

**STATE BOARD OF COMMUNITY COLLEGES**  
**Closing the Skills Gap:**  
**Supporting Community College Instruction Leading to Immediate Employment**

Section 10.4A of S.L. 2013-360 directs the State Board of Community Colleges to report to the General Assembly on a “plan for implementation of (an) additional funding level for curriculum programs leading to immediate employment and the feasibility of beginning implementation of an additional funding level for these programs in the 2014-2015 fiscal year.” Further the General Assembly directed the report to include “specific curriculum programs that would be eligible for the additional funding level, the types of immediate employment available for graduates of these programs, and the funding necessary or recommended to adequately implement the programs.” In response to this legislative requirement, the State Board of Community Colleges recommends that the General Assembly reinvest \$16.8 million made available through instructional efficiencies in developmental education into health care and technical education programs that train North Carolinians for jobs having documented skills gaps and paying higher wages.

**Background**

As described in the North Carolina Jobs Plan published by the NC Economic Development Board in December 2013, workforce skills training requirements are rising.<sup>1</sup> The types of skills business needs and the types of jobs being created are changing. As a result, the State needs to invest in educational programs that ensure workers’ skills match those needed by employers. The North Carolina Jobs Plan establishes a goal of increasing North Carolina’s competitive advantage by developing and retaining a globally competitive workforce. To accomplish this goal, the Board determined that it is necessary to further develop and enhance Career and Technical Education (CTE) that provides students with the skills to create, make, and build things. One of its recommendations is to target statewide resources to enhance programs and enrollment in seven critical career cluster areas: STEM (Science, Technology, Engineering, and Math); Manufacturing; Information Technology; Health Science; Transportation, Distribution, and Logistics; Agriculture, Food, and Natural Resources; and Architecture, Engineering, and Construction.<sup>2</sup>

Likewise, recent research published by the Brookings Institution concludes that employment in STEM fields plays a direct role in driving economic growth, yet policymakers are overlooking a strong potential workforce of those with less than a bachelor’s degree.<sup>3</sup> Typically, emphasis is placed on the professional STEM economy, which is focused on technological development and closely linked with graduate school education and research universities. Brookings argues, however, that a “second STEM economy” focused on the practical aspects of technological implementation – the production, installation, and repair of the technology – is critical to successful deployment of innovations. This research find that “half of all STEM jobs are available to workers without a four-year degree, as these jobs pay \$53,000 on average – a wage 10 percent higher than jobs with similar educational requirements”.<sup>4</sup> Many of these STEM jobs

<sup>1</sup>[http://www.nccommerce.com/Portals/0/Documents/AboutOurDepartment/BoardsCommissions/NC%20Jobs%20Plan%20Report\\_Final.pdf](http://www.nccommerce.com/Portals/0/Documents/AboutOurDepartment/BoardsCommissions/NC%20Jobs%20Plan%20Report_Final.pdf). NC Economic Development Board. (December 2013). *North Carolina Jobs Plan*.

<sup>2</sup> Ibid.

<sup>3</sup> Rothwell, Jonathan. (June 2013). *The Hidden STEM Economy*. Brookings Institution.

<sup>4</sup> Rothwell, Jonathan. (June 2013). *The Hidden STEM Economy*. Brookings Institution.

are in manufacturing, health care, and construction industries. Installation, maintenance, and repair occupations constitute 12 percent of all STEM jobs.<sup>5</sup> (See <http://www.brookings.edu/research/interactives/2013/the-hidden-stem-economy> for graphic summary of key findings.)

### **Recommendation**

Consistent the General Assembly’s stated intent, NC Economic Development Board’s recommendations, and recent STEM workforce research, the State Board of Community Colleges recommends appropriating funds to support health care and technical education programs that train North Carolinians for jobs having documented skills gaps and paying higher wages. Currently, community college instruction is funded based on a three-tiered system that provides for a 15% funding differential between each tier. This proposal would establish a fourth tier that funds at the highest level curriculum programs that prepare students for the list priority occupations found in Table 1. In developing this list, the System Office used Bureau of Labor Statistics (BLS) data and local industry insight to target jobs in growing industries that provide higher wages (see Appendix A for more detail). We then mapped the list of target jobs to the associated curriculum program, using Classification of Instructional Programs (CIP) codes. Lastly, we identified the major course prefixes associated with those programs. This proposal would also recommend adjusting the funding tier designation for those short-term, workforce continuing education courses that help prepare students for jobs in these priority areas and lead to competency-based industry credentials. (See Appendix B for proposed tier designations.)

Providing additional funds for these instructional programs is particularly critical at a time of tight budgets. A combination of factors – such as smaller class sizes, higher faculty salaries, and specialized equipment needs – make these technical classes more expensive to provide. Without additional funds, it is extremely difficult for colleges to enhance and expand these priority programs. Indeed, it is often difficult for colleges to even sustain these programs, as they are faced with tough decisions about which programs to offer with their limited funds.

This proposal would cost an estimated \$16.8 million (see Appendix C). However, funding this proposal could be accomplished by reinvesting the “Developmental Dividend” – funds made available through instructional efficiencies in developmental education – into this priority. In the midst of our state’s severe economic downturn, burgeoning enrollment, and steep funding cuts, our System took on the task of reconstructing our developmental education courses to allow students to move more quickly from remedial classes into college classes. Providing remediation through accelerated modules that target students’ individual needs helps our students, many of whom come to us unprepared for college-level work, avoid the “Bermuda Triangle” of developmental courses and instead move ahead into pathways leading to career or college opportunities.

These changes have driven the System’s decline in full-time equivalent (FTE) student enrollment. Consequently, the State has a historic opportunity to begin reinvesting State resources that previously were used to reteach high school level math and English into education and workforce development programs that prepare North Carolinians to be nurses, radiography

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<sup>5</sup> Ibid.

technicians, machinists, electricians, and other well-paying middle-class jobs. This increased speed from remedial to college classes also reduces the cost to North Carolina families as students are able to begin earning college credits more quickly, stretching the dollars of student loans farther along the timeline toward success. Absent this reinvestment, it would not be feasible to implement this proposal, as we cannot effectively close the skills gap while also cutting the very same funding formulas that support those programs.

<b>Table 1: Priority Occupations</b>	
<p><b>Health Sciences</b></p> <ul style="list-style-type: none"> <li>• Nurses</li> <li>• Dental Hygienists</li> <li>• Dental Assistants</li> <li>• Dental Laboratory Technicians</li> <li>• Occupational Therapy Assistant</li> <li>• Physical Therapy Technician/Assistant</li> <li>• Radiation Therapists</li> <li>• Respiratory Care Therapy/Therapist</li> <li>• Cardiovascular Technologists and Technicians</li> <li>• Diagnostic Medical Sonographers</li> <li>• Magnetic Resonance Imaging (MRI) Technology/Technician</li> <li>• Nuclear Medicine Technologists</li> <li>• Radiologic Technologists</li> <li>• Surgical Technologists</li> </ul> <p><b>Biological, Chemical, and Biotechnology</b></p> <ul style="list-style-type: none"> <li>• Biological Technicians</li> <li>• Chemical Technicians</li> <li>• Chemical Plant and System Operators</li> <li>• Chemical Equipment Operators and Tenders</li> </ul> <p><b>Manufacturing, Production, and Installation</b></p> <ul style="list-style-type: none"> <li>• Machinists and Precision Metal Workers</li> <li>• Heavy/Industrial Equipment Maintenance Technician</li> <li>• Medical Equipment Repairers</li> <li>• Industrial Machine Mechanics</li> <li>• Machine Maintenance Workers</li> <li>• Electrical Power-Line Transmission Installers.</li> <li>• Telecommunications Line Installers and Repairers</li> </ul>	<p><b>Architecture, Engineering, and Construction</b></p> <ul style="list-style-type: none"> <li>• Aerospace Engineering and Operations Technicians</li> <li>• Civil Engineering Technicians</li> <li>• Electrical and Electronic Engineering Technicians</li> <li>• Electro-Mechanical Technicians</li> <li>• Industrial Engineering Technicians</li> <li>• Mechanical Engineering Technicians</li> <li>• Nuclear and Industrial Radiologic Technicians</li> <li>• Architectural and Civil Drafters</li> <li>• Electrical and Electronics Drafters</li> <li>• Mechanical Drafters</li> <li>• Building/Construction Finishing, Management, and Inspection.</li> <li>• Plumbers, Pipefitters, and Steamfitters</li> <li>• Electricians</li> <li>• Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technicians (HAC, HACR, HVAC, HVACR).</li> <li>• Operating Engineers and Construction Equipment Operators</li> </ul> <p><b>Transportation</b></p> <ul style="list-style-type: none"> <li>• Heavy and Tractor-Trailer Truck Drivers</li> <li>• Air Transportation</li> <li>• Aircraft Mechanics and Service Technicians</li> <li>• Automotive Body and Related Repairers</li> <li>• Automotive Service Technicians and Mechanics</li> <li>• Avionics Technicians</li> <li>• Bus and Truck Mechanics and Diesel Engine Specialists</li> <li>• Boat Mechanics and Service Technicians</li> <li>• Mobile Heavy Equipment Mechanics</li> </ul>



**CLOSING THE SKILLS GAP:  
PRIORITY INSTRUCTIONAL PROGRAMS LEADING TO IMMEDIATE EMPLOYMENT**

		2010 Est. Emp.	Annual Openings	Average Salary
<b>HEALTH SCIENCES</b>				
<b>Nurses</b>		110,110	4,050	
	Registered Nurses			\$58,760
	Licensed Practical and Licensed Vocational Nurses			\$41,510
<b>CU Prefix(es)</b>	<b>NUR</b>			
<b>Dental Support Services and Allied Professions.</b>				
		15,260	710	
	Dental Hygienists			\$64,490
	Dental Assistants			\$37,280
	Dental Laboratory Technicians			\$38,360
<b>CU Prefix(es)</b>	<b>DEN, DLT</b>			
<b>Therapists and Therapist Assistants</b>				
		3,040	130	
	Occupational Therapy Assistant			\$53,480
	Physical Therapy Technician/Assistant.			\$51,860
	Radiation Therapists			\$74,480
	Respiratory Care Therapy/Therapist.			\$52,040
<b>CU Prefix(es)</b>	<b>OTA, PTA, RAD, RSP</b>			
<b>Health Sciences Technologists and Technicians</b>				
		14,300	540	
	Cardiovascular Technologists and Technicians			\$59,720
	Diagnostic Medical Sonographers			\$62,180
	Magnetic Resonance Imaging (MRI) Technology/Technician.			\$63,700
	Nuclear Medicine Technologists			\$64,640
	Radiologic Technologists			\$52,770
	Surgical Technologists			\$39,440
<b>CU Prefix(es)</b>	<b>CAT, CIT, CVS, DOS, ICT, ICV, IMG, MAM, MRI, NCT, NMT, PET, SON, RTT, SUR</b>			
<b>ARCHITECTURE, ENGINEERING, and CONSTRUCTION OCCUPATIONS</b>				
<b>Engineering Technicians</b>		7,870	230	
	Aerospace Engineering and Operations Technicians			\$55,030
	Civil Engineering Technicians			\$44,730
	Electrical and Electronic Engineering Technicians			\$54,940
	Electro-Mechanical Technicians			\$48,580
	Industrial Engineering Technicians			\$48,960
	Mechanical Engineering Technicians			\$49,600
	Nuclear and Industrial Radiologic Technicians			\$68,418
<b>CU Prefix(es)</b>	<b>ASM, ATR, BPR, CET, CIV, DFT, ELC, ELN, EGR, ELC, EPP, HYD, ISC, LEO, MAC, MEC, MNT, NDE, NUC, PCI, SRV, TNE, WAT, WLD</b>			

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		<b>2010 Est. Emp.</b>	<b>Annual Openings</b>	<b>Average Salary</b>
<b>Drafters</b>		4,380	120	
	Architectural and Civil Drafters			\$52,080
	Electrical and Electronics Drafters			\$54,380
	Mechanical Drafters			\$50,040
<b>CU Prefix(es)</b>	<b>ARC, BPR, CMT, CST, DDF, DFT, MEC, SST</b>			
<b>Construction Trades</b>		102,010	4,040	
	Building/Construction Finishing, Management, and Inspection.			\$35,377
	Plumbers, Pipefitters, and Steamfitters			\$40,050
	Electricians			\$39,850
	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technicians (HAC, HACR, HVAC, HVACR).			\$40,190
	Operating Engineers and Construction Equipment Operators			\$34,250
<b>CU Prefix(es)</b>	<b>AHR, ALT, ARC, BPR, CAR, CMT, CST, ELC, ELN, FMW, HEO, ISC, MNT, PLU, REF, SST</b>			
<b>PRODUCTION, INSTALLATION, AND MAINTENANCE</b>				
<b>Line Installers</b>		5,730	220	
	Electrical Power-Line Transmission Installers.			\$52,510
	Telecommunications Line Installers and Repairers			\$40,760
<b>CU Prefix(es)</b>	<b>BPR, ELC, ELT, EPP, EUS, ISC, TCT, TEL, WAT</b>			
<b>Machinery/Equipment Maintenance and Repair</b>		29,600	1,070	
	Medical Equipment Repairers			\$49,280
	Heavy/Industrial Equipment Maintenance Technician			\$43,062
	Industrial Machine Mechanics			\$44,650
	Machine Maintenance Workers			\$37,520
<b>CU Prefix(es)</b>	<b>BMT, BPR, CET, ELC, ELN, HET, HYD, MAC, MEC, PME, WLD</b>			
<b>Machinists and Precision Metal Working.</b>		52,850	1580	\$36,080
<b>CU Prefix(es)</b>	<b>BPR, MAC, MEC, WLD</b>			

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		2010 Est. Emp.	Annual Openings	Average Salary
<b>TRANSPORTATION</b>				
<b>Air Transportation.</b>		3,500	100	\$52,441
<b>CU Prefix(es)</b>	<b>AER</b>			
<b>Ground Transportation</b>				
	Heavy and Tractor-Trailer Truck Drivers	50,070	1210	\$38,410
<b>CU Prefix(es)</b>	<b>TRP</b>			
<b>Vehicle Maintenance and Repair Technicians</b>				
	Aircraft Mechanics and Service Technicians	41,530	1,360	\$50,150
	Automotive Body and Related Repairers			\$46,090
	Automotive Service Technicians and Mechanics			\$39,110
	Avionics Technicians			\$49,340
	Bus and Truck Mechanics and Diesel Engine Specialists			\$40,740
	Motorboat Mechanics and Service Technicians			\$35,030
	Mobile Heavy Equipment Mechanics			\$42,190
<b>CU Prefix(es)</b>	<b>AET, AUB, AUC, ARS, ATT, AUT, AVI, BMS, BTB, HET, LDD, MRN, MPS, MCM, PLA, RCT, RVM, PME, TRN,</b>			
<b>BIOLOGICAL, CHEMICAL, BIOTECHNOLOGY</b>				
<b>Technicians and Operators</b>		6,560	220	
	Biological Technicians			\$43,420
	Chemical Technicians			\$42,290
	Chemical Plant and System Operators			\$48,450
	Chemical Equipment Operators and Tenders			\$45,120
<b>CU Prefix(es)</b>	<b>BPM, BTC, CTR, MSC, NAN, PTC, STP</b>			

**NORTH CAROLINA COMMUNITY COLLEGE SYSTEM**  
**CLOSING THE SKILLS GAP: PROPOSED CURRICULUM PREFIX TIER DESIGNATIONS**

Tier 1A		Tier 1A	
Prefix	Subject Area	Prefix	Subject Area
AER	Aerospace & Flight Training	IMG	Imaging
AET	Aviation Electronics Technology	ISC	Industrial Science
AHR	Air Cond/Heating/Refrig	LDD	Light Duty Diesel
ALT	Alternative Energy	LEO	Lasers and Optics
ARC	Architecture	MAC	Machining
ARS	Automotive Restoration	MAM	Mammography
ASM	Aerostructure	MCM	Motorcycle Mechanics
ATR	Automation and Robotics	MEC	Mechanical
ATT	Alternative Transportation Technology	MNT	Maintenance
AUB	Automotive Body Repair	MPS	Marine Propulsion Systems
AUC	Automotive Customizing Tech	MRI	Magnetic Resonance Imaging
AUT	Automotive	MSC	Marine Science
AVI	Aviation Maintenance	MSP	Medical Product Safety and Pharmacovigilance
BAT	Building Automation Tehcnology	NAN	Nanotechnology
BMS	Boat Manufacture & Service	NCT	Non-Invasive Cardiovascular Te
BMT	Biomedical Equipment	NDE	Nondestru Exam Tech
BPM	Bioprocess Manufactur	NMT	Nuclear Medicine
BPR	Blueprint Reading	NUC	Nuclear Maintenance
BTB	Boat Building	NUR	Nursing
BTC	Biotechnology	OTA	Occupational Therapy Assistant
CAR	Carpentry	PCI	Process Control Instrum
CAT	Computed Tomography	PET	Positron Emission Tomography
CEG	Civil Engineering and Geomatic	PFT	Pipe Fitting
CET	Comp Engineer Tech	PLA	Plastics
CIT	Cardiovascular/Vascular Interv	PLU	Plumbing
CIV	Civil Engineer Tech	PME	Power Mechanics
CMT	Construction Mgt.	PTA	Physical Therapist Assistant
CST	Construction	PTC	Pharmaceutical Tech
CTR	Clinical Trials Research	RAD	Radiography
CVS	Cardiovascular Sonography	RCP	Respiratory Care
DDF	Design Drafting	RCT	Race Car Technology
DEN	Dental	REF	Refrigeration
DFT	Drafting	RTT	Radiation Therapy Technology
DLT	Dental Laboratory Technology	RVM	Recreational Vehicle Maint
DOS	Medical Dosimetry	SON	Medical Sonography
EGR	Engineering	SRV	Surveying
ELC	Electricity	SST	Sustainability
ELN	Electronics	STP	Central Sterile Processing
ELT	Electric Lineman	SUR	Surgical Technology
EPP	Electrical Power Prod	TCT	Telecommunication Tech
EUS	Electric Utility Substation	TEL	Telecom Install & Maint
FMW	Facility Maintenance	TNE	Telecom & Ntwk Engin Te
HEO	Heavy Equip Oper	TRN	Transportation Technology
HET	Heavy Equipment Maintenance	TRP	Truck Driver Training
HYD	Hydraulics & Pneumatics	WAT	Water & Wastewater Trt
ICT	Invasive Cardiovascular Tech	WLD	Welding
ICV	Interventional Cardiac & Vascu		



**NORTH CAROLINA COMMUNITY COLLEGE SYSTEM  
CLOSING THE SKILLS GAP: PROPOSED CURRICULUM PREFIX TIER DESIGNATIONS**

Tier 1B		Tier 1B	
Prefix	Subject Area	Prefix	Subject Area
ANS	Animal Science	HTO	Histotechnology
BDF	Brewing, Distillation and Fermentation	LBT	Laboratory Technology
BIO	Biology	LID	Low Impact Development
BPA	Baking and Pastry Arts	MAS	Masonry
CAB	Cabinetmaking	MAT (100+)	Mathematics
CHM	Chemistry	MED	Medical Assisting
CIM	Cancer Information Management	MLT	Medical Laboratory Technology
CPT	Chemical Process Technology	MSM	Motorsports Mgt
CSC	Computer Science	MTH	Massage Therapy
CTC	Chemical Technology	NAS	Nursing Assistant
CTI	Computer Technology Integration	NET	Networking Technology
CTS	Computer Information Technology	NOS	Network Operating Systems
CUL	Culinary	OPH	Opticianry
CYT	Cytotechnology	PBT	Phlebotomy
DEA	Digital Effects & Animation	PHM	Pharmacy
DET	Dietetic Technician	PHY	Physics
DIA	Dialysis Technology	PPM	Poultry Proc Mach Tech
DME	Digital Media	PPT	Pulp & Paper Tech
EDT	Electroneurodiagnostic Tech	PSG	Polysomnography
EMS	Emergency Medical Science	REH	Rehabilitation Assistant
ENV	Environmental Science	SEC	Information Systems Security
FUR	Furniture	SGD	Simulation & Game Development
GIS	Geographic Info Syst	SGR	Scientific Graphics
GSM	Gunsmithing	SLP	Speech-Language Pathology Asst
HBI	Healthcare Business Infomatics	UPH	Upholstery
HIT	Health Information Technology	VEN	Viticulture/Enology
HPC	High performance Computing	VET	Veterinary Medical Technology
HPT	Historical Preservation	WPP	Wood Products

**NORTH CAROLINA COMMUNITY COLLEGE SYSTEM  
CLOSING THE SKILLS GAP: PROPOSED CURRICULUM PREFIX TIER DESIGNATIONS**

Tier 2		Tier 2	
Prefix	Subject Area	Prefix	Subject Area
AAI	Animal Assisted Interactions	ILT	Industrial Laboratory Technology
ACA	Academic Related	IMS	Integrated Math/Science
ACC	Accounting	INS	Insurance
ACM	Animal Care and Management	INT	International Business
AGR	Agriculture	IPP	Interpreter Preparation Program
AIB	American Institute of Banking	ITA	Italian
ANT	Anthropology	ITN	Internet Technologies
APS	Automotive Parts Sales	IVS	Invasive Species Management
AQU	Aquaculture	JOU	Journalism
ARA	Arabic	JPN	Japanese
ART	Art	LAR	Landscape Architecture
ASL	American Sign Language	LAT	Latin
AST	Astronomy	LEX	Legal Education
AUM	Automotive Management	LIB	Library Resources
BAF	Banking and Finance	LOG	Logistics Management
BAR	Barbering	LSG	Landscape Gardening
BAS	Business Analytics	MAT (below	Mathematics
BPT	Broadcast Production	MEG	Metal Engraving
BUS	Business	MHA	Mental Health
CCT	Cyber Crime Technology	MIT	Media Integration
CHI	Chinese	MKT	Marketing and Retailing
CIS	Information Systems	MLG	Metallurgical Science
CJC	Criminal Justice	MSI	Military Science
COE	Cooperative Education	MUS	Music
COM	Communication	NPO	Nonprofit Leadership and Mgt
COS	Cosmetology	NUT	Nutrition
CRT	Court Reporting	ODL	Outdoor Leadership
CSV	Customer Service	OMT	Operations Management
DAN	Dance	OSS	Operating Systems
DBA	Database Management Technology	OST	Office Systems Technology
DDT	Developmental Disabilities	PAD	Public Administration
DES	Design: Creative	PCC	Professional Crafts: Clay
DMA	Developmental Math	PCD	Professional Crafts: Design
DME	Developmental Math Shells	PCF	Professional Crafts: Fiber
DRA	Drama/Theatre	PCJ	Professional Crafts: Jewelry
ECM	Electronic Commerce	PCR	Professional Crafts
ECO	Economics	PCS	Professional Crafts: Sculpture
EDU	Education	PCW	Professional Crafts: Wood
EFL	English As A Foreign Language	PED	Physical Education
EHS	Environmental Health And Safety	PFN	Photofinishing
ENG	English	PHI	Philosophy
ENT	Entertainment Technologies	PHO	Photography
EPT	Emergency Preparedness Technology	PHS	Physical Science
EQU	Equine	PKG	Packaging
ETR	Entrepreneurship	PMT	Project Management Technology
FBG	Fiberglass and Moldmaking	POL	Political Science
FIP	Fire Protection	POR	Portuguese
FLI	Foreign Language Interpreter	POS	Postal Service
FLO	Floral Design	PRN	Printing
FOR	Forest Management	PSF	Physical Fitness Technology
FPR	Food Processing	PSY	Psychology
FRE	French	REA	Real Estate Appraisal
FSD	Fire Sprinkler Design	REC	Recreation

**NORTH CAROLINA COMMUNITY COLLEGE SYSTEM  
CLOSING THE SKILLS GAP: PROPOSED CURRICULUM PREFIX TIER DESIGNATIONS**

Tier 2		Tier 2	
Prefix	Subject Area	Prefix	Subject Area
FSE	Funeral Service	RED	Reading
FST	Food Service Technology	REL	Religion
FVP	Film and Video Production	RLS	Real Estate
FWL	Fish and Wildlife	RSM	Resort and Spa Management
GAM	Gaming Management	RUS	Russian
GCM	Golf Course Management	SAB	Substance Abuse
GEL	Geology	SCI	Science
GEO	Geography	SOC	Sociology
GER	German	SPA	Spanish
GRA	Graphic Arts	SPI	Spanish Interpreter
GRD	Graphic Design	SSM	Shooting and Hunting Sports Management
GRO	Gerontology	SSS	Shared Record
GSM	Gunsmithing	SWK	Social Work
HCT	Health Care Technology	TAT	Travel and Tourism
HEA	Health	TRE	Therapeutic Recreation
HIS	History	TRF	Turfgrass Management
HMT	Healthcare Management	TXY	Taxidermy
HOR	Horticulture	VWR	Voice Writing Realtime Reporting
HRM	Hotel and Restaurant Management	WBL	Work-Based Learning
HSC	Health Sciences	WEB	Web Technologies
HSE	Human Services	WOL	Wheels of Learning
HUC	Health Unit Coordinator	WWK	Woodworking
HUM	Humanities	ZAS	Zoo and Aquarium Science Technology

**NORTH CAROLINA COMMUNITY COLLEGE SYSTEM  
CLOSING THE SKILLS GAP: PROPOSED CURRICULUM PREFIX TIER DESIGNATIONS**

**TIER 1A\***

<b>Course ID</b>	<b>Course Title</b>
AET-3122	Aircraft Electrical System-Adv
AET-3124	Airframe Systems
AET-3130	Engine Electrical Systems
AET-3224	Adv. Avionics Wiring and Troubleshooting
AVI-3009	Aircraft Structural Training
AVI-3010	Aviation Maintenance - Power Plant
AVI-3011	Aviation Maintenance - General
AVI-3012	Aviation Maintenance - Airframe
ELS-3018	Electrical Lineman
ISC-3200	BioWork: Process Technician
RAD-2100	Mammography
TRA-3607	Truck Driver Training

**TIER 1B**

<b>Course ID</b>	<b>Course Title</b>
APP-3200	HVAC: Apprentice
APP-3500	Carpentry Apprentice
APP-3601	Metal Apprentice
APP-3608	Inside Wiremen Apprentice:
APP-3612	Electrical Apprentice
APP-3618	Maintenance Mechanic Apprenticeship
APP-3701	Plumber Apprentice
AHR-3030	HVAC: Industrial Systems
AHR-3131	HVAC: Heating and Air Conditioning
AUT-3109	Auto Body Repair
AUT-3137	Automotive Mechanics
CAR-3108	Carpentry: Core Skills
CAR-3112	Building Construction Trades
CAR-3124	Carpentry: Framing
CAR-3200	Construction Management
CAT-3100	Computed Tomography
EGY-2002	Green Construction
EGY-3001	Alternative Fuels Technology
EGY-3002	Photovoltaic (PV) Technology
EGY-3003	Solar Thermal Technology
EGY-3004	Wind Power Technology
EGY-4005	Building Energy Retrofitting
ELC-3014	Electricity and Electronics
ELC-3119	Wiring: Commercial/Residential
ELC-3201	Structured Cabling
ELN-3025	Electronic Systems
ELN-3030	Electricity: Industrial
HEO-3100	Heavy Equipment Operations
ISC-3138	Electro-Mechanical Skills
MEC-3010	Machine Shop Practices
MNT-3065	Maintenance Mechanics
MNT-3111	Mfg. Production Technician
MNT-3200	Alarm System Installation
NUR-3354	Magnetic Resonance Image/MRI
PLU-3024	Plumbing
PLU-3020	Pipe Fabrication
REF-3100	Ammonia Refrigeration
TCT-3102	Network Cable Installation
TCT-3105	Broadband Communications
WLD-3106	Welding

**TIER 2**

<b>Course ID</b>	<b>Course Title</b>
AUT-3200	Small Engine Mechanic
CAB-3100	Cabinetmaking
CAS-3000	Networking Technology
CJC-3938	Basic Law Enforcement Training (BLET)
CJC-3941	Detention Officer
CJC-4004	Search & Rescue Special Ops
CJC-5001	Crime Scene Technician
CJC-5055	Security and Enforcement Training
CJC-5060	Animal Handling and Control (K-9)
COM-3800	Braille Reading & Writing
COM-3801	Braille Tactile Graphics
COS-3101	Manicurist
COS-3102	Esthetician
COS-3201	Cosmetology
DIA-3100	Dialysis Technology
ELN-3006	Computer Repair
EMS-3027	Bridge: Medical Responder to EMT Basic
EMS-3029	Bridge: EMT Intermediate to Paramedic
EMS-3031	EMT - Paramedic
EMS-3044	EMT - Basic
EMS-3045	EMT - Intermediate
FIP-xxxx	Firefighter 1 and 2 Certification Courses
HEA-3009	Nutritional Dietary Manager
HEA-3021	Massage Therapy
HSE-3300	Direct Support Professional
LOG-3400	Distribution and Logistic Mgmt
MAS-3002	Masonry
MED-3002	Central Sterile Processing
MED-3004	Sleep Disorders Technician
MED-3200	Critical Care Transport
MED-3300	Medical Assisting
MLA-3022	Phlebotomy
NUR-3240	Nurse Aide Level I
NUR-3241	Nurse Aide Level II
NUR-3252	Geriatric Nurse Aide
OPT-3020	Ophthalmic Assistant
OSC-3608	Health Unit Coordinator
PHM-3250	Pharmacy Technician
PSF-3100	Physical Fitness Methodology

\*These courses provide the same instruction as the associated curriculum course.

**NORTH CAROLINA COMMUNITY COLLEGE SYSTEM  
CLOSING THE SKILLS GAP COST ESTIMATE**

STATUS QUO			CLOSING THE SKILLS GAP PROPOSAL			DIFFERENCE
<b>Funding Levels</b>			<b>Funding Levels</b>			
Tier 1	\$	3,636.31	Tier 1A	\$	4,181.76	
Tier 2	\$	3,160.79	Tier 1B	\$	3,636.31	
Tier 3	\$	2,685.38	Tier 2	\$	3,160.79	
			Tier 3	\$	2,685.38	
	<b>FTE</b>	<b>Cost</b>		<b>FTE</b>	<b>Cost</b>	
<b>Curriculum</b>			<b>Curriculum</b>			
Tier 1	66,473.9	\$ 241,719,699	Tier 1A	27,664.3	\$ 115,685,226	
Tier 2	120,503.9	\$ 380,887,384	Tier 1B	39,640.8	\$ 144,146,264	
			Tier 2	119,672.7	\$ 378,260,210	
	186,977.8	\$ 622,607,082		186,977.8	\$ 638,091,700	<b>\$ 15,484,618</b>
<b>Con Ed</b>						
			Tier 1A	285.2	\$ 1,192,730	
			Tier 1B	2,158.5	\$ 7,848,800	
Tier 2	13,386.3	\$ 42,311,282	Tier 2	10,944.3	\$ 34,592,602	
Tier 3	15,640.7	\$ 42,001,224	Tier 3	15,639.0	\$ 41,996,755	
	29,027.0	\$ 84,312,506		29,027.0	85,630,886.6	<b>\$ 1,318,381</b>
<b>Total</b>		<b>\$ 706,919,588</b>			<b>\$ 723,722,587</b>	<b>\$ 16,802,999</b>