

# CURRICULUM STANDARD

*Effective Term*  
*Summer 2006*  
*[2006\*02]*

Curriculum Program Title	<b>Information Systems Security</b>	Code	<b>A2527B</b>
Concentration	<b>Security Hardware</b>		

## *Curriculum Description*

Security Hardware is a concentration under the curriculum title of Information Systems Security. This curriculum covers a broad expanse of technology concepts. This curriculum provides individuals with the skills required to implement effective and comprehensive information network security controls.

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

Graduates should be prepared for employment as network security specialists, network administrators, or security administrators. Additionally, they will acquire the skills that allow them to pursue hardware, advanced networking 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.

### Information Systems Security/Security Hardware A2527B

	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> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">CIS 115</td><td style="width: 70%;">Intro to Prog &amp; Logic</td><td style="width: 20%; text-align: right;">3 SHC</td></tr> <tr><td>DBA 110</td><td>Database Concepts</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>NET 125</td><td>Networking Basics</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>NET 126</td><td>Routing Basics</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>NOS 110</td><td>Operating System Concepts</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>NOS 130</td><td>Window Single User</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>SEC 110</td><td>Security Concepts</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>SEC 150</td><td>Secure Communications</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>SEC 160</td><td>Secure Admin I</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>SEC 210</td><td>Intrusion Detection</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>*** SEC 220</td><td>Defense-in-Depth</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>*** SEC 289</td><td>Security Capstone Project</td><td style="text-align: right;">3 SHC</td></tr> </table> <b>Required Subject Areas:</b> <b>Basic Computer Skills. Select one:</b> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">CIS 110</td><td style="width: 70%;">Introduction to Computers</td><td style="width: 20%; text-align: right;">3 SHC</td></tr> <tr><td>CIS 111</td><td>Basic PC Literacy</td><td style="text-align: right;">2 SHC</td></tr> </table> <b>Business. Select one:</b> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">BUS 110</td><td style="width: 70%;">Introduction to Business</td><td style="width: 20%; text-align: right;">3 SHC</td></tr> <tr><td>CTS 115</td><td>Info Sys Business Concepts</td><td style="text-align: right;">3 SHC</td></tr> </table> <b>Operating Systems. Select one:</b> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">NOS 120</td><td style="width: 70%;">Linux/UNIX Single User</td><td style="width: 20%; text-align: right;">3 SHC</td></tr> <tr><td>NOS 230</td><td>Windows Admin I</td><td style="text-align: right;">3 SHC</td></tr> </table>	CIS 115	Intro to Prog & Logic	3 SHC	DBA 110	Database Concepts	3 SHC	NET 125	Networking Basics	3 SHC	NET 126	Routing Basics	3 SHC	NOS 110	Operating System Concepts	3 SHC	NOS 130	Window Single User	3 SHC	SEC 110	Security Concepts	3 SHC	SEC 150	Secure Communications	3 SHC	SEC 160	Secure Admin I	3 SHC	SEC 210	Intrusion Detection	3 SHC	*** SEC 220	Defense-in-Depth	3 SHC	*** SEC 289	Security Capstone Project	3 SHC	CIS 110	Introduction to Computers	3 SHC	CIS 111	Basic PC Literacy	2 SHC	BUS 110	Introduction to Business	3 SHC	CTS 115	Info Sys Business Concepts	3 SHC	NOS 120	Linux/UNIX Single User	3 SHC	NOS 230	Windows Admin I	3 SHC	<b>44-45 SHC</b>	<b>NR</b>	<b>NR</b>
CIS 115	Intro to Prog & Logic	3 SHC																																																							
DBA 110	Database Concepts	3 SHC																																																							
NET 125	Networking Basics	3 SHC																																																							
NET 126	Routing Basics	3 SHC																																																							
NOS 110	Operating System Concepts	3 SHC																																																							
NOS 130	Window Single User	3 SHC																																																							
SEC 110	Security Concepts	3 SHC																																																							
SEC 150	Secure Communications	3 SHC																																																							
SEC 160	Secure Admin I	3 SHC																																																							
SEC 210	Intrusion Detection	3 SHC																																																							
*** SEC 220	Defense-in-Depth	3 SHC																																																							
*** SEC 289	Security Capstone Project	3 SHC																																																							
CIS 110	Introduction to Computers	3 SHC																																																							
CIS 111	Basic PC Literacy	2 SHC																																																							
BUS 110	Introduction to Business	3 SHC																																																							
CTS 115	Info Sys Business Concepts	3 SHC																																																							
NOS 120	Linux/UNIX Single User	3 SHC																																																							
NOS 230	Windows Admin I	3 SHC																																																							

Continued on next page

## Information Systems Security/Security Hardware A2527B

<p><b>B. CONCENTRATION</b> <i>(not applicable)</i>  <i>Courses unique to a concentration are designated with **</i></p> <p>NET 225 Routing &amp; Switching I 3 SHC  NET 226 Routing &amp; Switching II 3 SHC  ** SEC 270 Secure Routing/Firewalls 3 SHC  ** SEC 275 Advanced Firewalls 4 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, 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>			