



June 15, 2020

M E M O R A N D U M

TO: Jim Murdaugh, Ph.D.
President

FROM: Madeline Pumariega, M.Ed.
Executive Vice President and Provost

SUBJECT: Academic Curriculum Changes

Item Description

This item presents proposed program changes, new courses, and course changes.

Overview and Background

The Curriculum and Innovation Committee members review and make recommendations for Board approval for new and revised curriculum. Due to changes by the State Board of Education as well as the revision of programs to meet workforce demands, there are several changes that are being proposed.

The college is proposing to revise the Air Conditioning, Refrigeration, and Heating Technology Career and Technical Education Program. The length of the program will remain at 1,000 clock hours. However, the state is recommending new course numbers, course titles and content in order to remain current with the workforce trends. The median hourly wage is \$18.84 for Leon, Gadsden, and Wakulla with an 8.9% job growth anticipated.

TCC is also proposing a new course, Principles of Entrepreneurship. This course will be offered as dual enrollment in the high schools to expose students to the fundamental concepts of an entrepreneurial mindset that is based on the ICE House Curriculum. The college is also proposing to change the pre- and co-requisites for Computer Based Design I and II to remove barriers for students and decrease their degree completion time. Additionally, Introduction to Multimedia Programming is being proposed to be renamed to Introduction to Multimedia Design to align with courses at other Florida institutions.

Funding/ Financial Implications

None

Past Actions by the Board

The Board approves the program revisions, new courses, and course changes each year.

Recommended Action

That the Board approve the recommendation for the program revision, new courses, and course changes as attached.

PROGRAM CHANGE

Air Conditioning, Refrigeration, and Heating Technology (1,000 clock hours)

Based on recommendations from the State Board of Education, TCC is proposing to delete courses and replace with the state approved courses for the program. The changes are based on updated content related to workforce trends.

Add courses:

ACR0000 Introduction to HVAC/R (250)
ACR0001 HVAC/R Fundamentals (250)
ACR0012 HVAC/R Service Practices (250)
ACR0013 HVAC/R Intermediate Service Practices (250)

Delete courses:

ACR0041 A/C, Refrigeration and Heating Helper (250)
ACR0043 A/C, Refrigeration and Heating Mechanic Assistant (250)
ACR0047 A/C, Refrigeration and Heating Mechanic 1 (250)
ACR0049 A/C, Refrigeration and Heating Mechanic 2 (250)

NEW COURSE

Course ID	Course Name	Rationale for New Course
SLS1380	Principles of Entrepreneurship	This course is designed to examine the 8 fundamental concepts of an entrepreneurial mindset. This course will use the ICE House Curriculum and be offered in the high schools. Students will be exposed to complex problem-solving, strategic communications techniques that draws upon the experiences of successful people, specifically entrepreneurs.

COURSE REVISIONS

Course ID	Course Name	Type of Change	Current	Proposed	Rationale for Change
CGS1520	Introduction to Multimedia Programming	Course title	Introduction to Multimedia Programming	Introduction to Multimedia Design	The proposed name is in line with the course title for this course at other Florida state colleges.
GRA2103C	Computer Based Design I	Pre-requisite change	Pre-requisite: PGY2801C	Pre-requisite: GRA1111C, GRA1206C	To lessen time to degree completion;

		and co-requisite change	Co-requisite: GRA2121	Co-requisite: none	current pre-requisites do not contain content that is necessary for successful course completion.
GRA2105C	Computer Based Design II	Pre-requisite change and co-requisite change	Pre-requisite: PGY2801C Co-requisite: GRA2121	Pre-requisite: None Co-requisite: none	To lessen time to degree completion; current pre-requisites do not contain content that is necessary for successful course completion.
ACR0041	A/C, Refrigeration and Heating Helper	Course ID, Title and Description	ACR0041 A/C, Refrigeration and Heating Helper Description: Provides lecture, demonstration and hands-on practice in introductory air conditioning, refrigeration and heating concepts and techniques, including major components. Students will be introduced to basic electricity and electronics. Emphasis will be on students learning craft safety. Students will complete the OSHA 1926 10-hour safety module.	ACR0000 Introduction to HVAC/R Description: The Introduction to HVAC/R course prepares students to demonstrate the knowledge, skill, and application of introductory air conditioning, refrigeration, and heating concepts and techniques, including major components using both lecture and hands-on practice. Students will be introduced to basic electricity and electronics with emphasis placed on students learning craft safety and also the importance	State mandated change.

				of employability and entrepreneurship skills. Students will be prepared to complete the OSHA 1926 10 hour safety module.	
ACR0043	A/C, Refrigeration and Heating Mechanic Assistant	Course ID, Title, prerequisite and Description	<p>ACR0043</p> <p>A/C, Refrigeration and Heating Mechanic Assistant</p> <p>Prerequisite: ACR0041</p> <p>Description: This course provides instruction in reading construction documents; history of HVAC; the properties of matter and heat; analyzing fluids, pressures, refrigerants and related codes; evaluation of HVAC system and components; selection of appropriate commercial compressors; testing, adjusting and maintaining commercial evaporative condensers; fabrication and service of HVAC piping, tubing and fittings; and the importance of employability and</p>	<p>ACR0001</p> <p>HVAC/R Fundamentals</p> <p>Prerequisite: ACR0000</p> <p>Description: The HVAC/R Fundamentals course prepares students to demonstrate the knowledge, skill, and application to read construction documents, identify properties of matter and heat; analyze fluids, pressures, refrigerants and related codes; evaluate HVAC/R systems and components; select appropriate commercial compressors; test, adjust, and maintain commercial evaporative condensers; fabrication and service of HVAC tubing and</p>	State mandated change.

			entrepreneurship skills.	fittings. Students are provided instruction in the history of HVAC/R, and will test and trouble shoot electrical motors and their components.	
ACR0047	A/C, Refrigeration and Heating Mechanic I	Course ID, Title, pre-requisite and Description	<p>ACR0047</p> <p>A/C, Refrigeration and Heating Mechanic I</p> <p>Prerequisite: ACR0041, ACR0043</p> <p>Description: This course provides basic principles of piping size, use and servicing of testing equipment, residential start-up procedures, check-out procedures, working knowledge of refrigerants and oils, interpretation and modification of construction drawings, conduct system startup and shutdown, and the design of HVAC systems.</p>	<p>ACR0012</p> <p>HVAC/R Service Practices</p> <p>Prerequisite: ACR0000, ACR0001</p> <p>Description: The HVAC/R Service Practices course prepares students to assist with the installation of residential HVAC systems and determine start-up procedures and check-out procedures. Students will utilize mechanical components and operate solid state electronics as used in HVAC/R systems. Students will gain a working knowledge of refrigerants and oils and the interpretation and modification of construction drawings, and</p>	State mandated change.

				conduct system startup and shutdowns. Students will troubleshoot combustion gas valves and regulators as used in HVAC/R systems.	
ACR0049	A/C, Refrigeration and Heating Mechanic II	Course ID, Title, pre-requisite and Description	<p>ACR0049</p> <p>A/C, Refrigeration and Heating Mechanic II</p> <p>Prerequisite: ACR0041, ACR0043, ACR0047</p> <p>Description: This course will cover the use of combustion-type heating service and testing equipment; troubleshooting combustion gas valves and regulators; maintaining, testing and adjusting commercial HVAC accessories; maintaining, troubleshooting and repairing commercial heating systems; installation, maintenance and repair of HVAC and refrigeration systems; retail refrigeration; commercial and</p>	<p>ACR0013</p> <p>HVAC/R Intermediate Service Practices</p> <p>Prerequisite: ACR0000, ACR0001, ACR0012</p> <p>Description: The HVAC/R Intermediate Service Practices course prepares students to select appropriate commercial compressors. Students will test and adjust commercial evaporative condensers, and maintain, troubleshoot, and repair commercial evaporators, and identify basic principles of HVAC/R piping sizing. Students will gain working knowledge to interpret, use, and modify</p>	State mandated change.

			industrial refrigeration systems; and introduction to hydronic and steam systems.	construction drawings and specifications and troubleshoot and repair commercial HVAC/R systems.	
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