

**Ferris Program:** HVACR Engineering Technology and Energy Management

**Degree Type:** Bachelor of Science

**Ferris College:** College of Engineering Technology

**Transfer School:** Montcalm Community College (MONTCC)

**Consortium Eligible:** Yes

**Total Credits Required:** 124

**Catalog Year:** 2022-2023

### GENERAL EDUCATION REQUIREMENTS – 40 Credits Required

Students are encouraged to work with an advisor to select appropriate general education courses. Diversity Competency - 2 Courses Required. If not met by courses taken for Culture, Self and Society, or MTA, a student must meet the following: 1 course with the Global Diversity attribute and 1 course with the U.S. Diversity attribute.

Visit the Ferris State for more information.

#### Communication Competency

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
COMM 121	Fundamentals of Public Speaking	3	COMM 210
ENGL 150	English 1	3	ENGL 100
ENGL 250	English 2	3	ENGL 101
ENGL 311	Advanced Technical Writing	3	No Equivalent

#### Quantitative Literacy Competency

Requirements for Quantitative Literary Competency can be met with the following:

- Official Pre-2016 Math SAT Score of 560 or Higher
- Official Post-2016 Math SAT Score of 580 or Higher
- Official Math ACT Score of 24 or Higher

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
MATH 126	Algebra and Analytic Trigonometry	4	MATH 120 and MATH 159

#### Natural Sciences Competency

Two courses are required with a minimum of 6 credits: must have at least one lab course.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Natural Sciences Electives	6	Varies

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## Culture Competency

Three courses are required with a minimum of 9 credits: must be from two different disciplines, have at least one 200 level or higher course.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Culture Electives	9	Varies

## Self and Society Competency

Three courses are required with a minimum of 9 credits: must be from two different disciplines and have at least one 200 level or higher course, and at least one Self and Society Foundation course.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
ECON 201	Principles of Microeconomics	3	ECON 216
Varies	Self and Society Elective	6	Varies

## COLLEGE REQUIREMENTS – 84 Credits Required

### Major Courses

42 Credits Required. In addition to the required courses in this section, student must have an approved associate degree totaling 42 credits.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
HVAC 285	Heating, Ventilation, and Air Conditioning System Design Using Business Information Modeling	2	No Equivalent
HVAC 312	Control Theory and Application	4	No Equivalent
HVAC 321	Heating, Ventilation, and Air Conditioning Air System Select and Design	4	No Equivalent
HVAC 325	Heating, Ventilation, and Air Conditioning Hydronic System Select Design	4	No Equivalent
HVAC 342	Load Analysis and Energy Modeling	4	No Equivalent
HVAC 350	Contracting Issues in Heating, Ventilation, Air Conditioning, and Refrigeration	4	No Equivalent
HVAC 393	Summer Internship	4	No Equivalent

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Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
HVAC 415	Direct Digital Control	4	No Equivalent
HVAC 451	Energy Audit and Analysis	4	No Equivalent
HVAC 462	Heating, Ventilation, and Air Conditioning Primary Equipment Selection	4	No Equivalent
HVAC 499	Commercial Heating, Ventilation, and Air Conditioning System Design	4	No Equivalent

## Associate Degree Coursework

A total of 42 credits is required in HVAC Technology associate degree coursework. Associate Core Courses, include HVAC 127, HVAC 132, HVAC 207, HVAC 208, HVAC 235 and HVAC 245 are required.

Ferris Course	Ferris Course Title	Ferris Credit Hours	Transfer Course
Varies	Associate Degree Coursework (Advisor Approval)	42	Varies

## PROGRAM CONTACT INFORMATION

HVACR Engineering Technology and Energy Management Programs  
(231) 591-3773

(616) 451-4777

(231) 591-2340

## ADMISSION REQUIREMENTS

### New Student Admission Requirements

- The HVACR Engineering Technology and Energy Management, BS degree is only open to students who meet the Transfer Student Admission Requirements below.
- High school students interested in this program may apply to the HVACR Technology, AAS program.

### Transfer Student Admission Requirements

- Combined college or university GPA of 2.50 (on a 4.00 scale) from all institutions attended.
- Students must have completed the Associate of Applied Science (AAS) in HVACR Technology (HVAR) program at Ferris State University or an equivalent associate program at another institution with a minimum 2.50 GPA (on a 4.00 scale).
- Successful completion of COMM 121, ENGL 150 and (ENGL 211 or ENGL 250), MATH 115 or MATH 116, a Natural Science Competency course with lab component, a Self and Society Competency course, or transfer equivalent courses of C grade or higher.
- Fully Online Admission Requirements:
- AAS in HVACR or Related degree with HVAC work experience upon program approval
- 2.5 Cumulative GPA

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- Completion of MATH 115 or 116 or equivalent with C or better
- Completion of ENGL 150 or equivalent with C or better (Recommend completion of ENGL 211 or 250)  
Recommend
- Completion of Natural Science with a Lab with C or higher

## MORE INFORMATION

Select courses may be delivered online and/or in a mixed delivery format (i.e. a mix of online and face-to-face instruction at the Ferris Main Campus or at a statewide location).

To fulfill the residency requirement for a bachelor's degree a student must earn a minimum of 30 credits from Ferris State University.

## Steps to Apply

- Complete your .
- Submit official transcripts
  - Submit official transcripts from every school attended to
  - Or mail to:  
Ferris State University Admissions Office  
1201 S. State St., CSS 201  
Big Rapids, MI 49307
- Submit test scores (if required)
  - ACT Scores; go to the - Ferris State University School Code: 1994
  - SAT, CLEP and AP Sores; go to the - Ferris State University School Code: 1222

## Advising Notes

It is recommended that potential applicants meet with an advisor to review the degree, course schedule, transfer policies and have any questions answered prior to completing an application. Ferris accepts transfer courses in which the student earned a letter grade of "C" or better. Additional policies such as the Ferris Sunset and Residency Requirement should be discussed with a Ferris advisor. Students who are completing the MTA may have different general education course requirements for the particular degree selected.

Meeting with a Ferris advisor prior to the selection of general education or elective coursework may reduce the chance of completing a course that will not apply toward the selected degree. Students must work with their Ferris advisor to declare a Minor or Concentration and for the selection of Directed Electives.

Once admitted, students are required to complete an orientation and should continue to meet with an advisor as they work toward graduation.

To schedule an appointment or for additional transfer resources and policies see our .

\*Indicates an approved Ferris course substitution

## Reverse Transfer Agreement

Ferris has reverse transfer agreements with several Michigan Community Colleges. Under such agreement, Ferris will provide your official University transcript to a partner school you have attended, so that they may grant you an associate or bachelor's degree upon completion of sufficient and appropriate credit hours from both institutions. In turn, the degree-granting institution will provide Ferris with an updated transcript reflecting the newly earned credential.

## Michigan Transfer Agreement (MTA)

Ferris participates in the Michigan Transfer Agreement (MTA). This agreement will facilitate the transfer of general education requirements from one Michigan institution to another. Students may complete the MTA as

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part of a degree program or as a stand-alone package. The MTA consists of a minimum of 30 general education credit hours as identified by the college or university.

Students transferring to Ferris with the Michigan Transfer Agreement (MTA) and entering a degree program will have met a 30-hour block of lower-level general education courses. However, this does not exempt students from completing program-specific prerequisites or higher-level general education course requirements. Students should contact their advisor regarding classes that meet the MTA.

### **Transfer Equivalencies Tools**

The transfer equivalencies link is located in the Transfer Resources section at .

### **Disclaimer**

Transfer guides are not intended to be a contract with Ferris. The information in this guide is subject to change and is aligned with the catalog year listed above. Students should contact their community college and/or Ferris to keep informed of changes. Students' final responsibility for verifying all transfer information lies with the student. Please refer to the for the most current curriculum.

Partners may contact the Office of Transfer and Secondary School Partnerships with questions or updates at .