

RANKEN

TECHNICAL COLLEGE

Addendum - 1/8/2018 - New Program

The program information below is to be added to the Evening Program Certificate in Major Appliance Technology section of the catalog on page 51 of the 2018-2019 Catalog.

Major Appliance Technology - Perryville

Semester	Course	Hours	Pre-Requisites
First Semester	HVAO100 - Fundamentals of Heat Transfer & Domestic Applications	6	
Second Semester	HVAO101 - Electrical for HVACR	6	
Third Semester	HVAO230 - Residential HVAC & Heat Pumps	6	
Fourth Semester	MAT0250 - Laundry & Kitchen Applications	6	

HVAO100 Fundamentals of Heat Transfer and Domestic Applications

This course introduces the basics of refrigeration, including a description of what is taking place inside each component and the lines connecting them. Students learn to read a temperature/pressure chart and apply it to various refrigerants which are used in the trade. Common service procedures such as gauge installation, evacuation and recovery of refrigeration are also covered in the course. Students are exposed to trade measurements and are given theory behind what it takes to make a good solder and braze connection on copper tubing. This course introduces students to pressures, temperatures and running times for refrigerators and room air conditioners and continues with charging, service and operation of domestic refrigerators and room air conditioners. Six credit hours.

HVAO101 Electrical for HVACR

Study includes capacitors, current relays, potential relays and solidstate relays. Students practice methods used to recognize each relay and wire each relay circuit with its hermetic compressors. The course incorporates the wiring of basic fan relays, contactors and sequencers. Additionally, this course provides an overview of the different means of wiring, charging and problem diagnosis of domestic refrigerators and window air-conditioners. Troubleshooting through an electrical schematic is a staple of this course. Emphasis is placed on problem analysis of system operation. Six credit hours.

HVAO230 Residential HVAC and Heat Pumps

Introduction to heat pumps, including various types, specific components, basic operation and common problems. Both major types of refrigerants are used in the shop equipment. This provides each student with exposure to the current refrigerant and the newer non-ozone depleting refrigerant. Students are able to service an air conditioner and heat pump, troubleshoot the reversing valve and evaluate various defrost systems of a heat pump. Electric and gas furnaces are also covered. The prominent gas flame ignition devices and the various methods used to operate a gas furnace will be covered along with the

different equipment fuel efficiencies. Proper flue gas venting is also covered, primarily categories I and IV. Six credit hours.

MAT0250 - Laundry and Kitchen Appliances

This course introduces the student to installation and service of laundry equipment. Emphasis is placed on electric and gas dryers, as well as automatic washers. This course also introduces the student to installation and service of kitchen equipment. Emphasis is placed on ranges, dishwashers, compactors, and disposals. Upon completion, students should be able to install and service laundry equipment, gas and electric ranges, dishwashers and garbage disposals. Six credit hours.

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Addendum - 1/8/2018 - New Program

The program information below is to be added to the Certificate of Technology portion of the Fabrication and Welding Technology section of the catalog on page 90 of the 2018-2019 Catalog.

Fabrication & Welding Technology - Perryville

Semester	Course	Hours	Pre-Requisites
First Semester	PFW1100 - Fundamentals of Welding Technology	7	
	PFW1110 - Blue Print Reading & Quality Inspection	3	
	PFW1105 - Internship I	5	
Second Semester	PFW1220 - Fabrication & Welding	10	PFW1100 & PFW1110
	PFW1205 - Internship II	5	
General Education Requirements	<u>English & Social Science:</u> COM1080 Technical Communications	3	
	<u>Business & Information Technology:</u> BUS1000 Career Success Skills	3	

PWF 1100 Fundamentals of Welding Technology

This course introduces students to welding and cutting processes in theory and in a shop environment. Students will receive an overview of various techniques, including Shield Metal Arc Welding (SMAW), Flux Cored Arc Welding (FCAW), Gas Metal Arc Welding (MIG/GMAW) and Gas Tungsten Arc Welding (TIG), that will be applied to various metals. Emphasis will be placed on developing proper welding techniques in all positions. Students will also learn the procedures for preparing materials, using oxy-fuel cutting and carbon arc gouging. By the end of the course, students will be prepared for the American Welding Society (AWS) certification test and vertical SMAW, MIG/ GMAW, and FCAW on steel plates. Seven credit hours.

PWF 1110 Blueprint Reading and Quality Inspection

This course offers an in-depth study of blueprint reading, basic weld inspection, construction math, and basic rigging. Students will gain a complete understanding of typical weld symbols and blueprints that are used throughout the welding industry. Three credit hours.

PWF1105 Internship I

Students are employed with a sponsor where they apply a variety of welding operations in a workplace setting. The work and equipment may vary by worksite, and may be located indoors or outdoors, depending on the sponsor. The work will be tracked and evaluated for credit. Five Credit Hours.

PWF 1220 Welding and Fabrication

This course builds upon skills and theories learned in the Fundamentals of Welding Technology course. Students will cut material with oxygen fuel cutting, carbon arc gouging and plasma cutting equipment. Students lay out, fabricate, fit, and assemble structural, boiler tube, and piping systems. Students will learn the necessary setup and operation of equipment used in the structural steel fabrication industry. Students will use blueprints to fabricate parts that are commonly found in the structural steel industry. Students will also learn to weld stainless steel and aluminum metals. Ten credit hours.

PWF 1205 Internship II

Students are employed with a sponsor where they apply a variety of welding operations in a workplace setting. The work and equipment may vary by worksite, and may be located indoors or outdoors, depending on the sponsor. The work will be tracked and evaluated for credit. Five credit hours.