STATE BOARD OF COMMUNITY COLLEGES
CURRICULUM PROGRAM APPLICATIONS
Fast Track for Action [FTFA*]

*Fast Track For Action: Program applications must meet the following criteria in order to be placed on the FTFA program approval request presented to the State Board of Community Colleges as part of the consent agenda:

- The curriculum program title currently exists within the System and does not require the creation of a new program title and new curriculum standard;
- The application is complete, requires no further analysis or documentation, and has the endorsement of Academic Programs;
- There are no negative impact assessments from other colleges; and
- The college does not go outside of its service area for planning purposes.

The State Board of Community Colleges is asked to approve the curriculum programs at the listed colleges on the condition that equipment funds are available to the college and operating funds generated by the budget formula will permit the offering of these programs without any special allocation of funds.

Central Piedmont Community College
   Biomedical Equipment Technology (A50100)
   Broadcasting and Production Technology (A30120)
   Truck Driver Training (Certificate) (C60300)

Rowan-Cabarrus Community College
   Emergency Medical Science (A45340)

Stanly Community College
   Air Conditioning, Heating and Refrigeration Technology (D50420)
   Computer Integrated Machining (A50210)
   Culinary Arts (A55150) (REVISED 03/18/2015)

Contact Person:
Jennifer Frazelle, Director
Academic Programs
919.807.7120
frazellej@nccommunitycolleges.edu
Program Planning

Central Piedmont Community College (CPCC) is seeking approval for the Biomedical Equipment Technology (A50100) program to begin Fall 2015. The planning area is defined as the college’s service area of Mecklenburg County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at CPCC on December 7, 2014. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of CPCC have certified the following:

- The proposed program will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.
- They have assessed the need for the proposed program and the resources required to maintain a viable program and certify that the college can operate the proposed program efficiently and effectively within the resources available to the college.
- The college will complete a program accountability report including student success measures, enrollment trends, completion rates, and employment data three years after implementation of the program.

II. Program Rationale

Central Piedmont Community College indicated the following:

- U.S. Bureau of Labor Statistics project 32% growth in medical equipment repairer jobs for 2010-20 and lists it as the 4th fastest growing occupation requiring an associate’s degree in North Carolina.
- Data provided by the Department of Labor indicates medical equipment repairers earn an annual average salary of $48,200.
- Novant Health approached CPCC for assistance in mitigating a shortage of biomedical device technicians and committed $150,000 worth of financial support to the college to be awarded over a three-year period. Additionally, they will provide biomedical equipment for training purposes as well as related operational expertise and will also provide student work experience opportunities at their facilities.
- Two of the largest hospitals in North Carolina, Novant Health Presbyterian Medical Center and Novant Health Charlotte Orthopedic Hospital, are within walking distance of the CPCC’s main campus.
• An aging population has caused an increase in demand for specialized and complex medical equipment. Employment opportunities exist in hospitals, commercial equipment suppliers and repairers, sales, and with commercial and residential installers. Home installations provide a segment of the senior population with the option of choosing in-home care services.

• The college surveyed 559 students who either recently completed or currently enrolled in an Engineering Technology program at Central Piedmont Community College to assess their interest in the proposed Biomedical Equipment Technology program. Seventy-seven percent of respondents indicated they would be interested in a career in Biomedical Equipment Technology. Fifty-eight percent of the respondents indicated they would be interested in enrolling in the program with twenty-seven percent starting the program in the Fall of 2015.

III. Impact of the Proposed Program on Other Programs
Two colleges are currently approved to offer the Biomedical Equipment Technology (A50100) program; however, the college service areas are not contiguous to the service area of Central Piedmont Community College so that impact statements were not required.

IV. Implementation of Collaborative Plan
Not Applicable

V. Curriculum Design
The proposed program of study is in compliance with the State Board approved curriculum standard.

Coordinator: Mr. Frank Scuiletti
C. Institutional Certification: Complete the following form and obtain required signatures. Form with original signatures should be included in the application.

Institutional Certification

This curriculum program ________________________ Biomedical Equipment Technology ________________________ A50100
(Program Title) (Program Code)

will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

__________ Central Piedmont Community College
(Community College Name)

has assessed the need for this program and the resources required to maintain a viable program and certifies that the college can operate this program efficiently and effectively within the resources available to the college.

The college understands that this proposed program will require a program accountability report that will include items such as student success measures, enrollment trends, completion rates, and employment data three years after implementation if the program is approved by the State Board.

(A copy of the minutes from the Board of Trustees meeting(s) where the proposed program was discussed and approved must be attached to the application.)

________________________  __________________________
Signature, President of College  Date

________________________  __________________________
Signature, Board of Trustees Chair  Date
Curriculum Standard for Engineering and Technology:  
Electrical Engineering Technology

Career Cluster: Science, Technology, Engineering, Mathematics**

Cluster Description: Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, and engineering) including laboratory and testing services, and research and development services.

Pathway: Engineering and Technology  
Effective Term: Fall 2013 (2013*03)

<table>
<thead>
<tr>
<th>Program Majors Under Pathway</th>
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</thead>
<tbody>
<tr>
<td>Program Major / Classification of Instruction Programs (CIP)</td>
</tr>
<tr>
<td>Biomedical Equipment Technology</td>
</tr>
<tr>
<td>Computer Engineering Technology</td>
</tr>
<tr>
<td>Electrical Engineering Technology</td>
</tr>
<tr>
<td>Electronics Engineering Technology</td>
</tr>
<tr>
<td>Laser and Photonics Technology</td>
</tr>
<tr>
<td>Telecommunications and Network Engineering Technology</td>
</tr>
</tbody>
</table>

Pathway Description: These curriculums are designed to prepare students through the study and application of principles from mathematics, natural sciences, and technology and applied processes based on these subjects. Course work includes mathematics, natural sciences, engineering sciences and technology.

Graduates should qualify to obtain occupations such as technical service providers, materials and technologies testing services, process improvement technicians, engineering technicians, construction technicians and managers, industrial and technology managers, or research technicians.

Program Description: Choose one of the following 4° paragraphs to use in conjunction with the first three paragraphs of the pathway description above for documentation used to identify each Program Major:

Biomedical Equipment Technology: A course of study that prepares the students to use basic engineering principles and technical skills to install, operate, troubleshoot, and repair sophisticated devices and instrumentation used in the health care delivery system. Includes instruction in instrument calibration, design and installation testing, system safety and maintenance procedures, procurement and installation procedures, and report preparation. With an AAS degree and two years’ experience, an individual should be able to become a certified Biomedical Equipment Technician.

Computer Engineering Technology: A course of study that prepares the students to use basic engineering principles and technical skills for installing, servicing, and maintaining computers, peripherals, networks, and microprocessor and computer controlled equipment. Includes instruction in mathematics, computer electronics and programming, prototype development and testing, systems installation and testing, solid state and microminiature circuitry, peripheral equipment, and report preparation. Graduates should qualify for employment opportunities in electronics technology, computer service, computer networks, server maintenance, programming, and other areas requiring knowledge of electronic and computer systems. Graduates may also qualify for certification in electronics, computers, or networks.

Electrical Engineering Technology: A course of study that prepares the students to apply basic engineering principles and technical skills in electrical maintenance and management or in the design, planning, construction, development, and installation of electrical systems, machines, and power generating equipment. Includes instruction in electrical circuitry, prototype development and testing, systems analysis and testing, systems maintenance, instrument calibration, and report preparation. 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.

*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.

Approved by the State Board of Community Colleges on August 16, 2012; Editorial Revision 12/14/12; CRC Revised—Electronic Only 05/29/13; Editorial Revision 08/19/13; Editorial Revision 08/21/13; Editorial Revision 04/22/14.
Electronics Engineering Technology: A course of study that prepares the students to apply basic engineering principles and technical skills 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. Includes instruction in mathematics, basic electricity, solid-state fundamentals, digital concepts, and microprocessors or programmable logic controllers. Graduates should qualify for employment as electronics engineering technician, field service technician, instrumentation technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

Laser and Photonics Technology: A course of study that prepares the students to apply basic engineering principles and technical skills for specifying, operating, and maintaining laser-based systems. Includes instruction in mathematics, science, communications, electronics, and optics courses emphasizing laboratory learning experiences that develops the hands-on skills needed. Graduates of the curriculum qualify for current and emerging employment opportunities in fiber optic communications, materials processing, laser surgery, research, and a variety of related fields.

Telecommunications and Network Engineering Technology: A course of study that prepares the students to apply basic engineering principles and technical skills for positions in the telecommunication networking industry. Includes instruction in mathematics, basic electricity, solid-state fundamentals, digital concepts, microprocessors, telecommunications and network systems with an emphasis on analyzing and troubleshooting telecommunications and network systems. Graduates should qualify for employment as electronic engineering technician, field service technician, maintenance technician, network system technician, network specialist, network systems integrator, and network administrator.
I. General Education Academic Core

[Curriculum Requirements for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.97(3)]: 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.

Engineering and Technology: Electrical Engineering Technology

<table>
<thead>
<tr>
<th>General Education Academic Core</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimum General Education Hours Required:</strong></td>
<td>15 SHC</td>
<td>6 SHC</td>
<td>0 SHC</td>
</tr>
<tr>
<td>Courses listed below are recommended general education courses for this curriculum standard. Colleges may choose to include additional or alternative general education courses to meet local curriculum needs. <em>Recommended certificate and diploma level curriculum courses. These courses may not be included in associate degree programs.</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Communications:**

*COM 101 Workplace Communication 3 SHC
COM 110 Introduction to Communication 3 SHC
COM 120 Intro Interpersonal Com 3 SHC
COM 231 Public Speaking 3 SHC
ENG 101 Applied Communications I 3 SHC
*ENG 102 Applied Communications II 3 SHC
ENG 110 Freshman Composition 3 SHC
ENG 111 Expository Writing 3 SHC
ENG 114 Professional Research & Reporting 3 SHC
ENG 116 Technical Report Writing 3 SHC

**Humanities/Fine Arts:**

*HUM 101 Values in the Workplace 2 SHC
HUM 110 Technology and Society 3 SHC
HUM 115 Critical Thinking 3 SHC
HUM 230 Leadership Development 3 SHC
PHI 230 Introduction to Logic 3 SHC
PHI 240 Introduction to Ethics 3 SHC

**Social/Behavioral Sciences:**

ECO 151 Survey of Economics 3 SHC
ECO 251 Prin of Microeconomics 3 SHC
GEO 110 Introduction to Geography 3 SHC
GEO 111 World Regional Geography 3 SHC
GEO 131 Physical Geography I 4 SHC
*PSY 101 Applied Psychology 3 SHC
*PSY 102 Human Relations 2 SHC
PSY 118 Interpersonal Psychology 3 SHC
PSY 135 Group Processes 3 SHC
PSY 150 General Psychology 3 SHC
*SOC 105 Social Relationships 3 SHC
SOC 210 Introduction to Sociology 3 SHC
SOC 215 Group Process 3 SHC

**Natural Sciences/Mathematics:**

MAT 120 Geometry and Trigonometry 3 SHC
MAT 121 Algebra/Trigonometry I 3 SHC
MAT 161 College Algebra 3 SHC
MAT 171 Precalculus Algebra 3 SHC
MAT 175 Precalculus 4 SHC
MAT 223 Applied Calculus 3 SHC
MAT 271 Calculus I 4 SHC
II. **Major Hours.** AAS, diploma, and certificate programs must include courses which offer specific job knowledge and skills. Work-based learning 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. Below is a description of each section under Major Hours.

A. **Technical Core.** The technical core is comprised of specific courses which are required for all Program Majors under this Curriculum Standard. 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 curriculum core courses or core subject area of the AAS program.

B. **Program Major(s).** The Program Major must include a minimum of 12 semester hour’s credit from required subjects and/or courses. The Program Major is in addition to the technical 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.

### Engineering and Technology: Electrical Engineering Technology

<table>
<thead>
<tr>
<th>Minimum Major Hours Required:</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>49 SHC</td>
<td>30 SHC</td>
<td>12 SHC</td>
</tr>
</tbody>
</table>

#### A. Technical Core:

- **Analog**
  - ELN 131 Analog Electronics I 4 SHC
- **Circuits**
  - ELC 131 Circuit Analysis I 4 SHC
  - **OR**
  - ELC 138 DC Circuit Analysis 4 SHC
  - **AND**
  - ELC 139 AC Circuit Analysis 4 SHC
- **Digital**
  - ELN 133 Digital Electronics 4 SHC

#### B. Program Major(s).

*For AAS Degree select one program major plus additional courses from the prefixes listed within the same program major for a minimum of (12) semester hours of credits.*

**I. Electrical Engineering Technology**

- ELC 128 Intro to PLC 3 SHC
  - **OR**
  - ELN 260 Prog Logic Controllers 4 SHC
  - ELC 135 Electrical Machines I 3 SHC
  - ELC 231 Electric Power Systems 4 SHC

**Electronics Engineering Technology**

*Choose at least 2 courses:*

- ATR 214 Advanced PLCs 4 SHC
- ELC 128 Intro to PLC 3 SHC
- ELC 228 PLC Applications 4 SHC
- ELN 232 Intro to Microprocessors 4 SHC
- ELN 234 Communication Systems 4 SHC
- ELN 260 Prog Logic Controllers 4 SHC

Approved by the State Board of Community Colleges on August 16, 2012; Editorial Revision 12/14/12; CRC Revised—Electronic Only 05/29/13; Editorial Revision 08/19/13; Editorial Revision 08/21/13; Editorial Revision 04/22/14.
### Computer Engineering Technology

**Choose one course:**
- CET 111  
  Computer Upgrade/Repair I  
  3 SHC
- CTI 130  
  OS and Device Foundation  
  6 SHC
- CTS 120  
  Hardware/Software Support  
  3 SHC

**Choose at least one:**
- CSC 133  
  C Programming  
  3 SHC
- CSC 134  
  C++ Programming  
  3 SHC
- CSC 139  
  Visual BASIC Prog  
  3 SHC
- CSC 151  
  JAVA Programming  
  3 SHC
- ELN 232  
  Intro to Microprocessors  
  4 SHC
- NOS 110  
  Operating Systems Concepts  
  3 SHC

### Telecommunications and Networking Engineering Technology

**Choose one course:**
- CET 130  
  Operating System Prin  
  3 SHC

**Choose one pair of courses:**
- TNE 111  
  Campus Networks I  
  3 SHC
  **AND**
- TNE 121  
  Campus Networks II  
  3 SHC
  **OR**
- NET 125  
  Networking Basics  
  3 SHC
  **AND**
- NET 126  
  Routing Basics  
  3 SHC

### Laser and Photonics Engineering Technology

**Choose one course:**
- LEO 211  
  Photonics Technology  
  7 SHC
- LEO 212  
  Photonics Applications  
  4 SHC

### Biomedical Equipment Technology

**Choose one course:**
- BMT 111  
  Intro to Biomed Field  
  2 SHC
- BMT 212  
  BMET Instrumentation I  
  6 SHC

**Choose at least one:**
- CET 111  
  Computer Upgrade/Repair I  
  3 SHC
- NET 110  
  Networking Concepts  
  3 SHC
- NET 125  
  Networking Basics  
  3 SHC
- SEC 110  
  Security Concepts  
  3 SHC

### C. Other Major Hours

*To be selected from the following prefixes:*

AHR, ALT, ATR, BAT, BMT, BPR, CET, CHM, CIS, COE, CSC, CTI, CTS, DBA, DEA, DFT, EGR, ELC, ELN, EPP, HYD, ISC, LEO, MAT, MEC, MNT, NET, NOS, OMT, PCI, PHY, SEC, SGD, SST, TNE, WBL, WEB, WLD

*Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, CHI, FRE, GER, ITA, JPN, LAT, POR, RUS and SPA.*

### III. Other Required Hours

A college may include courses to meet graduation or local employer requirements in a certificate (0-1 SHC), diploma (0-4 SHC), or an associate in applied science (0-7 SHC) 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.
IV. Employability Competencies

Fundamental competencies that address soft skills vital to employability, personal, and professional success are listed below. Colleges are encouraged to integrate these competencies into the curriculum by embedding appropriate student learning outcomes into one or more courses or through alternative methods.

A. **Interpersonal Skills and Teamwork** – The ability to work effectively with others, especially to analyze situations, establish priorities, and apply resources for solving problems or accomplishing tasks.

B. **Communication** – The ability to effectively exchange ideas and information with others through oral, written, or visual means.

C. **Integrity and Professionalism** – Workplace behaviors that relate to ethical standards, honesty, fairness, respect, responsibility, self-control, criticism and demeanor.

D. **Problem-solving** – The ability to identify problems and potential causes while developing and implementing practical action plans for solutions.

E. **Initiative and Dependability** – Workplace behaviors that relate to seeking out new responsibilities, establishing and meeting goals, completing tasks, following directions, complying with rules, and consistent reliability.

F. **Information processing** – The ability to acquire, evaluate, organize, manage, and interpret information.

G. **Adaptability and Lifelong Learning** – The ability to learn and apply new knowledge and skills and adapt to changing technologies, methods, processes, work environments, organizational structures and management practices.

H. **Entrepreneurship** – The knowledge and skills necessary to create opportunities and develop as an employee or self-employed business owner.

*An Employability Skills Resource Toolkit has been developed by NC-NET for the competencies listed above. Additional information is located at: [http://www.nc-net.info/employability.php](http://www.nc-net.info/employability.php)*

**The North Carolina Career Clusters Guide was developed by the North Carolina Department of Public Instruction and the North Carolina Community College system to link the academic and Career and Technical Education programs at the secondary and postsecondary levels to increase student achievement. Additional information about Career Clusters is located at: [http://www.nc-net.info/NC_career_clusters_guide.php](http://www.nc-net.info/NC_career_clusters_guide.php) or [http://www.careertech.org](http://www.careertech.org).**

Summary of Required Semester Hour Credits (SHC) for each credential:

<table>
<thead>
<tr>
<th></th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum General Education Hours</td>
<td>15</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Minimum Major Hours</td>
<td>49</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>Other Required Hours</td>
<td>0-7</td>
<td>0-4</td>
<td>0-1</td>
</tr>
<tr>
<td><strong>Total Semester Hours Credit (SHC)</strong></td>
<td><strong>64-76</strong></td>
<td><strong>36-48</strong></td>
<td><strong>12-18</strong></td>
</tr>
</tbody>
</table>
PROGRAM APPLICATION
SUMMARY EVALUATION REPORT
Central Piedmont Community College
Broadcasting and Production Technology (A30120)

I. Program Planning
Central Piedmont Community College (CPCC) is seeking approval for the Broadcasting and Production Technology (A30120) program to begin Fall 2015. The planning area is defined as the college’s service area of Mecklinburg County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at Central Piedmont Community College on October 31, 2014. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Central Piedmont Community College have certified the following:

- The proposed program will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.
- They have assessed the need for the proposed program and the resources required to maintain a viable program and certify that the college can operate the proposed program efficiently and effectively within the resources available to the college.
- The college will complete a program accountability report including student success measures, enrollment trends, completion rates, and employment data three years after implementation of the program.

II. Program Rationale
Central Piedmont Community College indicates the following:

- Between November 1, 2013 and October 31, 2014, there were 1,093 job postings in the area for arts and media or communication occupations. The top four skills needed to fill 449 of those jobs are technical writing, editing, journalism, social media and broadcasting.
- There was an increase of 229 jobs from 2012 to 2013 in broadcasting technical and digital jobs such as producers, directors, and audio/video technicians. (NC Department of Labor)
- There will be a 9% national increase in media growth occupations through 2018 and a 2% growth in North Carolina (US Department of Labor.)
- The median wage for industry practitioners in the service area is $34,400. (Bureau of Labor Statistics)
- If approved for the program, CPCC plans to pursue the addition of the program for Career and College Promise high school students.
The program lends itself to entrepreneurial opportunities for graduates. There has been downsizing in traditional print and broadcast media leading to enlargement of digital media and digital entrepreneurship. The Small Business Center at CPCC will provide high quality entrepreneurship training and small business education to assist the graduate in growing a successful business.

CPCC will partner with WTVI, the local PBS affiliate to provide work-based learning opportunities for students, which is vital to the resume for entry level positions in this field.

There are more than a dozen television stations and cable outlets in the area. CPCC staff worked with five television stations to obtain workforce needs, entry-level hiring patterns and for assistance with the design of the proposed program.

CPCC conducted a student interest survey of students currently enrolled in CPCC arts and communication courses. Thirty-six students indicated an interest in enrolling in the program.

The Publisher of the Charlotte Observer submitted a letter of support and noted: In this digital age, technology and communication experts are highly marketable. Companies, both large and small, realize they must have an expertise in external communications which includes social media, videography and strong verbal and written skills. The Publisher also noted that there is interest in an increased job pool of candidates for their media company.

The former publisher of the Business Journal of Charlotte noted that there are more media related jobs here in Charlotte area than ever before with the growth of websites, and social media and the ability to produce and deliver content faster. Large companies are hiring individual solely to blog, post tweet etc...

III. Impact of the Proposed Program on Other Programs
Six community colleges are approved to offer the Broadcasting and Production Technology program. One college (Gaston College) is located in a contiguous county. Gaston College originally indicated a negative impact based upon concern of losing students from Mecklinburg County. The colleges met and have resolved the concern. An impact resolution form was received from Gaston College.

IV. Implementation of Collaborative Plan
Not Applicable

V. Curriculum Design
The proposed program of study is in compliance with the State Board approved curriculum standard.

Director: Ms. Jennifer Frazelle
C. **Institutional Certification:** Complete the following form and obtain required signatures. Form with original signatures should be included in the application.

**Institutional Certification**

This curriculum program **Broadcast and Production Technology**

(Program Title)

A30120 (Program Code)

will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

Central Piedmont Community College

(Community College Name)

has assessed the need for this program and the resources required to maintain a viable program and certifies that the college can operate this program efficiently and effectively within the resources available to the college.

The college understands that this proposed program will require a program accountability report that will include items such as student success measures, enrollment trends, completion rates, and employment data three years after implementation if the program is approved by the State Board.

(A copy of the minutes from the Board of Trustees meeting(s) where the proposed program was discussed and approved must be attached to the application.)

**Signature, President of College**

12-3-14

**Date**

**Signature, Board of Trustees Chair**

12-7-14

**Date**
**Curriculum Description**

Students enrolled in the Broadcasting Production Technology curriculum will develop professional skills in radio, television, audio, video, and related applications.

Training will emphasize speech, script writing, production planning, editing, and post production. Students will also study the development of the broadcasting industry, sales, ethics, law, marketing, and management. Hands-on training and teamwork approaches are essential to the instructional process.

Upon successful completion, students are prepared to enter broadcasting, production, and related industries in a variety of occupations.

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**Curriculum Requirements***
*for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.97 (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-based learning 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.

<table>
<thead>
<tr>
<th>Minimum General Education Hours</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>15</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
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<td>30</td>
<td>12</td>
</tr>
<tr>
<td>Other Required Hours</td>
<td>0-7</td>
<td>0-4</td>
<td>0-1</td>
</tr>
<tr>
<td><strong>Total Semester Hours Credit (SHC)</strong></td>
<td><strong>64-76</strong></td>
<td><strong>36-48</strong></td>
<td><strong>12-18</strong></td>
</tr>
</tbody>
</table>

*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. 1D SBCCC 400.97 (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-based learning 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.

<table>
<thead>
<tr>
<th><strong>Broadcasting and Production Technology A30120</strong></th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
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</thead>
<tbody>
<tr>
<td><strong>Minimum Major Hours Required</strong></td>
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<tr>
<td><strong>A. Core</strong></td>
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<tr>
<td>Courses required for the diploma are designated with *</td>
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<tr>
<td><strong>Required Courses:</strong></td>
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</tr>
<tr>
<td>* BPT 110 Introduction to Broadcasting</td>
<td>3 SHC</td>
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<tr>
<td>* BPT 111 Broadcast Law and Ethics</td>
<td>3 SHC</td>
<td></td>
<td></td>
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<tr>
<td>* BPT 112 Broadcast Writing</td>
<td>4 SHC</td>
<td></td>
<td></td>
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<tr>
<td>* BPT 113 Broadcast Sales</td>
<td>3 SHC</td>
<td></td>
<td></td>
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<td><strong>Required Subject Areas:</strong></td>
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<tr>
<td>None</td>
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<tr>
<td><strong>B. Concentration (Not applicable)</strong></td>
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<tr>
<td><strong>C. Other Major Hours</strong></td>
<td></td>
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</tr>
<tr>
<td>To be selected from the following prefixes:</td>
<td></td>
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<tr>
<td>ACC, ART, BPT, BUS, CIS, COM, CSC, CTS, DBA, DME, ECO, FVP, HUM, MIT, MKT, NOS, PSY, SOC, WBL, and WEB</td>
<td></td>
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</tr>
<tr>
<td>Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, CHI, FRE, GER, ITA, JPN, LAT, POR, RUS and SPA.</td>
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</tbody>
</table>
I. Program Planning

Central Piedmont Community College (CPCC) is seeking approval for the Truck Driver Training (Certificate) (C60300) program to begin Fall 2015. The planning area is defined as the college’s service area of Mecklenburg County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at CPCC on December 7, 2014. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of CPCC have certified the following:

- The proposed program will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.
- They have assessed the need for the proposed program and the resources required to maintain a viable program and certify that the college can operate the proposed program efficiently and effectively within the resources available to the college.
- The college will complete a program accountability report including student success measures, enrollment trends, completion rates, and employment data three years after implementation of the program.

II. Program Rationale

Central Piedmont Community College indicated the following:

- NC Commerce Department data for the three months prior to December, 2014, show more than 1,700 job postings (recurring) for truckers, listing truck driving as one of the Charlotte labor market’s best area for employment.
- Knight Transportation issued a letter of support for becoming a hiring and training partner with Central Piedmont Community College.
- The college surveyed students currently enrolled in their Heavy Equipment Transport programs. Over 80 students expressed interest in enrolling in the program. A Commercial Driver’s License would serve as a stand-alone pathway to a truck driving career or as a stackable credential for truck repair as well as other industries.
- CPCC surveyed the National Guard who expressed interest in the truck driving program. The survey indicated that 40 guardsmen were interest in enrolling.
• CPCC has the facilities, vehicles, trailers, and qualified staff to effectively operate the truck driving program.

III. Impact of the Proposed Program on Other Programs
Five colleges are currently approved to offer the Truck Driver Training (Certificate) (C60300) program; however, the college service areas are not contiguous to the service area of Central Piedmont Community College so that impact statements were not required.

IV. Implementation of Collaborative Plan
Not Applicable

V. Curriculum Design
The proposed program of study is in compliance with the State Board approved curriculum standard.

Coordinator: Mr. Frank Scuiletti
The proposed Truck Driving Training Program will prepare individuals for entry-level positions as local or long distance drivers of commercial motors vehicles, tractor-trailers, heavy trucks, dump trucks, and tankers. Additionally, the program will be designed to include didactic instruction as well as various lab hours. Furthermore, this new certificate, will assist with training individuals interested in entering the truck driving industry, which could assist with closing the employment gap for our region.

C. Institutional Certification: Complete the following form and obtain required signatures. Form with original signatures should be included in the application.

Institutional Certification

This curriculum program Truck Driver Training C60300

(Program Title) (Program Code)

will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

Central Piedmont Community College

(Community College Name)

has assessed the need for this program and the resources required to maintain a viable program and certifies that the college can operate this program efficiently and effectively within the resources available to the college.

The college understands that this proposed program will require a program accountability report that will include items such as student success measures, enrollment trends, completion rates, and employment data three years after implementation if the program is approved by the State Board.

(A copy of the minutes from the Board of Trustees meeting(s) where the proposed program was discussed and approved must be attached to the application.)

Signature, President of College

Date

Signature, Board of Trustees Chair

Date

Editorial Revision 06/03/14
**Curriculum Description**

The Truck Driver Training curriculum prepares individuals to drive tractor trailers rigs. This program teaches proper driving procedures, safe driver responsibility, commercial motor vehicle laws and regulations, and the basic principles and practices for operating commercial vehicles.

The course work includes motor vehicle laws and regulations, map reading, vehicle maintenance, safety procedures, daily logs, defensive driving, freight handling, security, and fire protection. Highway driving, training range exercises, and classroom lectures are used to develop the student’s knowledge and skills.

Graduates of the curriculum are qualified to take the Commercial Driver’s License and are employable by commercial trucking firms. They may also become owners/operators and work as private contract haulers.

**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.

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

*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.*
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.

---

### Truck Driver Training (Certificate) C60300

<table>
<thead>
<tr>
<th>Minimum Major Hours Required</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. CORE</strong></td>
<td>49 SHC</td>
<td>30 SHC</td>
<td>12 SHC</td>
</tr>
<tr>
<td><strong>Required Courses:</strong></td>
<td></td>
<td></td>
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<tr>
<td>TRP 100 Truck Driver Training</td>
<td>12 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Required Subject Areas:</strong></td>
<td></td>
<td></td>
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<tr>
<td>None</td>
<td></td>
<td></td>
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<tr>
<td><strong>B. CONCENTRATION (Not applicable)</strong></td>
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<tr>
<td><strong>C. OTHER MAJOR HOURS</strong></td>
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<td></td>
</tr>
<tr>
<td>To be selected from the following prefixes:</td>
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<tr>
<td>COE, and TRP</td>
<td></td>
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</tr>
</tbody>
</table>

*Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, CHI, FRE, GER, ITA, JPN, LAT, POR, RUS and SPA.*
I. Program Planning
Rowan-Cabarrus Community College is seeking approval for the Emergency Medical Science (A45340) program to begin Fall 2015. The planning area is defined as the college’s service area of Rowan and Cabarrus counties. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at Rowan-Cabarrus Community College on October 27, 2014. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Rowan-Cabarrus Community College have certified the following:

- The proposed program will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.
- They have assessed the need for the proposed program and the resources required to maintain a viable program and certify that the college can operate the proposed program efficiently and effectively within the resources available to the college.
- The college will complete a program accountability report including student success measures, enrollment trends, completion rates, and employment data three years after implementation of the program.

II. Program Rationale
Rowan-Cabarrus Community College (RCCC) indicates the following:

- RCCC has offered Emergency Medical Science (EMS) training in the continuing education division for a number of years. The currently successful Fire/EMS Continuing Education Paramedic (CEP) Certification program will provide a continuous and sustainable enrollment of students that are interested in completing their associate degree.

- The national EMS community recommends that paramedics should move from a certificate to a degree. RCCC is working towards the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP) accreditation. Offering the associate degree program may assist RCCC with gaining national accreditation. CoAEMSP accreditation is required for students to test for National Registry and many advanced paramedic provider services require Nationally Registered Paramedics for employment.


- The Emergency Department of Rowan County employs fifty-eight full-time and fifty-five part-time EMS personnel. Cabarrus County EMS employs a total of one hundred and twelve full and part-time staff. Both departments encourage life-long learning and advanced education. Providers are encouraged to consider EMS degree programs.
The U.S. Bureau of Labor Statistics predicts that “employment of emergency medical technicians and paramedics is expected to grow by thirty-three percent from 2010 to 2020”. As the trend continues to move toward paramedics with college degrees, the RCCC service population will need to earn a college degree in order to compete.

A survey completed by RCCC determined Rowan and Cabarrus County employers were projecting thirty-five full-time job openings for the first graduating class and fifty full-time positions for the second graduating class.

III. Impact of the Proposed Program on Other Programs
Twenty-eight community colleges are approved to offer the Emergency Medical Science program. An impact assessment was sent to each college. No negative impact responses were received.

IV. Implementation of Collaborative Plan
Not Applicable

V. Curriculum Design
The proposed program of study is in compliance with the State Board approved curriculum standard.

Coordinator: Ms. Renee Batts
C. Institutional Certification: Complete the following form and obtain required signatures. Form with original signatures should be included in the application.

**Institutional Certification**

<table>
<thead>
<tr>
<th>This curriculum program</th>
<th>Emergency Medical Science</th>
<th>A45340</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Program Title)</td>
<td></td>
<td>(Program Code)</td>
</tr>
</tbody>
</table>

will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

**Rowan-Cabarrus Community College**

(Community College Name)

has assessed the need for this program and the resources required to maintain a viable program and certifies that the college can operate this program efficiently and effectively within the resources available to the college.

The college understands that this proposed program will require a program accountability report that will include items such as student success measures, enrollment trends, completion rates, and employment data three years after implementation if the program is approved by the State Board.

*(A copy of the minutes from the Board of Trustees meeting(s) where the proposed program was discussed and approved must be attached to the application.)*

---

*Signature, President of College*  
11/31/14  
*Signature, Board of Trustees Chair*  
11/21/14
**CURRICULUM STANDARD**

Curriculum Program Title | Emergency Medical Science | Program Code | A45340
---|---|---
Concentration | (not applicable) | CIP Code: | 51.0904

### Curriculum Description

The Emergency Medical Science curriculum provides individuals with the knowledge, skills and attributes to provide advanced emergency medical care as a paramedic for critical and emergent patients who access the emergency medical system and prepares graduates to enter the workforce.

Students will gain complex knowledge, competency, and experience while employing evidence based practice under medical oversight, and serve as a link from the scene into the healthcare system.

Graduates of this program may be eligible to take state and/or national certification examinations. Employment opportunities include providers of emergency medical services, fire departments, rescue agencies, hospital specialty areas, industry, educational and government agencies.

### Curriculum Requirements*

*for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.97 (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-based learning 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.

<table>
<thead>
<tr>
<th></th>
<th>AAS</th>
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<tbody>
<tr>
<td>Minimum General Education Hours</td>
<td>15</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Minimum Major Hours</td>
<td>49</td>
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<tr>
<td>Other Required Hours</td>
<td>0-7</td>
<td>0-4</td>
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<td>Total Semester Hours Credit (SHC)</td>
<td>64-76</td>
<td>36-48</td>
<td>12-18</td>
</tr>
</tbody>
</table>

*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 of credit may be selected from any prefix listed, with the exception of prefixes listed in the core or concentration. Work-based learning 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.

<table>
<thead>
<tr>
<th>Emergency Medical Science A45340</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
</tr>
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<tbody>
<tr>
<td>Minimum Major Hours Required</td>
<td>49 SHC</td>
<td>30 SHC</td>
<td>12 SHC</td>
</tr>
<tr>
<td>A. Required Course: (Courses required for the diploma are designated with *)</td>
<td>49-52 SHC</td>
<td>40 SHC</td>
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<tr>
<td>Required Subject Areas:</td>
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<tr>
<td>Anatomy &amp; Physiology. Select one:</td>
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<tr>
<td>BIO 163 Basic Anatomy &amp; Physiology</td>
<td>5 SHC</td>
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<td>BIO 166 Anatomy and Physiology II</td>
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<td>BIO 169 Anatomy and Physiology II</td>
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<td>Terminology. Select one sequence:</td>
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<tr>
<td>MED 120 Survey of Med Terminology I</td>
<td>2 SHC</td>
<td>or</td>
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<tr>
<td>MED 121 Medical Terminology I</td>
<td>3 SHC &amp;</td>
<td></td>
<td></td>
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<tr>
<td>MED 122 Medical Terminology II</td>
<td>3 SHC</td>
<td>or</td>
<td></td>
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<tr>
<td>OST 141 Medical Terminology I - Medical Office</td>
<td>3 SHC</td>
<td>&amp;</td>
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<tr>
<td>OST 142 Medical Terminology II - Medical Office</td>
<td>3 SHC</td>
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<td>Required Subject Area: Advanced EMT/Paramedic</td>
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<td>(Choose one of the following sets)</td>
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<tr>
<td>Advanced EMT</td>
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<tr>
<td>EMS 120 Advanced EMT</td>
<td>6 SHC</td>
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<tr>
<td>EMS 121 AEMT Clinical Practicum</td>
<td>2 SHC</td>
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<tr>
<td>Paramedic</td>
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<tr>
<td>*EMS 122 EMS Clinical Practicum I</td>
<td>1 SHC</td>
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<tr>
<td>*EMS 130 Pharmacology</td>
<td>4 SHC</td>
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<tr>
<td>*EMS 131 Advanced Airway Management</td>
<td>2 SHC</td>
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</tr>
<tr>
<td>*EMS 160 Cardiology I</td>
<td>2 SHC</td>
<td></td>
<td></td>
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<tr>
<td>*EMS 220 Cardiology II</td>
<td>3 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*EMS 221 EMS Clinical Practicum II</td>
<td>2 SHC</td>
<td></td>
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<tr>
<td>*EMS 231 EMS Clinical Practicum III</td>
<td>3 SHC</td>
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<tr>
<td>*EMS 240 Patients with Special Challenges</td>
<td>2 SHC</td>
<td></td>
<td></td>
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<tr>
<td>*EMS 241 EMS Clinical Practicum IV</td>
<td>4 SHC</td>
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<tr>
<td>*EMS 250 Medical Emergencies</td>
<td>4 SHC</td>
<td></td>
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<tr>
<td>*EMS 260 Trauma Emergencies</td>
<td>2 SHC</td>
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<tr>
<td>*EMS 270 Life Span Emergencies</td>
<td>3 SHC</td>
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<tr>
<td>EMS 285 EMS Capstone</td>
<td>2 SHC</td>
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<tr>
<td>B. CONCENTRATION (Not applicable)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>C. OTHER MAJOR HOURS To be selected from the following prefixes:</td>
<td>BIO, CIS, CSC, EMS, EPT, HSC, MED, ODL, OST, PED, and WBL.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, CHI, FRE, GER, ITA, JPN, LAT, POR, RUS and SPA</td>
<td></td>
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</tbody>
</table>

Approved by the State Board of Community Colleges on November 13, 1996; Revised 08/06/97, 10/15/99; Revised 01/29/01; Corrected 02/05/01; SBCC Revised 11/16/01; SBCC Revised 05/17/02; Corrected 03/09/04; Corrected 08/11/04; Corrected 04/12/05; SBCC Revised 09/21/07; SBCC Template Revised 10/17/08; Revised 05/04/11; SBCC Revised 11/15/13; Editorial Revision 09/22/14.
I. Program Planning

Stanly Community College (SCC) is seeking approval for the Air Conditioning, Heating, and Refrigeration (D35100) program to begin Fall 2015. The planning area is defined as the college’s service area of Stanly County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at SCC on December 11, 2014. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of SCC have certified the following:

- The proposed program will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

- They have assessed the need for the proposed program and the resources required to maintain a viable program and certify that the college can operate the proposed program efficiently and effectively within the resources available to the college.

- The college will complete a program accountability report including student success measures, enrollment trends, completion rates, and employment data three years after implementation of the program.

II. Program Rationale

Stanly Community College indicated the following:

- NC Department of Commerce data suggests a 27% increase for air conditioning, heating, and refrigeration (AHR) mechanic and installer job opening in Stanly County between 2014 and 2024 resulting in 26 additional positions. The average wage is $16.85 an hour.

- A survey to local employers Garmon Mechanical, Deck Mechanical, and Deese Electric, indicated that there would be approximately 33 AHR positions available in the next three years. These companies expressed strong support of the program.

- The college received a grant from the U.S. Department of Commerce, Economic Development Administration (EDA), which supported upgrading the college’s Advanced Manufacturing and Industrial Technology facility that included a new AHR laboratory and an additional classroom.

- SCC currently offers a local certificate that contains a limited number of AHR courses within their Industrial Systems Technology program; however, the certificate is limited and does not contain enough course competencies to adequately prepare students to diagnose and repair more complex heating and refrigeration units that have become commonplace to the industry.
• The college has purchased four AHR trainers and plans on purchasing additional instructional equipment through an ALCOA Corporation grant that was awarded to the college.

• The college successfully offers Career and College Promise under Industrial Systems Technology to area high school students and plans to transition interested students into the Air Conditioning, Heating, and Refrigeration program.

• The college surveyed currently enrolled Stanly CC and local high school students. Sixteen students expressed interest in the Air Conditioning, Heating, and Refrigeration program.

III. Impact of the Proposed Program on Other Programs
Thirty-five colleges are currently approved to offer the Air Conditioning, Heating, and Refrigeration (A35100) program. An impact assessment was sent to colleges located in contiguous counties. No negative impact responses were received.

IV. Implementation of Collaborative Plan
Not Applicable

V. Curriculum Design
The proposed program of study is in compliance with the State Board approved curriculum standard.

Coordinator: Mr. Frank Scuiletti
C. Institutional Certification: Complete the following form and obtain required signatures. Form with original signatures should be included in the application.

Institutional Certification

This curriculum program Air Conditioning, Heating, and Refrigeration Technology D35100
(Program Title) (Program Code)

will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

Stanly Community College
(Community College Name)

has assessed the need for this program and the resources required to maintain a viable program and certifies that the college can operate this program efficiently and effectively within the resources available to the college.

The college understands that this proposed program will require a program accountability report that will include items such as student success measures, enrollment trends, completion rates, and employment data three years after implementation if the program is approved by the State Board.

(A copy of the minutes from the Board of Trustees meeting(s) where the proposed program was discussed and approved must be attached to the application.)

12-11-14

Signature, President of College

12-11-14

Signature, Board of Trustees Chair
**Curriculum Standard for Air Conditioning, Heating, and Refrigeration Technology**

**Career Cluster:** Architecture and Construction**

**Cluster Description:** Programs that prepare individuals to apply technical knowledge and skills related to the fields of architecture, construction, and associated professions. Includes instruction that can be applied to a variety of careers in the design-construction industry, including employment with architectural and engineering firms, residential and commercial builders/contractors, and other construction related occupations.

**Pathway:** Construction

**Effective Term:** Fall 2013 (2013*03)

## Program Majors Under Pathway:

<table>
<thead>
<tr>
<th>Program Major / Classification of Instruction Programs (CIP) Code</th>
<th>Credential Level(s) Offered</th>
<th>Program Major Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Conditioning, Heating, and Refrigeration Technology</td>
<td>CIP Code 47.0201</td>
<td>AAS/Diploma/Certificate</td>
</tr>
</tbody>
</table>

**Pathway Description:**

The Air Conditioning, Heating, and Refrigeration Technology curriculum provides the basic knowledge to develop skills necessary to work with residential and light commercial systems. Topics include mechanical refrigeration, heating and cooling theory, electricity, controls, and safety. The diploma program covers air conditioning, furnaces, heat pumps, tools and instruments. In addition, the AAS degree covers residential building codes, residential system sizing, and advanced comfort systems. Diploma graduates should be able to assist in the start up, preventive maintenance, service, repair, and/or installation of residential and light commercial systems. AAS degree graduates should be able to demonstrate an understanding of system selection and balance and advanced systems.

Program Description: Choose one of the following 4th paragraphs to use in conjunction with the first three paragraphs of the pathway description above for documentation used to identify each Program Major:

N/A

---

*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.*

Approved by the State Board of Community Colleges on August 16, 2012; Editorial Revision 11/15/12; Editorial Revision 12/14/12; Editorial Revision 08/21/13.
I. General Education Academic Core
[Curriculum Requirements for associate degree, diploma, and certificate programs in accordance with 23 NCAC 02E.0204(3)]: 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.

Air Conditioning, Heating, and Refrigeration Technology

<table>
<thead>
<tr>
<th>Recommended General Education Academic Core</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimum General Education Hours Required:</strong></td>
<td>15 SHC</td>
<td>6 SHC</td>
<td>0 SHC</td>
</tr>
</tbody>
</table>

Courses listed below are recommended general education courses for this curriculum standard. Colleges may choose to include additional or alternative general education courses to meet local curriculum needs.

*Recommended certificate and diploma level curriculum courses. These courses may not be included in associate degree programs.

**Communication:**
- COM 101 Workplace Communication 3 SHC
- COM 110 Introduction to Communications 3 SHC
- COM 120 Intro Interpersonal Com 3 SHC
- COM 231 Public Speaking 3 SHC
- ENG 101 Applied Communications I 3 SHC
- ENG 102 Applied Communications II 3 SHC
- ENG 110 Freshman Composition 3 SHC
- ENG 111 Expository Writing 3 SHC
- ENG 114 Prof Research & Reporting 3 SHC
- ENG 116 Technical Report Writing 3 SHC

**Humanities/Fine Arts:**
- HUM 101 Values in the Workplace 2 SHC
- HUM 110 Technology and Society 3 SHC
- HUM 115 Critical Thinking 3 SHC
- HUM 230 Leadership Development 3 SHC
- PHI 230 Introduction to Logic 3 SHC
- PHI 240 Introduction to Ethics 3 SHC

**Social/Behavioral Sciences:**
- ECO 151 Survey of Economics 3 SHC
- ECO 251 Prin of Microeconomics 3 SHC
- *PSY 101 Applied Psychology 3 SHC
- *PSY 102 Human Relations 2 SHC
- PSY 118 Interpersonal Psychology 3 SHC
- PSY 135 Group Processes 3 SHC
- PSY 150 General Psychology 3 SHC
- *SOC 105 Social Relationships 3 SHC
- SOC 210 Introduction to Sociology 3 SHC
- SOC 215 Group Process 3 SHC

**Natural Sciences/Mathematics:**
- *MAT 101 Applied Mathematics I 3 SHC
- MAT 110 Mathematical Measurements 3 SHC
- MAT 115 Mathematical Models 3 SHC
- MAT 120 Geometry and Trigonometry 3 SHC
- MAT 121 Algebra/Trigonometry 3 SHC
- PHY 110 Conceptual Physics 3 SHC
- PHY 121 Applied Physics I 4 SHC
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. Below is a description of each section under Major Hours.

A. Technical Core. The technical core is comprised of specific courses which are required for all Program Majors under this Curriculum Standard. 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 curriculum core courses or core subject area of the AAS program.

B. Program Major(s). The Program Major must include a minimum of 12 semester hours credit from required subjects and/or courses. The Program Major is in addition to the technical 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 each prefix listed, with the exception of prefixes listed in the core.

<table>
<thead>
<tr>
<th>Air Conditioning, Heating, and Refrigeration Technology</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Major Hours Required:</td>
<td>49 SHC</td>
<td>30 SHC</td>
<td>12 SHC</td>
</tr>
<tr>
<td>A. Technical Core:</td>
<td>32-34 SHC</td>
<td>20-22 SHC</td>
<td></td>
</tr>
<tr>
<td>Courses required for the diploma are designated with *</td>
<td></td>
<td></td>
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<tr>
<td>Required Courses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>* AHR 110 Intro to Refrigeration</td>
<td>5 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* AHR 112 Heating Technology</td>
<td>4 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* AHR 113 Comfort Cooling</td>
<td>4 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* AHR 114 Heat Pump Technology</td>
<td>4 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Electricity. Select one:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AHR 111 HVACR Electricity</td>
<td>3 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELC 111 Intro to Electricity</td>
<td>3 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELC 112 DC/AC Electricity</td>
<td>5 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required Subject Areas. Select one.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For AAS degree, select one subject area plus additional courses from the prefixes listing within the same subject area for a minimum of (12) semester hours of credit:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Conditioning, Heating, &amp; Refrigeration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AHR 211 Residential System Design</td>
<td>3 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AHR 212 Advanced Comfort Systems</td>
<td>4 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AHR 213 HVACR Building Code</td>
<td>2 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solar Thermal Systems</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>AHR 240 Hydronic Heating</td>
<td>2 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALT 250 Thermal Systems</td>
<td>3 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLU 111 Intro to Basic Plumbing</td>
<td>2 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Program Major(s): Not Applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Other Major Hours: To be selected from the following prefixes:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AHR and no more than 21 SHC selected from ALT, BAT, BPR, BUS, CIS, COE, CSC, CST, EGR, ELC, ELN, EUS, HYD, ISC, MAT, PCI, PHY, PLU, REF, SST, WBL, WLD and WOL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, CHI, FRE, GER, ITA, JPN, LAT, POR, RUS and SPA.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
III. Other Required Hours

A college may include courses to meet graduation or local employer requirements in a certificate (0-1 SHC), diploma (0-4 SHC), or an associate in applied science (0-7 SHC) 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.

IV. Employability Competencies

Fundamental competencies that address soft skills vital to employability, personal, and professional success are listed below. Colleges are encouraged to integrate these competencies into the curriculum by embedding appropriate student learning outcomes into one or more courses or through alternative methods.

A. Interpersonal Skills and Teamwork – The ability to work effectively with others, especially to analyze situations, establish priorities, and apply resources for solving problems or accomplishing tasks.

B. Communication – The ability to effectively exchange ideas and information with others through oral, written, or visual means.

C. Integrity and Professionalism – Workplace behaviors that relate to ethical standards, honesty, fairness, respect, responsibility, self-control, criticism and demeanor.

D. Problem-solving – The ability to identify problems and potential causes while developing and implementing practical action plans for solutions.

E. Initiative and Dependability – Workplace behaviors that relate to seeking out new responsibilities, establishing and meeting goals, completing tasks, following directions, complying with rules, and consistent reliability.

F. Information processing – The ability to acquire, evaluate, organize, manage, and interpret information.

G. Adaptability and Lifelong Learning – The ability to learn and apply new knowledge and skills and adapt to changing technologies, methods, processes, work environments, organizational structures and management practices.

H. Entrepreneurship – The knowledge and skills necessary to create opportunities and develop as an employee or self-employed business owner.

*An Employability Skills Resource Toolkit has been developed by NC-NET for the competencies listed above. Additional information is located at: [http://www.nc-net.info/employability.php](http://www.nc-net.info/employability.php)*

**The North Carolina Career Clusters Guide was developed by the North Carolina Department of Public Instruction and the North Carolina Community College system to link the academic and Career and Technical Education programs at the secondary and postsecondary levels to increase student achievement. Additional information about Career Clusters is located at: [http://www.nc-net.info/NC_career_clusters_guide.php](http://www.nc-net.info/NC_career_clusters_guide.php) or [http://www.careertech.org](http://www.careertech.org).**

Summary of Required Semester Hour Credits (SHC) for each credential:

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

Approved by the State Board of Community Colleges on August 16, 2012; Editorial Revision 11/15/12; Editorial Revision 12/14/12; Editorial Revision 08/21/13.
PROGRAM APPLICATION
SUMMARY EVALUATION REPORT
Stanly Community College
Computer-Integrated Machining (D50210)

I. Program Planning

Stanly Community College (SCC) is seeking approval for the Computer-Integrated Machining (D50210) program to begin Fall 2015. The planning area is defined as the college’s service area of Stanly County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at SCC on December 11, 2014. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of SCC have certified the following:

- The proposed program will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

- They have assessed the need for the proposed program and the resources required to maintain a viable program and certify that the college can operate the proposed program efficiently and effectively within the resources available to the college.

- The college will complete a program accountability report including student success measures, enrollment trends, completion rates, and employment data three years after implementation of the program.

II. Program Rationale

Stanly Community College indicated the following:

- NC Department of Commerce data suggests a 26% increase for machinist job opening in Stanly County between 2014 and 2024 resulting in 50 additional positions. The average wage for machinists is $17.25 an hour.

- NC Department of Commerce data suggests a 29% increase for Computer Numeric Control (CNC) machinist job opening in Stanly County between 2014 and 2024 resulting in 53 additional positions. The average wage for CNC machinists is $19.82 an hour.

- The college received a grant from the U.S. Department of Commerce, Economic Development Administration (EDA), which supported upgrading the college’s Advanced Manufacturing and Industrial Technology facility to include a new machining laboratory and classroom.

- Members from the North Carolina Association of County Commissioners, the North Carolina Cooperative Extension Service, the North Carolina Community College System, and the Institute for Emerging Issues were invited to attend an industry forum in Stanly County where local industries Michelin US11, Chicago Tube and Iron, and Carnes-Miller Gear Company, communicated their need for qualified employees with machining skill sets.

SBCC
03/20/2015
• SCC currently offers a local certificate that contains a limited number of machining courses within their Industrial Systems Technology program, however, the certificate does not contain enough course competencies to adequately prepare students for the highly technical advanced-machining processes that have become commonplace to industry.

• The college successfully offers machining courses under their Industrial Systems curriculum program and plans to transition interested students into the Computer-Integrated Machining program.

• The college surveyed 102 currently enrolled Stanly CC and local high school students. Thirty-eight students expressed interest in the Computer-Integrated Machining program.

III. Impact of the Proposed Program on Other Programs
Thirty-two colleges are currently approved to offer the Computer-Integrated Machining (A50210) program. An impact assessment was sent to colleges located in contiguous counties. No negative impact responses were received.

IV. Implementation of Collaborative Plan
Not Applicable

V. Curriculum Design
The proposed program of study is in compliance with the State Board approved curriculum standard.

Coordinator: Mr. Frank Scuiletti
C. Institutional Certification: Complete the following form and obtain required signatures. Form with original signatures should be included in the application.

Institutional Certification

This curriculum program Computer-Integrated Machining A50210

(Program Title) (Program Code)

will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

Stanly Community College

(Community College Name)

has assessed the need for this program and the resources required to maintain a viable program and certifies that the college can operate this program efficiently and effectively within the resources available to the college.

The college understands that this proposed program will require a program accountability report that will include items such as student success measures, enrollment trends, completion rates, and employment data three years after implementation if the program is approved by the State Board.

(A copy of the minutes from the Board of Trustees meeting(s) where the proposed program was discussed and approved must be attached to the application.)

Signature, President of College

Date

Signature, Board of Trustees Chair

Date
CURRICULUM STANDARD

Curriculum Program Title: Computer-Integrated Machining
Code: A50210
Concentration: (not applicable)

Curriculum Description

The Computer-Integrated Machining curriculum prepares students with the analytical, creative and innovative skills necessary to take a production idea from an initial concept through design, development and production, resulting in a finished product.

Coursework may include manual machining, computer applications, engineering design, computer-aided drafting (CAD), computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC) equipment, basic and advanced machining operations, precision measurement and high-speed multi-axis machining.

Graduates should qualify for employment as machining technicians in high-tech manufacturing, rapid-prototyping and rapid-manufacturing industries, specialty machine shops, fabrication industries, and high-tech or emerging industries such as aerospace, aviation, medical, and renewable energy, and to sit for machining certification examinations.

Curriculum Requirements*

[for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.97 (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-based learning 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.

<table>
<thead>
<tr>
<th>Minimum General Education Hours</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Major Hours</td>
<td>49</td>
<td>30</td>
<td>12</td>
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<td>Other Required Hours</td>
<td>0-7</td>
<td>0-4</td>
<td>0-1</td>
</tr>
<tr>
<td>Total Semester Hours Credit (SHC)</td>
<td>64-76</td>
<td>36-48</td>
<td>12-18</td>
</tr>
</tbody>
</table>

*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. 1D SBCCC 400.97 (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-based learning 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.

### Computer-Integrated Machining A50210

<table>
<thead>
<tr>
<th>Minimum Major Hours Required</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Core Courses required for the diploma are designated with *</td>
<td>12-16 SHC</td>
<td>12-16 SHC</td>
<td>12 SHC</td>
</tr>
<tr>
<td><strong>Required Subject Areas:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Machining Fundamentals:</em></td>
<td></td>
<td></td>
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<tr>
<td>MAC 111 Machining Technology I</td>
<td>6 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or MAC 141 Machining Applications I</td>
<td>4 SHC</td>
<td></td>
<td></td>
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<tr>
<td>(certification course set)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MAC 171 Measure/Material &amp; Safety</td>
<td>1 SHC and</td>
<td></td>
<td></td>
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<tr>
<td>MAC 172 Job Plan, Bench &amp; Layout</td>
<td>1 SHC and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAC 173 Manual Milling/Drilling</td>
<td>2 SHC and</td>
<td></td>
<td></td>
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<tr>
<td>MAC 174 Manual Turning</td>
<td>2 SHC</td>
<td></td>
<td></td>
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<tr>
<td><em>Intermediate Machining: Select One Course:</em></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MAC 112 Machining Technology II</td>
<td>6 SHC</td>
<td></td>
<td></td>
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<tr>
<td>MAC 142 Machining Applications II</td>
<td>4 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Blueprint Reading/CAD Fundamentals. Select One Course:</em></td>
<td></td>
<td></td>
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<tr>
<td>BPR 111 Print Reading</td>
<td>2 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAC 131 Blueprint Reading/Mach I</td>
<td>2 SHC</td>
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<td></td>
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<tr>
<td><em>Computer Numerical Control Emphasis. Select One Course:</em></td>
<td></td>
<td></td>
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<tr>
<td>MAC 121 Intro to CNC</td>
<td>2 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAC 122 CNC Turning</td>
<td>2 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAC 124 CNC Milling</td>
<td>2 SHC</td>
<td></td>
<td></td>
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<tr>
<td>MEC 110 Intro to CAD/CAM</td>
<td>2 SHC</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. CONCENTRATION (Not applicable)</strong></td>
<td></td>
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<tr>
<td><strong>C. OTHER MAJOR HOURS To be selected from the following prefixes:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALT, ASM, ATR, AUT, BPR, BUS, CIS, COE, CSC, DDF, DFT, EGR, HYD, ISC, MAC, MEC, OMT, PLA, SST, TDP, *WBL, and WLD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, CHI, FRE, GER, ITA, JPN, LAT, POR, RUS and SPA.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>*WBL prefix will be available in fall 2014.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
I. Program Planning
Stanly Community College (SCC) is seeking approval for the Culinary Arts (A55150) program to begin Fall 2015. The planning area is defined as the college’s service area of Stanly County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at Stanly Community College on December 11, 2014. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Stanly Community College have certified the following:

- The proposed program will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.
- They have assessed the need for the proposed program and the resources required to maintain a viable program and certify that the college can operate the proposed program efficiently and effectively within the resources available to the college.
- The college will complete a program accountability report including student success measures, enrollment trends, completion rates, and employment data three years after implementation of the program.

II. Program Rationale
Stanly Community College indicates the following:

- The Culinary Arts program at Stanly Community College will be designed to provide pathways for start-up and operations of entrepreneurship services, such as catering. It will support the growing interest in the farm-to-table movement in the local community.
- Data from the NC Department of Commerce indicated an increase for Food Service Managers of 4.7% in the Centralina area. Additionally, an increase of 5% for chefs is predicted in the Centralina region.
- Chef salaries range from entry level of $16.29 per hour to experienced hourly wage of $27.42. Annually, estimated entry level salaries start at $33,890 while experienced level start at $57,050. (NC Department of Commerce).
- Stanly County’s 2013 Annual Employment Data indicate a consistent job market of 1,845 for the Accommodation and Food Services sector, which is the county’s fourth highest employment field.
- SCC conducted an employer interest survey of forty local food service companies. Twenty-one employers responded. Eighty-six percent of the respondents indicated a need for a Culinary Arts Degree Program. Employer interest survey results also indicated an estimated 464 individuals would be employed by local employers over the next three years in the following positions: Food Preparation Workers, Food Servers, First-Line Supervisors, Cooks, and Bartenders.
- SCC conducted a student interest survey of 156 high school students enrolled in Stanly County Schools’ food science courses in the fall of 2014. Eighty-five percent indicated a need for the College to offer the Culinary Arts Degree Program. Forty-four percent indicated they would enroll in a CCP Culinary Arts pathway.

- The superintendent of Stanly County Schools provided a letter of support stating that the program will provide a seamless six year pathway for high school students interested in a food science career.

- The Stanly Community College Foundation provided a letter of support. In addition they have begun a capital campaign for the program and have raised $32,000 towards program start-up expenses.

- The Stanly County Chamber of Commerce provided a letter of support and stated that this program would support the need for qualified, well trained chefs and staff which is needed to support the growing interest in the farm-to-table movement in the county.

- The Director of Small Business and Entrepreneurial Development indicated that this program will allow the college to create a pool of chefs with management skills which will open up new career paths for the graduates in the restaurants in Stanly County.

- The Chair of the Stanly County Board of Commissioners provided a letter of support and stated the approval of the Culinary Arts Program will give the College another opportunity to promote the local foods movement and provide Stanly County citizens with education and economic development opportunities.

- The Mayor of the City of Albemarle provided a letter of support and indicated the local economy would benefit greatly from the development of a culinary school. The downtown location would help tremendously with the revitalization of our downtown businesses.

III. Impact of the Proposed Program on Other Programs
Twenty-four community colleges are approved to offer the Culinary Arts program. An impact assessment was sent to South Piedmont Community College, the only contiguous college approved to offer the program. South Piedmont Community College agreed with the impact assessment.

IV. Implementation of Collaborative Plan
Not Applicable

V. Curriculum Design
The proposed program of study is in compliance with the State Board approved curriculum standard.

Coordinator: Dr. Lisa Eads
C. Institutional Certification: Complete the following form and obtain required signatures. Form with original signatures should be included in the application.

Institutional Certification

This curriculum program Culinary Arts A55150
(Program Title) (Program Code)

will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.

Stanly Community College
(Community College Name)

has assessed the need for this program and the resources required to maintain a viable program and certifies that the college can operate this program efficiently and effectively within the resources available to the college.

The college understands that this proposed program will require a program accountability report that will include items such as student success measures, enrollment trends, completion rates, and employment data three years after implementation if the program is approved by the State Board.

(A copy of the minutes from the Board of Trustees meeting(s) where the proposed program was discussed and approved must be attached to the application.)

\[Signature, President of College\]
12-11-14

\[Signature, Board of Trustees Chair\]
12-11-14
**Curriculum Description**

This curriculum provides specific training required to prepare students to assume positions as trained culinary professionals in a variety of foodservice settings including full service restaurants, hotels, resorts, clubs, catering operations, contract foodservice and health care facilities.

Students will be provided theoretical knowledge/practical applications that provide critical competencies to meet industry demands, including environmental stewardship, operational efficiencies and professionalism. Courses include sanitation/safety, baking, garde manger, culinary fundamentals/production skills, nutrition, customer service, purchasing/cost control, and human resource management.

Graduates should qualify for entry-level opportunities including prep cook, line cook, and station chef. American Culinary Federation certification may be available to graduates. With experience, graduates may advance to positions including sous chef, pastry chef, executive chef, or foodservice manager.

**Curriculum Requirements***

*for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.97 (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-based learning 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.

<table>
<thead>
<tr>
<th></th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
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<tr>
<td>Minimum General Education Hours</td>
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<tr>
<td>Minimum Major Hours</td>
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<td>Other Required Hours</td>
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<td>Total Semester Hours Credit in Program</td>
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*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.*
### Culinary Arts A55150

<table>
<thead>
<tr>
<th>Minimum Major Hours Required</th>
<th>AAS</th>
<th>Diploma</th>
<th>Certificate</th>
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<td><strong>A. CORE</strong></td>
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<td>Required Courses:</td>
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<tr>
<td>CUL 110 Sanitation &amp; Safety</td>
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<td>CUL 140 Culinary Skills I</td>
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<td>CUL 160 Baking I</td>
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<td>CUL 170 Garde Manger I</td>
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<td>CUL 240 Culinary Skills II</td>
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<td>HRM 245 Human Resource Mgmt-Hosp</td>
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<td><strong>Required Subject Areas:</strong></td>
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<td>CUL 112 Nutrition for Foodservice</td>
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<tr>
<td>NUT 110 Nutrition</td>
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<td><strong>Customer Service. Select one:</strong></td>
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<td>HRM 124 Guest Service Management</td>
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<td>HRM 220 Cost Control-Food &amp; Bev</td>
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<td>WBL 121 Work-Based Learning II</td>
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<td>WBL 211 Work-Based Learning IV</td>
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<td>WBL 221 Work-Based Learning V</td>
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<tr>
<td>WBL 231 Work-Based Learning VI</td>
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<td><strong>OR</strong></td>
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<td>Select one of the following:</td>
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<td><strong>C. OTHER MAJOR HOURS</strong></td>
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<td>ACC, AGR, ART, BPA, BUS, CIS, CSC, CUL, ENT, ETR, FRE, FST, HOR, HRM, ISC, MAT, NUT, OMT, RSM, SPA, SST, and WBL</td>
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<td>Up to three semester hour credits may be selected from the following prefixes: ARA, ASL, CHI, FRE, GER, ITA, JPN, LAT, POR, RUS and SPA.</td>
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