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

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

Carteret Community College
   Automotive Systems Technology (A60160)
   Horticulture Technology (A15240)

Rowan-Cabarrus Community College
   Automotive Light-Duty Diesel Technology (Diploma) (D60430)
   Mechatronics Engineering Technology (A40350)

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

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

Contact(s):
Jennifer Frazelle
Director
**Program Planning:** Carteret Community College is seeking approval for the Automotive Systems Technology (A60160) program to begin Fall, 2018. The planning area is defined as the college’s service area of Carteret County. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at Carteret Community College on January 26, 2018. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Carteret 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.

**Program Rationale:** Carteret Community College (CCC) indicates the following:

- Data from the U.S. Bureau of Labor Statistics suggests a 6% growth in the number of automotive technology jobs over the next ten years.
- Carteret County commissioned a 2017 Strategic Development Plan to guide its economic development over the next five years. The data indicated that there were 86 automotive technician jobs in the county in 2016. Various job search engines (Monster, Indeed, Glassdoor, and Simplyhired) indicated that there were currently 28 automotive technician jobs available in Carteret County.
- The median pay for automotive service technicians and mechanics is $38,470/year or $18.50/hour based on the 2016 census.
- Carteret Community College has successfully offered automotive courses their through continuing education program at a facility the college recently acquired and fitted for the program.
The college has worked with West Carteret High School to begin a Career and College Promise program, based on their receiving approval, where they would offer automotive courses at the high school’s currently unutilized automotive shop.

Local automotive service facilities including Parker GM and Honda, Kurtis Chevrolet, Mike Tolar Automotive indicated a need to hire and train service technicians. The college expects that additional need will come from the two dozen or so local, independent automotive service shops and inspection stations, as well.

Many of skill sets associated with automotive technology have crossover value within the automotive collision and truck repair industries.

Graduates of the program will be able to pursue entrepreneurial opportunities that exist for individuals who do mobile repair or repair from home-based enterprises.

The Service Director at Lookout Ford submitted a letter of support and stated: *We currently have a shortage of certified automotive technicians in Carteret County and this program could help alleviate this problem.*

The Operations Director at Kurtis Chevrolet submitted a letter of support and stated: *I know this program will fill a great need in our county and our community. I know how important it is to have certified and trained automotive technicians. I am confident that this program can only enhance the skills of existing employees and provide a pool of highly-qualified applicants to fill future job vacancies in a growing market.*

**Impact of the Proposed Program on Other Programs:** Thirty-seven community colleges are approved to offer the Automotive Systems Technology program. An impact assessment was sent to colleges located in contiguous counties. **No negative impact responses were received.**

**Implementation of Collaborative Plan:** Not Applicable

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

**Curriculum Description as Designated on Curriculum Standard:**
*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*

**Contact(s):**
Dr. Frank Scuiletti
Program Coordinator
**Program Planning:** Carteret Community College (CCC) is seeking approval for the Horticulture Technology (A15240) program to begin Fall, 2018. The planning area is defined as the college’s service area of Carteret county. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at CCC on November 28, 2017. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Carteret 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.

**Program Rationale:** Carteret Community College (CCC) indicates the following:

- Carteret County is a rural resort/retirement community. With the growth of new subdivisions, tourism, and renter-occupied housing in Carteret County, which increases from a year-round population of 68,000 to a summertime population of 140,000 residents, the need for skilled landscape and lawn technicians, designers, and managers will likewise increase.

- For the period 2010-2021, the annual growth rate of housing units is expected to increase more in Carteret County (1.3%) than in North Carolina (1.2%) or in the United States (.8%). Most of these homes are high-end properties with landscaping needs.

- There are entrepreneurial opportunities for graduates which the college will support through their Small Business Center.

- The college plans to pursue Career and College Promise pathways for high school students if approved for the program.

- The college plans to pursue bilateral agreements with senior institutions if approved for the program. North Carolina State University offers several horticulture degrees that would lend themselves to an agreement.

- The college has an existing greenhouse which will serve as a functional base for lab operations for the proposed program.
The job outlook indicates that statewide Landscaping and Grounds keeping workers employment opportunities will grow by 1.2% over the period of 2014-2024. The growth for first line supervisors of landscaping, lawn service, and greens-keeping workers is 1.1% during the same period. (NC Department of Commerce).

Employment of grounds maintenance workers is projected to grow 10% from 2016 to 2026, faster than the average for all occupations. (US Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook).

A survey of local students at the three high schools indicate that 19% of the responders (172) have an interest in Horticulture Technology as a field of study.

A survey of the local Chamber of Commerce members indicates that 81.9% of the members saw a need for a Horticulture Technology program at Carteret CC.

The Career and Technical Education Director of the Carteret County Public School (CCPS) System provided a letter of support for the proposed Horticulture program. There are approximately 493 students enrolled in CCPS agriculture and horticulture courses. The Director stated that the ability to allow students to continue their post-secondary education would be a benefit to the students and to our rural county.

The owner of Pullmann’s Landscape Associates submitted a letter of support for the proposed program and stated: This training will enhance the skills of existing employees and provide a better pool of qualified applicants for our upcoming job vacancies.

The owner of Seventy West Landscape Yard and Garden submitted a letter of support for the proposed program and stated that the program will be extremely beneficial to landscaping and turf grass management businesses in Carteret County.

**Impact of the Proposed Program on Other Programs:** There are eighteen colleges approved to offer the Horticulture Technology program. Pamlico Community College is the only contiguous college to Carteret CC. Pamlico CC is supportive of Carteret CC applying for the program.

**Implementation of Collaborative Plan:** Not Applicable

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

**Curriculum Description as Designated on Curriculum Standard:** Classroom instruction and practical laboratory applications of horticultural principles and practices are included in the program of study. Course work includes plant identification, pest management, plant science and soil science. Also included are courses in sustainable plant production and management, landscaping, and the operation of horticulture businesses. Graduates should qualify for employment in a variety of positions associated with nurseries, garden centers, greenhouses, landscape operations, governmental agencies/parks, golf courses, sports complexes, highway
vegetation, turf maintenance companies, and private and public gardens. Graduates should also be prepared to take the North Carolina Pesticide Applicator’s Examination and/or the North Carolina Certified Plant Professional Examination. Horticulture Technology: A program that focuses on the general production and management of cultivated plants, shrubs, flowers, foliage, trees, groundcovers, and related plant materials; the management of technical and business operations connected with horticultural services; and the basic scientific principles needed to understand plants and their management and care.

Contact(s):
Jennifer Frazelle
Director
Attachment PROG 04C

PROGRAM APPLICATION
SUMMARY EVALUATION REPORT
Rowan-Cabarrus Community College
Automotive Light-Duty Diesel Technology (D60430)

Program Planning: Rowan-Cabarrus Community College is seeking approval for the Automotive Light-Duty Diesel Technology (D60430) program to begin Fall, 2018. The planning area is defined as the college’s service area of Rowan and Cabarrus counties. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at Rowan-Cabarrus Community College on February 26, 2018. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Rowan-Cabarrus Community College have certified the following:

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

Program Rationale: Rowan-Cabarrus Community College (R-CCC) indicates the following:

- Data from the U.S. Bureau of Labor Statistics suggests 5-9% growth in the number of diesel technician jobs over the next ten years with 12% growth expected to occur in the Southwest Prosperity Region.
- There were 102 job openings within the Southwest Prosperity Region advertised online through NCWorks under the category of Bus and Truck and Diesel Engine Specialists.
- The annual median pay for diesel technicians is $45,170 for individuals possessing some level of formal technical training along with personal technical expertise.
- The college was awarded a Golden Leaf grant funds that have been utilized to purchase appropriate equipment required to implement the program. The college also received a letter of support from the Golden LEAF Foundation in support of the Light-Duty Diesel program that reinforced the need for qualified technicians to support the network of over 230 automotive dealers and repair shops in Cabarrus County.
• The college will offer a Career and College Promise program pathway for automotive light-duty diesel to local high schools that has already found success in the college’s traditional automotive program. 24 Students expressed interest in the LDD program.

• Many of skill sets associated with automotive light-duty diesel technology have crossover value within the heavy truck industry, RV industry, portable back-up generator industry, and agricultural equipment industry.

• Graduates of the program will be able to pursue entrepreneurial opportunities that exist for individuals interested in developing small business opportunities.

**Impact of the Proposed Program on Other Programs:** Three community colleges are approved to offer the Automotive Light-Duty Diesel Technology program. None of these colleges are contiguous to the planning area of Rowan-Cabarrus Community College, therefore an impact assessment was not required.

**Implementation of Collaborative Plan:** Not Applicable

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

**Curriculum Description as Designated on Curriculum Standard:**
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.

**Contact(s):**
Dr. Frank Scuiletti
Program Coordinator
**Program Planning:** Rowan-Cabarrus Community College is seeking approval for the Mechatronics Engineering Technology (A40350) program to begin Fall, 2018. The planning area is defined as the college’s service area of Rowan and Cabarrus counties. All colleges were notified of the planning process for this program.

The proposed program was approved by the Board of Trustees at Rowan-Cabarrus Community College on February 26, 2018. Minutes from this Board meeting were attached to the program application. The President and the Board of Trustees of Rowan-Cabarrus Community College have certified the following:

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

**Program Rationale:** Rowan-Cabarrus Community College (R-CCC) indicates the following:

- Data from the Bureau of Labor Statistics suggests 4% growth in the number of electro-mechanical technician jobs over the next ten years.
- NCWorks indicates 5-9% growth for engineering technician jobs in North Carolina within manufacturing production. Within R-CCC’s service area there are an estimated thirty positions available.
- The annual median pay for mechatronic engineering technicians is $54,480/year for individuals possessing an associate’s degree.
- The college was awarded a Golden Leaf grant funds that have been utilized to purchase appropriate equipment required to implement the program.
- Trelleborg, Southeastern Packaging, Carolina Color and Galvan Industries have committed to the college’s apprenticeship program. The apprentice program will use some of the equipment and curriculum components from Mechatronics such as Hydraulics/Pneumatics, PLCs, electrical theory and troubleshooting.
• The college has worked with Salisbury High School and Kannapolis City Schools to create a Career and College Promise program pathway in mechatronics engineering technology; having identified students and secondary programs that will funnel students into R-CCC’s degree program.

• Many of skill sets associated with mechatronics engineering technology have crossover value within not only manufacturing production, but also maintenance and repair industries that have automation, electrical, mechanical, and process control components.

• East Carolina University offers a Bachelor in Science in Industrial Technology (BSIT) transfer program for students awarded an Associate in Applied Science degree in an engineering field and is considered a 2 + 2 program.

• Graduates of the program will be able to pursue entrepreneurial opportunities that exist for individuals interested in developing small business opportunities.

**Impact of the Proposed Program on Other Programs:** Twenty community colleges are approved to offer the Mechatronics Engineering Technology program. An impact assessment was sent to colleges located in contiguous counties. **No negative impact responses were received.**

**Implementation of Collaborative Plan:** Not Applicable

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

**Curriculum Description as Designated on Curriculum Standard:**
A course of study that prepares the students to use basic engineering principles and technical skills in developing and testing automated, servomechanical, and other electromechanical systems. Includes instruction in prototype testing, manufacturing and operational testing, systems analysis and maintenance procedures. Graduates should be qualified for employment in industrial maintenance and manufacturing including assembly, testing, startup, troubleshooting, repair, process improvement, and control systems, and should qualify to sit for Packaging Machinery Manufacturers Institute (PMMI) mechatronics or similar industry examinations.

**Contact(s):**
Dr. Frank Scuiletti
Program Coordinator