tr Twin Rivers

CAREER & TECHNICAL EDUCATION AREA

I am CTE
I AM INDIANA'S FUTURE

IVY TECH
HVAC

PROGRAM DISCRIPTION

Classes in the Heating, Ventilation and Air Conditioning (HVAC) program at Ivy Tech are lab based with almost every class meeting having a hands-on portion where students will train and work on actual furnace and air conditioning equipment. This lab allows students to gain experience in equipment installation, charging air conditioning units and troubleshooting equipment failures. Our students will also learn about energy saving equipment like solar thermal, thermal storage, geo thermal, air and hot water zoning systems and HVAC building automation systems. In some cases, students will be able to take part in community service by assisting local churches and food banks with their HVAC needs.

All HVAC instructors at Ivy Tech have many years of experience in the HVAC industry, and bring their real-life experience to the classroom. Students will also earn several national certificates as part of their courses to add to their resume. The HVAC program also work with an Advisory Board made up of HVAC contracts and other businesses to help make sure that what is being taught in the classroom mirrors what is needed in the field.

OCCUPATIONS UPON COMPLETION OF PROGRAM:

Certificate or Technical Certificate in HVAC. You can be a technician or maintenance Technician, both are currently in high demand with more jobs than graduates.

DOE CODES:

7131 Principles of Heating, Ventilation, and Air Conditioning
7125 HVAC Fundamentals
7126 HVAC Service
7244 HVAC Capstone

PROGRAM CHAIR: JEFF GOSSETT

Phone: 812-298-2474
jgossett1@ivytech.edu

ADDITIONAL INFO

GRADE LEVEL: 11TH OR 12TH

LENGTH OF PROGRAM: 1 OR 2 YEARS - 1/2 DAY

HS CREDITS PER SEMESTER: 3

HS CREDITS PER YEAR: 6

PROGRAM WEBSITE: IVYTECH.EDU

COURSE INFO

FALL SEMESTER COURSES:

HVAC 101 - Heating Fundamentals
(3 Cr Hrs) T/TH 8:00am-11:50am (1st 8 weeks)

HVAC 208 - Heating Service
(3 Cr Hrs) T/TH 8:00am-11:50am (2nd 8 weeks)

SPRING SEMESTER COURSES:

HVAC 103 - Refrigeration I
(3 Cr Hrs) T/TH 8:00am-11:50am (1st 8 weeks)

HVAC 211 - Refrigeration II
(3 Cr Hrs) T/TH 8:00am-11:50am (2nd 8 weeks)

FEES:

Course Fees:
HVAC101 - $30 (supplies)
HVAC208 - $30 (supplies & HVAC Excellence certification)
HVAC103 - $70 (supplies & ESCO EPA 608 Certification)
HVAC211 - $60 (supplies & HVAC Excellence Certification)
Ivy Tech Technology Fees*: $60 per semester
E-Learning Fee: $105 for each course
Tuition: Twin Rivers pays ALL CTE course tuition. Student pays for fees and books.

*FEES ARE APPROXIMATE AND COULD VARY FROM YEAR TO YEAR.

Twin Rivers

CAREER & TECHNICAL EDUCATION AREA

I AM INDIANA'S FUTURE

IVY TECH
HVAC

HVAC COURSE DISCIPTIONS

HVAC 101 HEATING FUNDAMENTALS 3 CREDITS

Prerequisites: None. Introduces fundamentals applicable to the heating phase of air conditioning. Includes types of units, parts, basic controls, functions, and applications. Emphasizes practices, tool and meter use, temperature measurement, heat flow, the combustion process and piping installation practices. Covers the basic sequence of operation for gas, oil and electric furnaces.

HVAC 103 REFRIGERATION I 3 CREDITS

Prerequisites: None. Introduction to compression systems used in mechanical refrigeration including the refrigeration cycle and system components. Introduces safety procedures, proper use of tools used to install and service refrigeration equipment, refrigerant charging and recovery, system evacuation, calculating superheat and subcooling and using a refrigerant temperature/pressure chart.

HVAC 208 HEATING SERVICE 3 CREDITS

Prerequisites: HVAC 101 and INDT 113. Covers procedures used to analyze mechanical and electrical problems encountered when servicing heating systems. Covers electrical schematics and connection diagrams, combustion testing, venting and combustion air requirements, sequence of operation, heating controls, troubleshooting techniques, installation practices, basic codes applying to furnace codes, and service procedures.

HVAC 211 REFRIGERATION II 3 CREDITS

Prerequisites: HVAC 103 and INDT 113. Continues the study of air conditioning and refrigeration with further study of compressors, metering devices, system charging, refrigerant recovery, equipment installation and an introduction to troubleshooting procedures [electrical, mechanical and refrigeration].Includes clean-up procedures following compressor burnout and analysis of how a single problem affects the rest of the system. Introduces electrical control systems and electrical motor basics as they apply to air conditioning and refrigeration including motor types, starting components, and motor troubleshooting basics.