



NORTH CAROLINA COMMUNITY COLLEGE SYSTEM
H. Martin Lancaster, President

March 23, 2007

MEMORANDUM

TO: Presidents
Chief Academic Officers

FROM: Delores A. Parker, Vice President
Academic and Student Services

SUBJECT: State Board Action on March 16, 2007
New and Revised Curriculum Standards

The State Board of Community Colleges approved the following new curriculum standards on March 16, 2007:

Voice Writing Realtime Reporting (A25460)
Business Administration/Shooting and Hunting Sports Management (A2512J)

The State Board of Community Colleges also approved the requested revisions to the following curriculum standards:

Electrical/Electronics Technology (A35220)
Computer Engineering Technology (A40160)
Electrical Engineering Technology (A40180)
Electronics Engineering Technology (A40200)
Telecommunications and Networking Engineering Technology (A40400)

The action for Electronics Engineering Technology (A40200) included archiving the following Concentrations:

Electronics Engineering Technology/Instrumentation (A4020A)
Electronics Engineering Technology/Microelectronics (A4020B)

The new and revised standards are attached for your convenience. You may also view the details of the new curriculum standards and the changes that occurred in the revised curriculum standards by visiting the Programs website:

http://www.nccommunitycolleges.edu/Programs/curriculum_standards.htm

CC07-072
Email

Presidents
Chief Academic Officers
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If you have questions concerning the new or revised standards, please contact Dr. Judith Mann at 919-807-7108 or mannj@nccommunitycolleges.edu.

DAP/JF/swj

Attachments

c: Dr. Judith Mann

Dr. Edith Lang

Ms. Jennifer Frazelle

Ms. Glynda Lawrence

Program Coordinators

CURRICULUM STANDARD

Effective Term
Fall 2007
*[2007*03]*

Curriculum Program

Business Administration

Code

A2512J

Title

Concentration

Shooting and Hunting Sports Management

Curriculum Description

Shooting and Hunting Sports Management is a concentration under the title of Business Administration. This curriculum is designed to prepare students for a career in shooting and hunting sports retail businesses.

Course work includes business concepts such as basic gunsmithing, buying and merchandising, advertising and sales promotion, introduction to shooting sports, gun shop management and sports hunting.

Graduates should be prepared for employment opportunities in large and small retail sporting centers, private shooting sports businesses, and shooting sports equipment manufacturing.

Curriculum Requirements*

- 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 a degree or diploma program up to a maximum of 8 semester hours and in a certificate program up to a maximum of 2 semester hours. (*see back of page for Major Hours requirements*)
- III. Other Required Hours.** A college may require other subjects or courses to complete graduation requirements. These requirements may include electives, orientation, study skills courses, or other graduation requirements.

	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 in Program	64-76	36-48	12-18

Major Hours

- 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 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 degree and diploma curriculum programs up to a maximum of 8 semester hours credit and in certificate programs up to a maximum of 2 semester hours credit.

Business Administration/Shooting and Hunting Sports Management A2512J

	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE <i>Courses required for the diploma are designated with *</i> Required Courses: * BUS 115 Business Law I 3 SHC * BUS 137 Principles of Management 3 SHC * MKT 120 Principles of Marketing 3 SHC Required Subject Areas: *Accounting. Select one: ACC 115 College Accounting 4 SHC ACC 120 Prin of Financial Acct 4 SHC *Economics. Select one: ECO 151 Survey of Economics 3 SHC ECO 251 Principles of Microeconomics 3 SHC ECO 252 Principles of Macroeconomic 3 SHC *Computer Applications. Select one: CIS 110 Introduction to Computers 3 SHC CIS 111 Basic PC Literacy 2 SHC OST 137 Office Software Applications 2 SHC	18-19 SHC	18-19 SHC	
B. CONCENTRATION (<i>not applicable</i>) <i>Courses unique to the concentration are designated with **</i> MKT 125 Buying and Merchandising 3 SHC MKT 220 Advertising and Sales Promotion 3 SHC ** SSM 110 Introduction to Shooting Sports 4 SHC ** SSM 111 Gun Shop Management 3 SHC ** SSM 112 Sports Hunting 3 SHC ** SSM 114 Shooting Sports Mgt 5 SHC	21 SHC		
C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i> ACC, BUS, CIS, COE, CSC, CTS, DBA, ECM, ECO, GSM, MKT, OST, **SPA, SSM and WEB ** This prefix is limited to a maximum of 3 SHC			

**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.*

CURRICULUM STANDARD

Effective
Term
Fall 2007
[2007*03]

Curriculum Program Title

Electrical/Electronics Technology

Code

A35220

Concentration

(not applicable)

Curriculum Description

The Electrical/Electronics Technology curriculum is designed to provide training for persons interested in the installation and maintenance of electrical/electronic systems found in residential, commercial, and industrial facilities.

Course work, most of which is hands-on, will include such topics as AC/DC theory, basic wiring practices, electronics, programmable logic controllers, industrial motor controls, applications of the National Electric Code, and other subjects as local needs require.

Graduates should qualify for a variety of jobs in the electrical/electronics field as an on-the-job trainee or apprentice assisting in the layout, installation, and maintenance of electrical/electronic systems.

Curriculum Requirements*

- 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 a degree or diploma program up to a maximum of 8 semester hours and in a certificate program up to a maximum of 2 semester hours. *(see back of page for Major Hours requirements)*

- III. **Other Required Hours.** A college may require other subjects or courses to complete graduation requirements. These requirements may include electives, orientation, study skills courses, or other graduation requirements.

	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 in Program	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.

CURRICULUM STANDARD

Effective Term
Fall 2007
[2007*03]

Curriculum Program Title **Computer Engineering Technology** Code **A40160**
Concentration **(not applicable)**

Curriculum Description

The Computer Engineering Technology curriculum provides the skills required to install, service, and maintain computers, peripherals, networks, and microprocessor and computer controlled equipment. It includes training in both hardware and software, emphasizing operating systems concepts to provide a unified view of computer systems.

Coursework includes mathematics, electronics, digital circuits, and programming, with emphasis on the operation, use, and interfacing of memory and devices to the CPU. Additional topics may include communications, networks, operating systems, programming languages, Internet configuration and design, and industrial applications.

Graduates should qualify for employment opportunities in electronics technology, computer service, computer networks, server maintenance, programming, and other areas requiring a knowledge of electronic and computer systems. Graduates may also qualify for certification in electronics, computers, or networks.

Curriculum Requirements*

- 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 a degree or diploma program up to a maximum of 8 semester hours and in a certificate program up to a maximum of 2 semester hours. (*see back of page for Major Hours requirements*)
- III. Other Required Hours.** A college may require other subjects or courses to complete graduation requirements. These requirements may include electives, orientation, study skills courses, or other graduation requirements.

	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 in Program	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

- 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.
- Other Major Hours.** Other major hours must be selected from prefixes listed on the curriculum standard. A maximum of 9 semester hours 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 degree and diploma curriculum programs up to a maximum of 8 semester hours credit and in certificate programs up to a maximum of 2 semester hours credit.

Computer Engineering Technology A40160

	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE	19-21 SHC	NR	
<p>Required Courses:</p> <p style="padding-left: 20px;">CET 111 Computer Upgrade/Repair I 3 SHC</p> <p style="padding-left: 20px;">ELN 133 Digital Electronics 4 SHC</p> <p>Required Subject Areas:</p> <p>DC/AC. Select 5-6 SHC.</p> <p style="padding-left: 20px;">ELC 131 DC/AC Circuit Analysis 5 SHC</p> <p style="padding-left: 40px;"><i>or</i></p> <p style="padding-left: 20px;">ELC 138 DC Circuit Analysis 3 SHC <i>and</i></p> <p style="padding-left: 20px;">ELC 139 AC Circuit Analysis 3 SHC</p> <p>Devices. Select one.</p> <p style="padding-left: 20px;">ELN 131 Semiconductor Applications 4 SHC</p> <p style="padding-left: 20px;">ELN 137 Electr Devices & Circuits 5 SHC</p> <p>Programming Language. Select one:</p> <p style="padding-left: 20px;">CET 161 Procedural Programming 3 SHC</p> <p style="padding-left: 20px;">CSC 133 C Programming 3 SHC</p> <p style="padding-left: 20px;">CSC 134 C++ Programming 3 SHC</p> <p style="padding-left: 20px;">CSC 136 Fortran Programming 3 SHC</p> <p style="padding-left: 20px;">CSC 139 Visual BASIC Prog 3 SHC</p> <p style="padding-left: 20px;">CSC 143 Object-Oriented Prog 3 SHC</p> <p style="padding-left: 20px;">CSC 151 JAVA Programming 3 SHC</p>			
B. CONCENTRATION (<i>Not applicable</i>)			
<p>C. OTHER MAJOR HOURS</p> <p><i>To be selected from the following prefixes:</i></p> <p>ATR, BIO, BMT, CET, CHM, CIS, COE, CSC, CTS, DBA, DEA, DFT, EGR, ELC, ELN, HYD, ISC, LEO, MAT, MEC, NET, NOS, OMT, PCI, PHY, SEC, SGD, **SPA, TNE, and WEB</p> <p><i>** This prefix is limited to a maximum of 3 SHC</i></p>			

**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.*

CURRICULUM STANDARD

<i>Effective Term</i> <i>Fall 2007</i> <i>[2007*03]</i>

Curriculum Program Title	Electrical Engineering Technology	Code	A40180
Concentration	(not applicable)		

Curriculum Description

The Electrical Engineering Technology curriculum is designed to provide training for entry-level technicians desiring a career in electrical maintenance and management or in the design, planning, construction, development, and installation of electrical systems, machines, and power generating equipment.

Beginning with electrical fundamentals, course work progressively introduces electronics, electrical machines and controls, and electrical power systems. Other course work includes the study of various fields associated with the electrical/electronic industry.

Graduates may seek employment as technicians, engineering assistants, technical managers, or salespersons in electrical generation/distribution, industrial maintenance, electronic repair, or other fields requiring a broad-based knowledge of electrical and electronic concepts.

Curriculum Requirements*

- 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 a degree or diploma program up to a maximum of 8 semester hours and in a certificate program up to a maximum of 2 semester hours. *(see back of page for Major Hours requirements)*

- III. **Other Required Hours.** A college may require other subjects or courses to complete graduation requirements. These requirements may include electives, orientation, study skills courses, or other graduation requirements.

	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 in Program	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

- 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 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 degree and diploma curriculum programs up to a maximum of 8 semester hours credit and in certificate programs up to a maximum of 2 semester hours credit.

Electrical Engineering Technology A40180

	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE Required Courses: ELC 135 Electrical Machines I 3 SHC ELC 136 Electrical Machines II 4 SHC ELN 133 Digital Electronics 4 SHC Required Subject Areas: DC/AC. Select 5-6 SHC: ELC 131 DC/AC Circuit Analysis 5 SHC <i>or</i> ELC 138 DC Circuit Analysis 3 SHC <i>and</i> ELC 139 AC Circuit Analysis 3 SHC Devices. Select one: ELN 131 Semiconductor Applications 4 SHC ELN 137 Electr Devices & Circuits 5 SHC	20-22 SHC	NR	
B. CONCENTRATION (<i>Not applicable</i>)			
C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i> ATR, BIO, BPR, CET, CHM, CIS, COE, CSC, CTS, DFT, EGR, ELC, ELN, HYD, ISC, LEO, MAT, MEC, MNT, NET, NOS, OMT, PCI, PHY, SEC, **SPA, TNE, WEB, and WLD ** This prefix is limited to a maximum of 3 SHC			

CURRICULUM STANDARD

<i>Effective Term</i> Fall 2007 [2007*03]

**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.*

Curriculum Description

The Electronics Engineering Technology curriculum prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, communication systems, and power electronic systems.

A broad-based core of courses, including basic electricity, solid-state fundamentals, digital concepts, and microprocessors, ensures the student will develop the skills necessary to perform entry-level tasks. Emphasis is placed on developing the student's ability to analyze and troubleshoot electronic systems.

Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronics engineering technician, field service technician, instrumentation technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

Curriculum Requirements*

- 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 a degree or diploma program up to a maximum of 8 semester hours and in a certificate program up to a maximum of 2 semester hours. (*see back of page for Major Hours requirements*)
- III. **Other Required Hours.** A college may require other subjects or courses to complete graduation requirements. These requirements may include electives, orientation, study skills courses, or other graduation requirements.

	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 in Program	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

- 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 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 degree and diploma curriculum programs up to a maximum of 8 semester hours credit and in certificate programs up to a maximum of 2 semester hours credit.

Electronics Engineering Technology A40200

	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE Required Courses: ELN 133 Digital Electronics 4 SHC Required Subject Areas: DC/AC. Select 5-6 SHC: ELC 131 DC/AC Circuit Analysis 5 SHC <i>Or</i> ELC 138 DC Circuit Analysis 3 SHC <i>and</i> ELC 139 AC Circuit Analysis 3 SHC Devices. Select one: ELN 131 Semiconductor Applications 4 SHC ELN 137 Electr Devices & Circuits 5 SHC Fundamentals. Select one: ATR 112 Intro to Automation 3 SHC CET 111 Computer Upgrade/Repair 3 SHC ELC 128 Intro to PLC 3 SHC ELN 210 Intro to Microelectronics 3 SHC ELN 232 Intro to Microprocessors 4 SHC ELN 234 Communications 4 SHC PCI 162 Instrumentation Controls 3 SHC PCI 262 Intro to Process Control 4 SHC	16-19 SHC	NR	
B. CONCENTRATION <i>(Not applicable)</i>			
C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i> AHR, ATR, BIO, BMT, CET, CHM, CIS, COE, CSC, CTS, DFT, EGR, ELC, ELN, HYD, ISC, LEO, MAT, MEC, MNT, NET, NOS, OMT, PCI, PHY, SEC, SGD, **SPA, TNE, WEB, and WLD ** This prefix is limited to a maximum of 3 SHC			

CURRICULUM STANDARD

<i>Effective Term</i> Fall 2007 [2007*03]

**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.*

Curriculum Description

The Telecommunications and Network Engineering Technology curriculum prepares individuals for positions in the telecommunication networking industry. This curriculum develops the knowledge to design, build, install, test, troubleshoot, repair, and modify telecommunication and network systems.

Course work includes basic electricity, solid-state fundamentals, digital concepts, microprocessors, telecommunications and network systems to ensure students develop skills to perform entry-level tasks. Emphasis is placed on developing the student's ability to analyze and troubleshoot telecommunications and network systems.

Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronic engineering technician, field service technician, maintenance technician, network system technician, network specialist, network systems integrator, and network administrator.

Curriculum Requirements*

- 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 a degree or diploma program up to a maximum of 8 semester hours and in a certificate program up to a maximum of 2 semester hours. *(see back of page for Major Hours requirements)*
- III. **Other Required Hours.** A college may require other subjects or courses to complete graduation requirements. These requirements may include electives, orientation, study skills courses, or other graduation requirements.

	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 in Program	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

- 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 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 degree and diploma curriculum programs up to a maximum of 8 semester hours credit and in certificate programs up to a maximum of 2 semester hours credit.

Telecommunications and Network Engineering Technology A40400

	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE Required Courses: TNE 111 Campus Networks I 3 SHC CET 130 Operating System Prin 3 SHC Required Subject Areas: Circuits. Select 4-6 SHC: ELC 110 Telecom Circuits/Devices 4 SHC <i>or</i> ELC 131 DC/AC Circuit Analysis 5 SHC <i>or</i> ELC 138 DC Circuit Analysis 3 SHC <i>and</i> ELC 139 AC Circuit Analysis 3 SHC Digital. Select one: ELN 116 Telecom Digital Logic 4 SHC ELN 133 Digital Electronics 4 SHC	14-16 SHC	NR	
B. CONCENTRATION (Not applicable)			
C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i> ATR, BIO, CET, CHM, CIS, COE, CSC, CTS, DFT, EGR, ELC, ELN, HYD, ISC, LEO, MAT, MEC, NET, NOS, OMT, PCI, PHY, SEC, **SPA, TNE, and WEB ** This prefix is limited to a maximum of 3 SHC			