

**PROGRAM APPLICATION
SUMMARY EVALUATION REPORT
Cape Fear Community College
Healthcare Business Informatics (A25510)**

I. Program Planning

Cape Fear Community College (CFCC) is seeking approval for the Healthcare Business Informatics (HBI) (A25510) program to begin Fall 2013. The planning area is defined as the college's service area of New Hanover and Pender counties. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at Cape Fear Community College on January 14, 2013. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Cape Fear 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

Cape Fear Community College indicates the following:

- Businesses in the service area of CFCC have indicated a need to hire graduates who are well versed in Healthcare Business Informatics. Letters of support for the proposed program were submitted to CFCC by New Hanover Regional Medical Center, Wilmington Health, and Delaney Radiologists.
- CFCC's service area of New Hanover and Pender counties is home to numerous and diverse healthcare providers. Many of these providers have or in the process of merging with New Hanover Regional Medical Center (NHRMC) and now rely completely on NHRMC for human resources and information technology support. CFCC has built a strong relationship with NHRMC that involves providing graduates to NHRMC and its subsidiary healthcare facilities within the service area of the college.
- According to the National Bureau of Labor Statistics, the field of healthcare managing and maintaining records is one of the fastest growing in the country. The number of jobs in this sector nationally in 2010 was 179,500; between 2010 and 2020 this sector is expected to add another 38,000 jobs (21% increase).

- In addition to traditional job opportunities, it is noted that a career in HBI is especially suitable for self-employment.
- Upon graduation, students will possess the necessary proficiencies to work at local healthcare facilities providing the different aspects of healthcare business informatics, including healthcare informatics, systems analysis, networking technology, computer/network security, data warehousing, archiving and retrieval of information, and healthcare computer infrastructure support.
- There are qualified instructors available to teach the HBI courses. One additional faculty member will be hired to oversee and support the program. There are sufficient hardware, software, and labs already in place to support the program.
- According to a recent survey conducted by CFCC, 159 out of 185 current CFCC students showed interest in enrolling in the proposed program.

III. Impact of the Proposed Program on Other Programs

Eight colleges are currently approved to offer the Healthcare Business Informatics (A25510) program. An Impact Assessment was sent to Brunswick Community College, the only college approved to offer the same program in contiguous service areas. Initially Brunswick Community College did not support Cape Fear Community College's Impact Assessment. After further communications between the two colleges, Brunswick Community College agreed to the Impact Assessment Resolution.

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. Hilmi A. Lahoud

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 Healthcare Business Informatics 25510
(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.

Cape Fear 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.)

Jed D. Spring 2.6.2013
Signature, President of College Date

Bannon E. Nobles 2-6-13
Signature, Board of Trustees Chair Date

CURRICULUM STANDARD

Effective Term
Spring 2013
[2013*01]

Curriculum Program Title

Healthcare Business Informatics

Code

A25510

Concentration

(not applicable)

Curriculum Description

The Healthcare Business Informatics curriculum prepares individuals for employment as specialists in installation, data management, data archiving/retrieval, system design and support, and computer training for medical information systems.

Students learn about the field through multidisciplinary coursework including the study of terminology relating to informatics, systems analysis, networking technology, computer/network security, data warehousing, archiving and retrieval of information, and healthcare computer infrastructure support.

Graduates should qualify for employment as database/data warehouse analysts, technical support professionals, informatics technology professionals, systems analysts, networking and security technicians, and computer maintenance professionals in the healthcare field.

*Curriculum Requirements**

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

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

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

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

Major Hours

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

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

Healthcare Business Informatics A25510

	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE <i>Courses required for the diploma are designated with *</i> Required Courses: CTS 120 Hardware/Software Support 3 SHC *HBI 110 Issues and Trends in HBI 3 SHC *HBI 113 Survey of Med Insurance 3 SHC *HBI 250 Data Mgmt and Utilization 3 SHC Require Subject Areas: Basic Computer Skills. Select one: CIS 110 Introduction to Computers 3 SHC CIS 111 Basic PC Literacy 2 SHC Operating Systems. Select one: CTI 130 OS and Device Foundation 6 SHC NOS 110 Operating System Concepts 3 SHC Information Security. Select one: CTI 120 Network & Sec Foundation 3 SHC SEC 110 Security Concepts 3 SHC <div style="text-align: right;"><i>Continued on next page</i></div>	33-42 SHC		

<p>Network Systems. Select one: NET 110 Networking Concepts 3 SHC NET 125 Networking Basics 3 SHC TNE 111 Campus Networks I 3 SHC</p> <p>Database. Select one: DBA 110 Database Concepts 3 SHC DBA 120 Database Programming I 3 SHC DBA 210 Database Administration 3 SHC</p> <p>Medical Terminology. Select one set: MED 120 Survey of Med Terminology 2 SHC <i>or</i> MED 121 Medical Terminology I 3 SHC <i>and</i> MED 122 Medical Terminology II 3 SHC <i>or</i> OST 141 Med Terms I-Med Office 3 SHC <i>and</i> OST 142 Med Terms II-Med Office 3 SHC</p> <p>Medical Legal and Regulatory Issues. Select one: MED 118 Medical Law and Ethics 2 SHC OST 149 Medical Legal Issues 3 SHC HMT 215 Legal Asp of Healthcare Admin 3 SHC</p> <p>Business Management. Select one: BUS 110 Introduction to Business 3 SHC ETR 210 Introduction to Entrepreneurship 3 SHC HMT 110 Intro to Healthcare Mgt 3 SHC LOG 110 Introduction to Logistics 3 SHC CTS 115 Info Sys Business Concepts 3 SHC</p>			
<p>B. CONCENTRATION (<i>Not applicable</i>)</p>			
<p>C. OTHER MAJOR HOURS <i>To be selected from the following prefixes/courses:</i></p> <p>ACC, BIO, BUS, CIS, COE, COM, CSC, CTI, CTS, DBA, ETR, GIS, GRO, HBI, HMT, ISC, LOG, MAT, MED, MKT, NET, NOS, OMT, OST, SEC, TNE, and WEB</p> <p><i>Foreign language courses (including ASL) that are not designated as approved other major hours may be included in all programs up to a maximum of 3 semester hours of credit.</i></p>			

III. Impact of the Proposed Program on Other Programs

Nine colleges are approved to offer either Computer-Aided Drafting Technology (A50150) or Mechanical Drafting Technology (A50340), which is considered a similar program. Wake Technical CC is the only approved college contiguous to the service area of Central Carolina Community College. WTCC agrees that there will be no negative impact to their program.

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 Scuietti

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

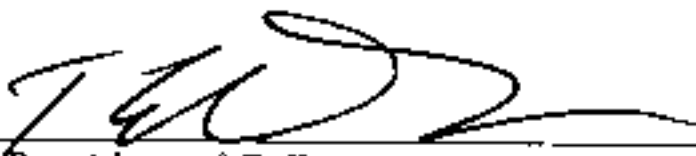
Institutional Certification

This curriculum program, Computer-Aided Drafting Technology (A50150), 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 Carolina Community College 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 2-21-13
Date



Signature, Board of Trustees Chair 2-25-13
Date

**Curriculum Standard for Engineering and Technology:
Drafting Technology**

Career Cluster: Science, Technology, Engineering and 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)

Program Majors Under Pathway

Program Major / Classification of Instruction Programs (CIP) Code	Credentialed Level(s) Offered	Program Major Code
Mechanical Drafting Technology	CIP Code 15.1306	AAS/Diploma/Certificate A50340
Computer-Aided Drafting Technology	CIP Code 15.1302	AAS/Diploma/Certificate A50150

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, engineering technicians, CAD systems managers, industrial and technology managers, research technicians and graphic technicians.

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:

Mechanical Drafting Technology: A course of study that prepares the students to apply technical skills and advanced computer software and hardware to create working drawings, graphic representations and computer simulations for mechanical and industrial designs. Includes instruction in engineering graphics, specification interpretation, geometric dimensioning and tolerancing, drafting calculations, two dimensional and three dimensional engineering design, solids modeling, engineering animation, computer-aided drafting (CAD), computer-aided design (CADD) and manufacturing materials and processes. Graduates should qualify for employment in mechanical areas such as manufacturing, fabrication, research and development, and service industries.

Computer-Aided Drafting Technology: A course of study that prepares the students to apply technical skills and advanced computer software and hardware to develop plans and related documentation, and manage the hardware and software of a CAD system. Includes instruction in architectural drafting, computer-assisted drafting and design (CADD), creating and managing two and three-dimensional models, linking CAD documents to other software applications, and operating systems. Graduates should qualify for CAD jobs in architectural and engineering consulting firms and industrial design businesses.

*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.

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.

Engineering and Technology: Drafting Technology

General Education Academic Core	AAS	Diploma	Certificate
Minimum General Education Hours Required:	15 SHC	6 SHC	0 SHC
<p><i>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.</i></p> <p><i>*Recommended certificate and diploma level curriculum courses. These courses may <u>not</u> be included in associate degree programs.</i></p> <p>Communications:</p> <p>*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</p> <p>Humanities/Fine Arts:</p> <p>*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</p> <p>Social/Behavioral Sciences:</p> <p>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</p> <p>Natural Sciences/Mathematics:</p> <p>*MAT 101 Applied Mathematics I 3 SHC MAT 110 Mathematical Measurement 3 SHC MAT 115 Mathematical Models 3 SHC MAT 120 Geometry and Trigonometry I 3 SHC MAT 121 Algebra/Trigonometry 3 SHC PHY 110 Conceptual Physics 3 SHC PHY 121 Applied Physics I 4 SHC</p>	<p>6 SHC</p> <p>3 SHC</p> <p>3 SHC</p> <p>3 SHC</p>	<p>3-6 SHC</p> <p>0-3 SHC</p> <p>0-3 SHC</p> <p>0-3 SHC</p>	<p>Optional</p> <p>Optional</p> <p>Optional</p> <p>Optional</p>

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 any prefix listed, with the exception of prefixes listed in the core.

<i>Engineering and Technology: Drafting Technology</i>	AAS	Diploma	Certificate
Minimum Major Hours Required:	49 SHC	30 SHC	12 SHC
<i>Courses required for a diploma are designated with *</i>	24 SHC	14-16 SHC	
A. Technical Core: *DFT 151 CAD I 3 SHC *DFT 152 CAD II 3 SHC DFT 153 CAD III 3 SHC *DFT 154 Intro Solid Modeling 3 SHC <i>OR</i> *DDF 252 Advanced Solid Modeling 3 SHC B. Program Major(s). <i>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> <u>Mechanical Drafting Technology</u> *DFT 111 Technical Drafting I 2 SHC *DFT 112 Technical Drafting II 2 SHC <i>*Choose one:</i> MEC 110 Intro to CAD/CAM 2 SHC MEC 111 Machine Processes I 3 SHC MEC 130 Mechanisms 3 SHC MEC 180 Engineering Materials 3 SHC <u>Computer Aided Drafting Technology</u> *DFT 253 CAD Data Management 3 SHC <i>OR</i> *DFT 254 Intern Solid Model/Render 3 SHC <i>*Choose one:</i> DFT 111 Technical Drafting I 2 SHC DFT 170 Engineering Graphics 3 SHC ARC 111 Intro to Arch Technology 3 SHC DDF 221 Design Drafting Project 2 SHC			

C. Other Major Hours. *To be selected from the following prefixes:*

ALT, ARC, ART, ATR, BAT, BPR, BUS, CEG, CET, CIS, CIV, COE, CSC, CST, CTI, CTS, DBA, DDF, DFT, EGR, GIS, HYD, INT, ISC, LAR, MAC, MEC, MNT, OMT, SRV and SST

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.

***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 or <http://www.careertech.org>.*

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

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

**PROGRAM APPLICATION
SUMMARY EVALUATION REPORT
Central Carolina Community College
Healthcare Management Technology (A25200)**

I. Program Planning

Central Carolina Community College is seeking approval for the Healthcare Management Technology (A25200) program to begin Fall 2013. The planning area is defined as the college's service area of Harnett County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at Central Community College on July 25, 2012. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Central Carolina 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 Carolina Community College (CCCC) indicates the following:

- Businesses in the service area of CCCC indicate a need for graduates that are well versed in the management aspects of the healthcare industry. Letters of support were submitted to CCCC from Harnett County Economic Development Commission, Harnett County Business Education Partnership, Central Harnett Hospital and Tri-County Insurance.
- In addition to traditional job opportunities, it is noted that a career in healthcare management technology is especially suitable for self-employment.
- Qualified instructors, classrooms, labs, hardware and software are already in place. The costs to offer this program are minimal.
- According to U.S. Bureau of Labor Statistic, employment of medical and health service managers is expected to grow by 22 percent from 2010 to 2020, faster than the average for all occupations.
- According to a recent survey conducted by CCCC, 35 out of 57 current CCCC students showed interest in enrolling in the proposed program.

III. Impact of the Proposed Program on Other Programs

Ten community colleges are approved to offer the Healthcare Management Technology (A25200) program. Fayetteville Technical Community College and Randolph Community College are the only approved colleges contiguous to the service area of Central Carolina Community College. Both colleges agree that there will be no negative impact to their program.

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. Hilmi A. Lahoud

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 Healthcare Management Technology A25200
(Program Title) (Program Code)

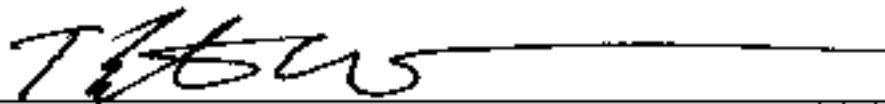
will enhance the workforce of North Carolina, will provide educational and training opportunities consistent with the mission of the college, and will not duplicate the opportunities currently offered.


Central Carolina 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.)

 2-13-13
Signature, President of College Date

 2/13/13
Signature, Board of Trustees Chair Date

CURRICULUM STANDARD

Curriculum Program Title	Healthcare Management Technology	Code	A25200
Concentration	(not applicable)		

Curriculum Description

The Healthcare Management Technology curriculum is designed to prepare students for employment in healthcare business and financial operations. Students will gain a comprehensive understanding of the application of management principles to the healthcare environment.

The curriculum places emphasis on planning, organizing, directing, and controlling tasks related to healthcare organizational objectives including the legal and ethical environment. Emphasis is placed on the development of effective communication, managerial, and supervisory skills.

Graduates may find employment in healthcare settings including hospitals, medical offices, clinics, long-term care facilities, and insurance companies. Graduates are eligible to sit for various certification exams upon completion of the degree with a combination of a minimum of two years administrative experience. Eligible certifications include, but are not limited to, the Professional Association of Healthcare Office Managers (PAHCOM), the Healthcare Financial Management Association (HFMA), the Certified Patient Account Manager (CPAM) and the Certified Manager of Patient Accounts (CMPA) examinations.

*Curriculum Requirements**

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

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

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

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

Major Hours

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

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

Healthcare Management Technology A25200

	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE <i>Courses required for the diploma are designated with *</i> Required Courses: * ACC 120 Princ of Financial Acct 4 SHC * ACC 121 Princ of Managerial Acct 4 SHC * HMT 110 Intro to Healthcare Mgt 3 SHC * HMT 210 Medical Insurance 3 SHC * HMT 211 Long-Term Care Administration 3 SHC * HMT 220 Healthcare Financial Mgmt 4 SHC Required Subject Areas: <i>*Medical Terminology. Select one set:</i> MED 121 Medical Terminology I 3 SHC MED 122 Medical Terminology II 3 SHC <i>or</i> OST 141 Medical Terms I-Med Office 3 SHC OST 142 Medical Terms II-Med Office 3 SHC <i>*Medical Legal. Select one:</i> HMT 215 Legal Asp of Healthcare Admin 3 SHC MED 118 Medical Law and Ethics 2 SHC OST 149 Medical Legal Issues 3 SHC	29-30 SHC	29-30 SHC	
B. CONCENTRATION <i>(Not applicable)</i>			
C. OTHER MAJOR HOURS <i>To be selected from the following prefixes/courses:</i> ACC, BIO, BUS, CIS, COE, CSC, COM, CTI, CTS, DBA, GRO, HMT, ISC, MAT, MED, MKT, OMT, OST, and WEB <i>Foreign language courses (including ASL) that are not designated as approved other major hours may be included in all programs up to a maximum of 3 semester hours of credit.</i>			

**PROGRAM APPLICATION
SUMMARY EVALUATION REPORT**

Montgomery Community College
Air Conditioning, Heating, and Refrigeration Technology (A35100)

I. Program Planning

Montgomery Community College (MCC) is seeking approval for the Air Conditioning, Heating, and Refrigeration Technology (A35100) program to begin Fall 2013. The planning area is defined as the college's service area of Montgomery County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at MCC on February 12, 2013. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of MCC 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

Montgomery Community College indicated the following:

- In March 2013, there were over fifty skilled trades help wanted ads listed on Craigslist in the south-central region for jobs requiring heating, ventilation, and air-conditioning (HVAC), refrigeration, sheet metal workers, and related skill sets.
- Montgomery County industries including Wallace-Dunn HVAC, Colonial LP Gas Company, Grede Foundry, and LexCo Heating & Cooling, Inc., have provided letters of support for the program including employment opportunities for program graduates.
- The U.S. Department of Labor notes that HVAC technicians and installers employment outlook is expected to increase by 34% by 2020. Job opportunities for HVAC technicians are expected to be excellent, particularly for those who have completed training at an accredited technical school or apprenticeship.
- Montgomery County School's Director of Secondary Education supports the concept of offering a HVAC program for Career and College Program students and apprenticeships.

- The college currently offers the HVAC program successfully through their continuing education program.

Note: Air conditioning, heating, and refrigeration (AHR) is often used interchangeably with heating, ventilation, and air-conditioning (HVAC).

III. Impact of the Proposed Program on Other Programs

Thirty-four community colleges are approved to offer the Air Conditioning, Heating, and Refrigeration (A35100) program. The three colleges contiguous to the service area of Montgomery Community College agree that there will be no negative impact to their program.

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 Sculetta

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 (A35100)
(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.

Montgomery 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.)

Maury Plix _____ 1/11/13 _____
Signature, President of College Date

Melinda J. Casel _____ 1-10-2013 _____
Signature, Board of Trustees Chair Date

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:

Program Major / Classification of Instruction Programs (CIP) Code	Credential Level(s) Offered	Program Major Code
Air Conditioning, Heating, and Refrigeration Technology CIP Code 47.0201	AAS/Diploma/Certificate	A35100

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.

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

Recommended General Education Academic Core	AAS	Diploma	Certificate
Minimum General Education Hours Required:	15 SHC	6 SHC	0 SHC
<p><i>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.</i></p> <p><i>*Recommended certificate and diploma level curriculum courses. These courses may not be included in associate degree programs.</i></p>			
<p>Communication:</p> <ul style="list-style-type: none"> *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 	6 SHC	3-6 SHC	Optional
<p>Humanities/Fine Arts:</p> <ul style="list-style-type: none"> *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 	3 SHC	0-3 SHC	Optional
<p>Social /Behavioral Sciences:</p> <ul style="list-style-type: none"> 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 	3 SHC	0-3 SHC	Optional
<p>Natural Sciences/Mathematics:</p> <ul style="list-style-type: none"> *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 	3 SHC	0-3 SHC	Optional

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.

<i>Air Conditioning, Heating, and Refrigeration Technology</i>	AAS	Diploma	Certificate
Minimum Major Hours Required:	49 SHC	30 SHC	12 SHC
<p>A. Technical Core: <i>Courses required for the diploma are designated with *</i></p> <p>Required Courses:</p> <ul style="list-style-type: none"> * AHR 110 Intro to Refrigeration 5 SHC * AHR 112 Heating Technology 4 SHC * AHR 113 Comfort Cooling 4 SHC * AHR 114 Heat Pump Technology 4 SHC * Electricity. Select one: AHR 111 HVACR Electricity 3 SHC ELC 111 Intro to Electricity 3 SHC ELC 112 DC/AC Electricity 5 SHC <p>Required Subject Areas. Select one. <i>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:</i></p> <p>Air Conditioning, Heating, & Refrigeration</p> <ul style="list-style-type: none"> AHR 211 Residential System Design 3 SHC AHR 212 Advanced Comfort Systems 4 SHC AHR 213 HVACR Building Code 2 SHC <p>Solar Thermal Systems</p> <ul style="list-style-type: none"> AHR 240 Hydronic Heating 2 SHC ALT 250 Thermal Systems 3 SHC PLU 111 Intro to Basic Plumbing 2 SHC 	32-34 SHC	20-22 SHC	
B. Program Major(s): Not Applicable			

C. Other Major Hours: *To be selected from the following prefixes:*

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, WLD and WOL

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.

***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 or <http://www.careertech.org>.*

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

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

**PROGRAM APPLICATION
SUMMARY EVALUATION REPORT**
South Piedmont Community College
Automotive Systems Technology (A60160)

I. Program Planning

South Piedmont Community College (SPCC) is seeking approval for the Automotive Systems Technology (A60160) program to begin Fall 2013. The planning area is defined as the college's service area of Anson and Union counties. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at SPCC on February 12, 2013. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of SPCC 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

South Piedmont Community College indicated the following:

- The college researched job opportunities utilizing careerbuilder.com which indicated that there were sixty-two potential positions listed within the college's planning area.
- The U.S. Department of Labor projects a 17% growth increase in this career track with the best potential for employment existing for those individuals who have completed post-secondary education and have skills in hybrid fuel vehicles and computerized controls.
- The college received letters of support for the program from Bob Mayberry Hyundai, Hendrick Chevrolet Cadillac, and Crossroads Ford of Indian Trail.
- Letters of support were received from Union County Public Schools and Union Academy indicating that a career pathway in automotive technology is needed and that there is student interest.

III. Impact of the Proposed Program on Other Programs

Thirty-nine community colleges are approved to offer the Automotive Systems Technology program.

The three colleges approved to offer Automotive Systems Technology (A60160) that are located in contiguous counties to SPCC all indicated that they did not perceive a negative impact on their program.

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 Scuietti

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 Automotive Systems Technology A60160
(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.

South 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] 3/26/2013
Signature, President of College Date

[Signature] 3/27/13
Signature, Board of Trustees Chair Date

Curriculum Standard for Mobile Equipment Maintenance and Repair

Career Cluster: Transportation, Distribution and Logistics **

Cluster Description: The planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

Pathway: Mobile Equipment Maintenance and Repair

Effective Term: Fall 2013 (2013*03)

Program Majors Under Pathway

Program Major / Classification of Instruction Programs (CIP) Code	CIP Code	Credential Level(s) Offered	Program Major Code
Agricultural Systems Technology	01.0205	AAS/Diploma/Certificate	A60410
Alternative Transportation Technology	47.0614	Diploma/Certificate	D60420
Automotive Customizing Technology	47.0603	AAS/Diploma/Certificate	A60190
Automotive Light-Duty Diesel Technology	47.0605	Diploma/Certificate	D60430
Automotive Restoration Technology	47.0603	Diploma/Certificate	D60140
Automotive Systems Technology	47.0604	AAS/Diploma/Certificate	A60160
Collision Repair and Refinishing Technology	47.0603	AAS/Diploma/Certificate	A60130
Construction Equipment Systems Technology	47.0302	AAS/Diploma/Certificate	A60450
Diesel and Heavy Equipment Technology	47.0613	AAS/Diploma/Certificate	A60460
Motorcycle Mechanics	47.0611	AAS/Diploma/Certificate	A60260
Recreational Vehicle Maintenance and Repair Technology	47.0618	Diploma/Certificate	D60310

Pathway Description:

Curriculums in the Mobile Equipment Maintenance and Repair pathway prepare individuals for employment as entry-level transportation service technicians. The program provides an introduction to transportation industry careers and increases student awareness of the diverse technologies associated with this dynamic and challenging field.

Course work may include transportation systems theory, braking systems, climate control, design parameters, drive trains, electrical/electronic systems, engine repair, engine performance, environmental regulations, materials, product finish, safety, steering/suspension, transmission/transaxles, and sustainable transportation, depending on the program major area chosen.

Graduates of this pathway should be prepared to take professional licensure exams, which correspond to certain programs of study, and to enter careers as entry-level technicians in the transportation industry.

*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**:*

Agricultural Systems Technology: A program that prepares individuals to maintain and repair specialized farm, ranch, and agribusiness power equipment and vehicles. Includes instruction in the principles of diesel, combustion, electrical, steam, hydraulic, and mechanical systems and their application to the maintenance of terrestrial and airborne crop-spraying equipment; tractors and hauling equipment; planting and harvesting equipment; cutting equipment; power sources and systems for silos; irrigation and pumping equipment; dairy, feeding, and shearing operations; and processing systems.

*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.

Alternative Transportation Technology: A program that prepares individuals to apply technical knowledge and skills to the maintenance of alternative fuel vehicles (AFV), hybrid electric vehicles and the conversion of standard vehicles to AFV status. Includes instruction in electrical vehicles, hybrid electric vehicles, liquefied petroleum gas (LPG) vehicles, compressed natural gas (CNG) vehicles, hybrid fuel technology, electrical and electronic systems, engine performance, diagnosis and repair, and conversion/installation.

Automotive Customizing Technology: A program that prepares individuals to modify existing automotive vehicle components, fabrication techniques to create custom vehicle components, non-structural damage repair, custom painting and refinishing techniques, custom upholstery and glass removal/replacement/custom modifications, and other automotive technology related systems.

Automotive Light-Duty Diesel Technology: A program that prepares individuals to apply technical knowledge and skills to diagnose, adjust, repair, or overhaul light duty diesel vehicles under one ton classification. Includes instruction in electrical systems, diesel-electric drive, engine performance, engine repair, emission systems, and all types of diesel engines related to the light duty diesel vehicle. Includes technicians working primarily with automobile diesel engines.

Automotive Restoration Technology: A program that prepares individuals to apply technical knowledge and skills to repair, reconstruct, finish and restore automobile bodies, fenders, and external features of a wide range of classic vehicles typically from year models 1900 - 1970. Includes instruction in internal combustion engines, transmissions, brakes, restoring original sheet metal, upholstery, and wood components, rebuilding starters, generators, and painting and refinishing techniques.

Automotive Systems Technology: A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Includes instruction in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems

Collision Repair and Refinishing Technology: A program that prepares individuals to apply technical knowledge and skills to repair, reconstruct and finish automobile bodies, fenders, and external features. Includes instruction in structure analysis, damage repair, non-structural analysis, mechanical and electrical components, plastics and adhesives, painting and refinishing techniques, and damage analysis and estimating.

Construction Equipment Systems Technology: A program that prepares individuals to apply technical knowledge and skills in the field maintenance and repair of construction equipment, and in the general maintenance and overhaul of such equipment. Includes instruction in inspection, maintenance, and repair of tracks, wheels, brakes, operating controls, pneumatic and hydraulic systems, electrical circuitry, engines and in techniques of welding and brazing.

Diesel and Heavy Equipment Technology: A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain diesel engines in vehicles such as Heavy Duty Trucks over one ton classification, buses, ships, railroad locomotives, and equipment; as well as stationary diesel engines in electrical generators and related equipment.

Motorcycle Mechanics: A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain motorcycles and other similar powered vehicles. Includes instruction in lubrication and cooling systems, electrical and ignition systems, carburetion, fuel systems and adjustments of moving parts.

Recreational Vehicle Maintenance and Repair Technology: A program that prepares individuals to apply technical knowledge and skills to build, test, inspect, repair, service and maintain recreational vehicles, systems, and interior and exterior components. Includes instruction in brake, hydraulic, and towing systems; electrical systems; propane systems and propane and electric appliances; carpentry; plumbing; welding; and structural frames.

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.

Mobile Equipment Maintenance and Repair

Recommended General Education Academic Core	AAS	Diploma	Certificate
Minimum General Education Hours Required:	15 SHC	6 SHC	0 SHC
<p><i>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.</i></p> <p><i>*Recommended certificate and diploma level curriculum courses. These courses may <u>not</u> be included in associate degree programs.</i></p> <p>Communication:</p> <ul style="list-style-type: none"> *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 <p>Humanities/Fine Arts:</p> <ul style="list-style-type: none"> *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 <p>Social /Behavioral Sciences:</p> <ul style="list-style-type: none"> ECO 151 Survey of Economics 3 SHC ECO 251 Principles of Microeconomics 3 SHC *SOC 105 Social Relationships 3 SHC SOC 210 Introduction to Sociology 3 SHC SOC 215 Group Process 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 <p>Natural Sciences/Mathematics:</p> <ul style="list-style-type: none"> *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 	6 SHC	3-6 SHC	Optional
	3 SHC	0-3 SHC	Optional
	3 SHC	0-3 SHC	Optional
	3 SHC	0-3 SHC	Optional

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.

Mobile Equipment Maintenance and Repair	AAS	Diploma	Certificate
Minimum Major Hours Required:	49 SHC	30 SHC	12 SHC
<p>A. Technical Core: <i>Courses required for the diploma program major are designated with an asterisk (*).</i></p> <p>*Fundamental Transportation Skills. Choose one minimum: TRN 110 Intro to Transport Tech 2 SHC TRN 170 PC Skills for Transp 2 SHC HET 134 Diesel Fuel and Power Sy 3 SHC</p> <p>*Intermediate Transportation Skills. Choose one minimum: TRN 120 Basic TranspElectricity 5 SHC TRN 130 Intro to Sustainable Transp 3 SHC TRN 180 Basic Welding for Transp 3 SHC</p> <p>Specialized Transportation Skills. Choose one minimum: TRN 140 Transp Climate Control 2 SHC TRN 145 Adv Transp Electronics 3 SHC WLD 110 Cutting Processes 2 SHC</p> <p>B. Program Major(s). <i>For both AAS Degree and Diploma, 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></p> <p>Agricultural Systems Technology ELN 112 Diesel Electronics System 4 SHC PME 111 Harvest and Spraying Equip 4 SHC PME 112 Consumer Products 2 SHC PME 121 Component Controls 2 SHC</p> <p>Alternative Transportation Technology ATT 115 Green Trans Safety and Service 2 SHC ATT 125 Hybrid-Electric Transportation 4 SHC ATT 140 Emerging Transp Techn 3 SHC</p>	19-26 SHC	17-20 SHC	

Automotive Customizing Technology

AUC	111	Auto Customizing Research	3 SHC
AUC	112	Auto Custom Fabrication	4 SHC
AUC	115	Glass Customizing Methods	4 SHC

Automotive Restoration Technology

ARS	112	Auto Restoration Research	3 SHC
ARS	113	Automotive Upholstery	4 SHC
ARS	114	Restoration Skills I	4 SHC

Automotive Systems Technology

AUT	141	Suspension and Steering	3 SHC
AUT	151	Brake Systems	3 SHC
AUT	181	Engine Performance I	3 SHC

Automotive Light-Duty Diesel Technology

LDD	112	Intro Light-Duty Diesel	3 SHC
LDD	116	Diesel Electric-Drive	4 SHC
LDD	181	LDD Fuel Systems	4 SHC

Collision Repair and Refinishing Technology

AUB	111	Painting and Refinishing I	4 SHC
AUB	121	Non-Structural Damage I	3 SHC
AUB	131	Structural Damage I	4 SHC

Construction Equipment Systems Technology

HYD	134	Hyd/Hydrostatic Construction	4 SHC
PME	117	Equipment Braking Systems	3 SHC
PME	118	Undercarriage Components	2 SHC
PME	221	Const Equip Servicing	2 SHC

Diesel and Heavy Equipment Technology

HET	110	Diesel Engines	6 SHC
HET	114	Power Trains	5 SHC
HET	125	Preventive Maintenance	2 SHC
		Or	
MRN	121	Marine Engines	4 SHC
MRN	147	Marine Power Trains	4 SHC
MRN	150	Adv. Marine Electricity	5 SHC

Motorcycle Mechanics

MCM	111	Motorcycle Mechanics	7 SHC
MCM	114	Motorcycle Fuel Systems	5 SHC
MCM	115	Motorcycle Chassis	3 SHC

Recreational Vehicle Maintenance and Repair Technology

RVM	112	RV Preventive Maintenance	2 SHC
RVM	115	Pre-Delivery Inspection	2 SHC
RVM	160	RV Water Systems	4 SHC

C. Other Major Hours.

To be selected from the following prefixes:

ACC, ARS, ATR, ATT, AUB, AUC, AUM, AUT, BMS, BPR, BTB, BUS, CIS, COE, CSC, CTS, DBA, DDF, DEA, DFT, ELC, ELN, FBG, GRA, HET, HYD, ISC, LDD, LOG, MAC, MCM, MEC, MKT, MPS, MRN, MSM, NOS, PHY, PME, RCT, RVM, SST, TRN, WEB, and 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.

***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 or <http://www.careertech.org>.*

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

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

**PROGRAM APPLICATION
SUMMARY EVALUATION REPORT
South Piedmont Community College
Therapeutic Massage (A45750)**

I. Program Planning

South Piedmont Community College is seeking approval for the Therapeutic Massage (A45750) program to begin Fall 2013. The planning area is defined as the college's service area of Anson and Union counties. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at South Piedmont Community College on February 12, 2013. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of South 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

South Piedmont Community College (SPCC) indicates the following:

- South Piedmont Community College currently offers Therapeutic Massage through their continuing education program. In the last eighteen months, SPCC has had thirty-nine massage therapy students complete their continuing education program. Ninety-eight percent of the students, who completed the program in continuing education, were employed within one month of becoming licensed.
- Facilities and equipment are already in place for the Therapeutic Massage continuing education program, which can be utilized for the proposed program.
- With 153,700 jobs in 2010, the projected growth is 20%, and the median pay is reported at 34,900 annually or \$16.78 per hour. Employment of Massage Therapist is expected to grow by twenty percent from 2010-2020, faster than average for all occupations. (*U.S. Bureau of Labor Statistics*)
- The North Carolina Occupational Trends Report indicates anticipated growth for Massage Therapist between 2008-2018 in the Centralina Workforce Development Board. The Centralina Workforce Development Board is composed of the following counties: Anson, Cabarrus, Iredell, Lincoln, Rowan, Stanly, and Union. (*Division of Employment Security/NC Department of Commerce*)

- Massage Therapist are employed on a full-time, part-time or contractual basis by employers and individuals, or they are self-employed.
- A survey completed by SPCC determined Union County employers were projecting a thirty-three percent increase in job openings in the next three to five years.
- SPCC reports the majority of their graduates find employment within the region.
- Letters of support for the Therapeutic Massage program were submitted to SPCC by local employers including Massage Envy Spa, Dr. John Razzano, and MassageAtWork.

III. Impact of the Proposed Program on Other Programs

Fifteen community colleges are approved to offer the Therapeutic Massage 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

This curriculum program Therapeutic Massage A45750
(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.

South Piedmont Community College
(Community College Name)

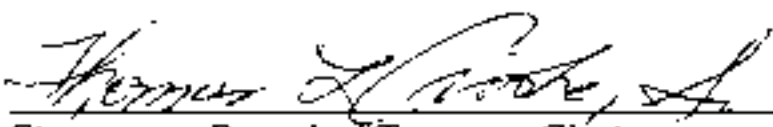
has assessed the need for this program and the resources required to maintain a viable program and certifies that the college can operate this program efficiently and effectively within the resources available to the college.

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 2/26/13
Date



Signature, Board of Trustees Chair 2/26/13
Date

CURRICULUM STANDARD

Effective Term
Summer 2013
*[2013*02]*

Curriculum Program Title

Therapeutic Massage

Code

A45750

Concentration

(not applicable)

Curriculum Description

The Therapeutic Massage curriculum prepares graduates to work in direct client care settings to provide manipulation, methodical pressure, friction and kneading of the body for maintaining wellness or treating alterations in wellness throughout the lifespan.

Courses will include content in normal human anatomy and physiology, therapeutic massage, ethical/legal issues, business practices, nutrition and psychology.

Employment opportunities include hospitals/rehabilitation centers, health departments, home health, medical offices, nursing homes, spas/health/sports clubs, and private practice. Graduates may be eligible to take the Massage and Bodywork Licensing Exam or the National Certification for Therapeutic Massage and Bodywork.

*Curriculum Requirements**

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

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

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

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

Major Hours

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

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

Therapeutic Massage (A45750)

	AAS	Diploma	Certificate																				
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC																				
A. CORE <i>Courses required for the diploma are designated with *</i> Required Courses: <table style="width: 100%; border: none;"> <tr><td>BIO 271 Pathophysiology</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>* MTH 110 Fundamentals of Massage</td><td style="text-align: right;">10 SHC</td></tr> <tr><td>* MTH 120 Ther Massage Applications</td><td style="text-align: right;">10 SHC</td></tr> <tr><td>* MTH 125 Ethics of Massage</td><td style="text-align: right;">2 SHC</td></tr> <tr><td>MTH 130 Therapeutic Massage Mgmt</td><td style="text-align: right;">2 SHC</td></tr> <tr><td>MTH 210 Adv Skills of Massage</td><td style="text-align: right;">8 SHC</td></tr> <tr><td>MTH 220 Outcome-Based Massage</td><td style="text-align: right;">7 SHC</td></tr> </table> Required Subject Areas: Psychology/Human Relations. <i>Select one.</i> <table style="width: 100%; border: none;"> <tr><td>BUS 152 Human Relations</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>PSY 118 Interpersonal Psychology</td><td style="text-align: right;">3 SHC</td></tr> <tr><td>PSY 150 General Psychology</td><td style="text-align: right;">3 SHC</td></tr> </table>	BIO 271 Pathophysiology	3 SHC	* MTH 110 Fundamentals of Massage	10 SHC	* MTH 120 Ther Massage Applications	10 SHC	* MTH 125 Ethics of Massage	2 SHC	MTH 130 Therapeutic Massage Mgmt	2 SHC	MTH 210 Adv Skills of Massage	8 SHC	MTH 220 Outcome-Based Massage	7 SHC	BUS 152 Human Relations	3 SHC	PSY 118 Interpersonal Psychology	3 SHC	PSY 150 General Psychology	3 SHC	45 SHC	22 SHC	
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BUS 152 Human Relations	3 SHC																						
PSY 118 Interpersonal Psychology	3 SHC																						
PSY 150 General Psychology	3 SHC																						
B. CONCENTRATION (Not applicable)																							
C. OTHER MAJOR HOURS BIO, BUS, CIS, COE, ENG, HEA, MED, MTH, NUT, PED, PSF, PSY, and SOC <i>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>																							