NORTH CAROLINA COMMUNITY COLLEGE SYSTEM

Thomas A. Stith III
President

MEMORANDUM

To: Community College Presidents
              Chief Academic Officers

From: Thomas A. Stith III
              System President

RE: New and Revised Curriculum Standards

Date: October 18, 2021

Per 1D SBCCC 400.9 (b) *A revision of an existing curriculum standard shall:*
   (1) Have written concurrence by two-thirds of colleges approved to offer the curriculum program; and
   (2) Be in alignment with criteria outlined in 1D SBCCC 400.10(e).
   (3) The President of the North Carolina Community College System shall have the authority to approve or deny the revision of an existing curriculum standard.

I am pleased to approve the requested revision for the following curriculum standard
which is in compliance with 1D SBCCC 400.9 (b):

Human Services Technology/Substance Abuse (A4538E)

In addition, the State Board of Community Colleges approved the following new curriculum standard:

Artificial Intelligence (A25710)

A copy of the new Artificial Intelligence curriculum standard and courses are attached. You may view all curriculum standards by visiting the Academic Programs website at:

https://www.nccommunitycolleges.edu/academic-programs/curriculum-standards

If you have any questions concerning the October State Board action, please contact
Dr. Deana Guido at guidod@nccommunitycolleges.edu.

TS/DG/gr
c:
      Dr. Kimberly Gold
      Dr. Lisa Eads
      Dr. Deana Guido
      Program Coordinators   CC21-061
                                                                Email

Outline of Curriculum Standard Revision

Human Services Technology/Substance Abuse (A4538E)

Revision:

- Changed the title of the program from Human Services Technology/Substance Abuse to Human Services Technology/Addiction and Recovery Services.

Rationale: In 2014, the Diagnostic and Statistical Manual Edition 5 (DSM 5) removed the term "Substance Abuse and Dependency" to a spectrum of substance use issues. National changes in DSM 5 indicate the term "substance abuse" is now outdated. These changes reflect those as well as changes made by the North Carolina Addiction Board.

CURRICULUM STANDARD

Curriculum Program Title	**Artificial Intelligence**	Program Code **A25710**
Concentration	**(not applicable)**	CIP Code **11.0102**

> ## *Curriculum Description*
>
> The Artificial Intelligence (AI) curriculum is designed to provide students with the knowledge and skills necessary for employment and growth in the AI profession.
>
> Course work includes various subject areas related to AI fundamentals, machine learning, deep learning theory, and hands-on training in multiple AI domains for the purpose of creating and implementing artificial intelligence across a broad range of applications.
>
> Graduates may qualify for entry-level AI positions such as AI engineer, AI project manager, AI researcher, AI consultant, AI architect, conversational AI specialist, AI automation engineer, AI software engineer, and machine learning specialist.

*Curriculum Requirements**
[for associate degree, diploma, and certificate programs in accordance with 1D SBCCC 400.10]

I. **General Education.** Degree programs must contain a minimum of 15 semester hours including at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural sciences/mathematics. Degree programs must contain a minimum of 6 semester hours of communications. Diploma programs must contain a minimum of 6 semester hours of general education; 3 semester hours must be in communications. General education is optional in certificate programs.

II. **Major Hours**. AAS, diploma, and certificate programs must include courses which offer specific job knowledge and skills. Work-based learning may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit. *(See second page for additional information.)*

III. **Other Required Hours.** A college may include courses to meet graduation or local employer requirements in a certificate, diploma, or associate in applied science program. These curriculum courses shall be selected from the Combined Course Library and must be approved by the System Office prior to implementation. Restricted, unique, or free elective courses may not be included as other required hours.

	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

A. **Core.** The subject/course core is comprised of subject areas and/or specific courses which are required for each curriculum program. A diploma program offered under an approved AAS program standard or a certificate which is the highest credential level awarded under an approved AAS program standard must include a minimum of 12 semester hours credit derived from the subject/course core of the AAS program.

B. **Concentration** *(if applicable).* A concentration of study must include a minimum of 12 semester hours credit from required subjects and/or courses. The majority of the course credit hours are unique to the concentration. The required subjects and/or courses that make up the concentration of study are in addition to the required subject/course core.

C. **Other Major Hours.** Other major hours must be selected from prefixes listed on the curriculum standard. A maximum of 9 semester hours of credit may be selected from any prefix listed, with the exception of prefixes listed in the core or concentration. Work-based learning may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit.

Artificial Intelligence A25710			
	AAS	**Diploma**	**Certificate**
Minimum Major Hours Required	**49 SHC**	**30 SHC**	**12 SHC**

A. Technical Core
Courses required for the diploma are designated with *
 	
Required Courses:
  * CSC 113 Artificial Intelligence Fundamentals   3 SHC
  * CSC 114 Artificial Intelligence I   3 SHC
  * CSC 115 Machine Learning I   3 SHC
  * CSC 121 Python Programming   3 SHC
 	
Additional courses:
12 SHC to be selected from:
  CIS, CSC, CTS, DBA, MAT, NET, NOS, SEC, SGD, and WEB
	24 SHC		

B. CONCENTRATION *(Not applicable)*			
C. OTHER MAJOR HOURS *To be selected from the following prefixes:* ACC, AET, AGR, ATR, AUT, BAF, BAS, BAT, BPR, BUS, CCT, CET, CIS, CJC, CSC, CST, CTI, CTS, DBA, DDF, DEA, DFT, DME, EGR, ELC, ELN, ENT, GIS, GRD, HBI, HIT, HMT, HPC, HYD, IMG, ISC, ITL, ITN, LOG, MAT, MCO, MEC, MKT, NET, NOS, OMT, OST, PCI, PHO, PMT, SEC, SIM, SGD, TNE, TOM, TRN, WBL, and WEB. *Up to two semester hour credits may be selected from ACA.* *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.*			

CSC   112   Machine Learning Computation

Class 2   Lab 3   Clinical 0   Work 0   Credit 3

Prerequisites: None
Corequisites: None

This course covers the underlying foundations upon which machine learning solutions are created. Emphasis is placed on the mathematical foundations of machine learning concepts. Upon completion, students should be able to apply the underlying computations of machine learning systems.

CSC   162   Computer Vision

Class 2   Lab 3   Clinical 0   Work 0   Credit 3

Prerequisites: None
Corequisites: None

This course provides an introduction to the fundamentals of computer vision. Topics include image classification, motion tracking, imaging geometry, image formation, feature detection, feature matching, classical machine learning, and deep learning. Upon completion, students should be able to apply computer vision design and technologies in various applications.