

HVACR Technology Mission Statement

The mission and goal of the program is to educate students for positions in field service, design, engineering laboratories and service technology at the upper level of the technological spectrum in the HVACR industry.

THEORY / DESIGN

Physical foundations / laws relating to HVACR
 Chemical foundations / laws relating to HVACR
 Biological foundations / laws relating to HVACR
 Electrical foundations / laws relating to HVACR
 Safety foundations / laws relating to HVACR
 Environmental impacts (ozone / global warming)
 Thermodynamics
 Physical / chemical properties of refrigerants / oils
 Blueprint interpretation
 Psychometrics
 Air flow / velocity, pressure
 Load calculations (residential / commercial)
 Residential system design / forced air
 Light commercial system design
 Light commercial hydronic design
 Light commercial refrigeration load calculation
 Light commercial refrigeration system design
 Light commercial ventilation req. / design

HVAC101	HVAC207
HVAC102	HVAC208
HVAC111	HVAC235
HVAC117	HVAC245
HVAC132	

FABRICATION / INSTALLATION

Tool & gauge use as related to HVACR
 Blueprint interpretation
 Ductwork fabrication & installation
 Refrigeration equipment installation
 Heating equipment installation
 A/C equipment installation
 Hydronic / steam equipment installation
 Commissioning
 Safety concerns & considerations
 Interpersonal communication (verbal)
 Interpersonal communication (written)
 Professionalism / professional organizations
 Sales / marketing / customer relations

HVAC101	HVAC132
HVAC102	HVAC207
HVAC111	HVAC208
HVAC117	HVAC235

TROUBLESHOOTING / SERVICE

HVACR systems overview
 HVACR sequence of operations
 HVACR flow charts
 HVACR electrical line diagrams / schematics
 Tool, gauge & meter use
 HVACR service manuals
 HVACR name plate data
 Safety concerns & considerations
 Troubleshooting steps - air flow / pressure
 Troubleshooting steps - electrical & controls
 Troubleshooting steps - mechanical
 Troubleshooting steps - refrigeration
 Troubleshooting steps - hydronic / steam
 Interpersonal communication (verbal)
 Interpersonal communication (written)
 Professionalism / professional organizations
 Sales / Marketing / Customer relations

HVAC101	HVAC132
HVAC102	HVAC207
HVAC111	HVAC208
HVAC117	HVAC235

HVACR Technology Degree Relevance

Ferris is one of the primary sources of degreed HVACR technicians provided to the State of Michigan. This degree has modified its curriculum through the years to stay in tune with the university's mission, including research with replacement (non CFC, ozone depleting) refrigerants and development and administration of nationally mandated refrigerant recovery certifications. The program also provides technical information and services to the industry on a continual basis, conducting technical seminars that attract participants from across the nation. Every year approx. 30 percent of the graduates go on into the Ferris HVACR Engineering Technology Program.

