



NORTH CAROLINA COMMUNITY COLLEGE SYSTEM
Dr. R. Scott Ralls, President

November 12, 2013

MEMORANDUM

TO: Presidents
Chief Academic Officers

FROM: Wesley E. Beddard, Associate Vice President
Student Learning and Success

SUBJECT: Health Science: Therapeutic and Diagnostic Services
New Curriculum Standard

On October 18, 2013, the State Board of Community Colleges approved a new standard, with six program majors, designed to prepare students for careers in Health Science:

Health Science: Therapeutic and Diagnostic Services

Emergency Medical Science (D45910)	Pharmacy Technology (D45940)
Medical Assisting (D45920)	Phlebotomy (D45950)
Nursing Assistant (D45930)	Therapeutic Massage (D45960)

Colleges are currently coding pre-health students as General Occupational Technology (GOT)(A55280), Associate in General Education (AGE)(A10300), or using a health science curriculum standard code with an additional, local suffix. After receiving numerous inquiries about coding for pre-health science students, a committee of health science directors was called upon to assist with the development of a solution. Presidents, administrators and all health science deans were then invited to dialogue and provide suggestions for the new standard. The System Office is appreciative of the many efforts, discussions and feedback that were contributed towards the development of the new standard which has numerous advantages to current coding, including:

- Program majors, which are designed to be terminal degrees, allowing graduates to qualify for entry-level jobs related to the selected program major
- Program majors which qualify for Perkins funding
- Additional Career and College Promise pathway options for high school students
- A guidance tool which assists students in the selection of specific courses versus broad course selections which may not lead to employment
- A guidance tool which assists students in the selection of courses that provide a foundation for success in nursing and the allied health programs.
- Program coding which provides a means for accurate data collection for students enrolled in pre-health science programs

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In order to utilize one of the program majors, the college must have approval to offer the primary curriculum program. *Example: A college must have approval for Medical Assisting (A45400) in order to file a program of study for Medical Assisting (D45920).* The process for receiving approval for any of the six program majors is very simple:

1. Complete and submit the attached form to indicate which program majors your college would like to offer
2. Once you receive an approval letter, file an electronic program of study (POS) in Colleague.

We were unable to provide a specific program major for each of the following health science programs, which often experience the need for pre-program coding based on admission criteria or high enrollment combined with limited seating capacity. Development of a program major for these programs, under the new curriculum standard, was not possible since course selections would *not* result in a terminal certificate or diploma which would prepare the graduate for entry-level employment:

Cancer Information Mgt (A45130)
Cardiovascular/Vascular Interventional Tech (D45140)
Cardiovascular Sonography (A45160)
Cardiovascular Tech (Invasive & Non-Invasive) (A45170)
Clinical Trials Research Associate (A45190)
Computed Tomography & Magnetic Resonance Imaging Tech (D45200)
Cytotechnology (C45220)
Dental Assisting (D45240)
Dental Hygiene (A45260)
Dental Laboratory Tech (A45280)
Dialysis Tech (D45300)
Dietetic Technician (A45310)
Electroneurodiagnostic Tech (A45320)
Health Information Tech (A45360)
Histotechnology (A45370)
Interventional Cardiac & Vascular Tech (A45410)
Magnetic Resonance Imaging (A45800)

Medical Dosimetry (D45450)
Medical Laboratory Tech (A45420)
Medical Sonography (A45440)
Nuclear Medicine Tech (A45460)
Occupational Therapy Assist. (A45500)
Ophthalmic Medical Assist. (D45510)
Physical Therapist Assist. (2-yr program)(A45620)
Physical Therapist Assistant (1+1)(A45640)
Polysomnography (C45650)
Polysomnography (A45670)
Positron Emission Tomography (D45820)
Radiation Therapy Tech (A45680)
Radiography (A45700)
Respiratory Therapy (A45720)
Speech-Language Pathology Assist. (A45730)
Surgical Tech. (A45740)
Veterinary Medical Technology (A45780)

In order to assist with identification of these pre-health science students, we have developed a statewide “Z” program code that colleges *may* wish to utilize locally as the **6th** digit of the program code. Any of the above programs could be identified as a pre-health science, related to the program title, by simply replacing the last digit “0” with a “Z”.

For example: Pre-Health Science students for Radiation Therapy could be coded “A4568**Z**”
Pre-Health Science students for Surgical Technology could be code “A4574**Z**”

Colleges are not required to apply for or submit a separate program of study for these “Z” programs. The code is simply provided as an *option* for colleges to utilize for consistent student/program identification. Colleague functionality for this option will be available in the near future.

Please note that a college may find it beneficial to offer one of the identified program majors instead of the “Z” coding. For example: A Radiography program may have pre-admission criteria of successful completion of the Nursing Assistant certificate, therefore, it may be appropriate to place the student into the Nursing Assistant (D45930) program major instead of utilizing the A4570Z coding.

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The new standard is effective for fall of 2014. We encourage you to review the advantages of the new standard and submit the attached form as soon as possible. If you have any questions about the standard or the use of the "Z" code, please contact Ms. Renee Batts, Associate Director of Academic Programs at (919) 807-7118 or battsr@nccommunitycolleges.edu.

WEB/jf
Attachments
c: Dr. Sharon Morrissey
Ms. Elizabeth Self
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Ms. Renee Batts

CC13-022
Email

Health Science: Therapeutic and Diagnostic Services

In order to utilize one of the following program majors, **the college must have approval to offer the primary curriculum program.** *Example: A college must have approval for Medical Assisting (A45400) in order to file a program of study for Medical Assisting (D45920).*

Please indicate (by checking) the program majors that your college would like to offer:

Emergency Medical Science (D45910)

Medical Assisting (D45920)

Nursing Assistant (D45930)

Pharmacy Technology (D45940)

Phlebotomy (D45950)

Therapeutic Massage (D45960)

A college may offer a certificate or diploma under the above program majors once approved at the diploma level.

Our college currently has approval for the primary curriculum program(s) and would like to receive approval to offer the related program major(s) that we have indicated above.

Note: Local Board certification is not required for this program.

College

Signature of President

Date

Please fax, mail or email scanned form with signature to: Ms. Renee Batts, Associate Director
Academic Programs
5016 Mail Service Center
Raleigh, NC 27699-5016
Fax: 919-807-7173
battsr@nccommunitycolleges.edu

Curriculum Standard for Health Science: Therapeutic and Diagnostic Services

Career Cluster: Health Science **

Cluster Description: Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

Pathway: Therapeutic and Diagnostic Services **Effective Term** Fall 2014

Program Majors Under Pathway

Program Major / Classification of Instruction Programs (CIP) Code	CIP Code	Credential Level(s) Offered	Program Major Code
Emergency Medical Science	51.0904	Diploma/Certificate	D45910
Medical Assisting	51.0801	Diploma/Certificate	D45920
Nursing Assistant	51.3902	Diploma/Certificate	D45930
Pharmacy Technology	51.0805	Diploma/Certificate	D45940
Phlebotomy	51.1009	Diploma/Certificate	D45950
Therapeutic Massage	51.3501	Diploma/Certificate	D45960

Pathway Description:

This curriculum is designed to prepare students for careers in the Health Sciences.

Students will complete general education courses that provide a foundation for success in nursing and allied health curricula. Students may select a career pathway that will prepare them for an entry level position in health care. Courses may also provide foundational knowledge needed in the pursuit of advanced health science degrees or programs.

Graduates should qualify for an entry-level job associated with the program major such as Emergency Medical Technician (EMT) or Advanced Emergency Medical Technician (AEMT), Medical Assistant, Nursing Assistant, Pharmacy Technician, Phlebotomist, or Massage Therapist dependent upon the selected program major.

*Program Major 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**:*

In order to utilize one of the program majors below, the college must have approval to offer the primary curriculum program and file an electronic program of study (POS). (Example: A college must have approval for Medical Assisting (A45400) in order to file a POS for Medical Assisting (D45920)).

Emergency Medical Science: A program that prepares graduates to enter the workforce as Emergency Medical Technicians or Advanced Emergency Medical Technicians. The course of study provides the student an opportunity to acquire basic life support knowledge and skills by utilizing classroom instruction, practical laboratory sessions, and hospital/field internships. Students progressing through the program may be eligible to apply for both state and national certification exams. Employment opportunities include ambulance services, fire and rescue agencies, air medical services, specialty areas of hospitals, industry, educational institutions, and government agencies.

Medical Assisting: A program that prepares multi-skilled health care professionals qualified to perform administrative, clinical, and laboratory procedures. Course work includes instruction in scheduling appointments, medical records, introductory insurance procedures, computer operations; assisting with examinations/treatments, performing routine laboratory procedures, electrocardiography, and supervised medication administration. Graduates of CAAHEP-accredited medical assisting programs may be eligible to sit for the American Association of Medical Assistants' Certification Examination to become Certified Medical Assistants. Employment opportunities include physicians' offices, health maintenance organizations, health departments, and hospitals.

*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.

Nursing Assistant: A program that prepares individuals to work under the supervision of licensed health care professionals in performing nursing care and services for persons of all ages. Course work emphasizes growth and development throughout the life span, personal care, vital signs, communication, nutrition, medical asepsis, therapeutic activities, accident and fire safety, household environment and equipment management; family resources and services; and employment skills. Graduates of this program may be eligible to be listed on the Division of Health Service Regulation (DHSR) Nurse Aide registry as a Nursing Assistant I and the N.C. Board of Nursing Nurse Aide II registry as a Nursing Assistant II. They may be employed in home health agencies, hospitals, clinics, nursing homes, extended care facilities, and doctors' offices.

Pharmacy Technology: A program that prepares individuals to assist the pharmacist in duties that a technician can legally perform and to function within the boundaries prescribed by the pharmacist and the employment agency. Course work includes preparing prescription medications, mixing intravenous solutions and other specialized medications, maintaining inventories, and packaging medications in unit-dose or med-card form. Employment opportunities include retail, hospitals, nursing homes, research laboratories, wholesale drug companies, and pharmaceutical manufacturing facilities. Graduates from the program may be eligible to take the National Certification Examination to become a certified pharmacy technician.

Phlebotomy: A program that prepares individuals to obtain blood and other specimens for the purpose of laboratory analysis. Course work includes proper specimen collection and handling, communication skills, and maintaining patient data. Graduates may qualify for employment in hospitals, clinics, physicians' offices, and other health care settings and may be eligible for national certification as phlebotomy technicians.

Therapeutic Massage: A program that 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 work includes content in normal human anatomy and physiology, therapeutic massage, and ethical/legal issues. 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.

I. General Education Academic Core

[Curriculum Requirements for associate degree, diploma, and certificate programs in accordance with 1 D 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.

Health Science: Therapeutic and Diagnostic Services

Recommended General Education Academic Core	AAS	Diploma	Certificate
Minimum General Education Hours Required:		6 SHC	
<p>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.</p>			
Communication:			
ENG 111	Expository Writing	3 SHC	3-6+ SHC
ENG 112	Argument-Based Research	3 SHC	
COM 120	Intro Interpersonal Com	3 SHC	
COM 231	Public Speaking	3 SHC	
Humanities/Fine Arts:			
HUM 115	Critical Thinking	3 SHC	0-3+ SHC
PHI 230	Introduction to Logic	3 SHC	
PHI 240	Introduction to Ethics	3 SHC	
Social /Behavioral Sciences:			
*PSY 150	General Psychology	3 SHC	0-3+ SHC
PSY 241	Developmental Psy	3 SHC	
Natural Sciences/Mathematics:			
BIO 165	Anatomy & Physiology I	4 SHC	0-3+ SHC
BIO 166	Anatomy & Physiology II	4 SHC	
BIO 168	Anatomy & Physiology I	4 SHC	
BIO 169	Anatomy & Physiology II	4 SHC	
BIO 163	Basic Anatomy & Physiology	5 SHC	
BIO 175	General Microbiology	3 SHC	
BIO 275	Microbiology	4 SHC	
CHM 131	Introduction to Chemistry	3 SHC	
CHM 131A	Introduction to Chemistry Lab	1 SHC	
MAT 110	Mathematical Measurement & Literacy	3 SHC	
MAT 143	Quantitative Literacy (proposed new course)	3 SHC	
PHY 110	Conceptual Physics	3 SHC	
PHY 110A	Conceptual Physics Lab	1 SHC	
<p>*Please note PSY 150 General Psychology is a required core course for the Phlebotomy Pathway.</p>			

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 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.

Health Science: Therapeutic and Diagnostic Services	AAS	Diploma	Certificate
Minimum Major Hours Required:		30 SHC	
<p>A. Technical Core: (3-8 SHC)</p> <p>MED 120 Survey of Medical Terminology 2 SHC or</p> <p>MED 121 Medical Terminology I 3 SHC & MED 122 Medical Terminology II 3 SHC</p> <p>MED 180 CPR Certification 1 SHC or HSC 120 CPR 1 SHC or HEA 112 First Aid & CPR 2 SHC or HSC 110 Orientation to Health Careers 1 SHC or HSC 140 Transcultural Healthcare 2 SHC</p> <p>B. Program Major(s): (12-22 SHC) (Select one Program Major)</p> <p>Emergency Medical Science (16 SHC)</p> <p>EMS 110 EMT 8 SHC EMS 120 Advanced EMT 6 SHC EMS 121 AEMT Clinical Practicum 2 SHC</p> <p>Medical Assisting (22 SHC)</p> <p>MED 110 Orientation to Medical Assisting 1 SHC MED 118 Medical Law and Ethics 2 SHC MED 130 Administrative Office Procedures I 2 SHC MED 131 Administrative Office Procedures II 2 SHC MED 140 Exam Room Procedures I 5 SHC MED 150 Lab Procedures I 5 SHC MED 260 Medical Clinical Practicum 5 SHC</p> <p>Nursing Assistant (14 SHC)</p> <p>NAS 101 Nursing Assistant I 6 SHC NAS 102 Nursing Assistant II 6 SHC NAS 103 Home Health Care 2 SHC</p> <p>Pharmacy Technology(19 SHC)</p> <p>PHM 110 Introduction to Pharmacy 3 SHC PHM 111 Pharmacy Practice I 4 SHC PHM 115 Pharmacy Calculations 3 SHC PHM 118 Sterile Procedures 4 SHC PHM 120 Pharmacology I 3 SHC PHM 140 Trends in Pharmacy 2 SHC</p> <p>Phlebotomy (12 SHC)</p> <p>PBT 100 Phlebotomy Technology 6 SHC PBT 101 Phlebotomy Practicum 3 SHC PSY 150 General Psychology 3 SHC</p> <p>Therapeutic Massage (22 SHC)</p> <p>MTH 110 Fundamentals of Massage 10 SHC MTH 120 Ther Massage Applications 10 SHC MTH 125 Ethics of Massage 2 SHC</p>			

C. Other Major Hours.

To be selected from the following prefixes:

BIO, CHM, CIS, EMS, HEA, HSC, MAT, MED, MTH, NAS, NUT, PBT, PHM, PHY, PSY, SOC, and WBL.

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>

***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>.*

<i>Summary of Required Semester Hour Credits (SHC) for each credential:</i>	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