style="list-style-type: none"> <li>NOS 120 Linux/UNIX Single User 3 SHC</li> <li>NOS 230 Windows Admin I 3 SHC</li> </ul>	<b>44-45 SHC</b>	<b>NR</b>	<b>NR</b>
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<p><b>B. CONCENTRATION</b> <i>(not applicable)</i>  <i>Courses unique to the concentration are designated with**</i></p> <p>* SEC 230 Attack Methodology 4 SHC  ** SEC 260 Secure Admin II 3 SHC</p> <p><b>Operating Systems. Select one sequence:</b></p> <p>NOS 220 Linux/UNIX Admin I 3 SHC  NOS 221 Linux/UNIX Admin II 3 SHC</p> <p>OR</p> <p>NOS 231 Windows Admin II 3 SHC  NOS 232 Windows Admin III 3 SHC</p>	<b>13 SHC</b>	<b>NR</b>	<b>NR</b>
<p><b>C. OTHER MAJOR HOURS</b>  <i>To be selected from the following prefixes</i></p> <p>BUS, CCT, CET, CIS, CJC, COE, CSC, CTI, CTS, DBA, ITN, NET,  NOS, SEC, TNE, 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>			