

# FERRIS STATE UNIVERSITY/COLLEGE OF ENGINEERING TECHNOLOGY

Transfer Guide for

## NORTHERN MICHIGAN UNIVERSITY

Associate Degree

### HVACR

Into Heating, Ventilation, Air Conditioning and Refrigeration Bachelor of Science Degree

Home Page	Contact	Phone
<a href="http://www.ferris.edu/cot/">http://www.ferris.edu/cot/</a>	Michael Feutz; Department Chair College of Engineering Technology Ferris State University GRN 227B Big Rapids MI 49307 Email: feutzm@ferris.edu	1-800-4-FERRIS or 231/591-2351

*This is a guide for students who plan to transfer to Ferris State University. This guide is not intended to be a contract with Ferris. The information on this guide is subject to change; students should contact Ferris to keep informed of changes (see "contact" above). Final responsibility for verifying all transfer information lies with the student.*

#### CAREER PATH

The HVACR program addresses designing, retrofitting, testing and balancing on a problem-solving level and prepares the HVACR engineering technologist to fill a wide technological gap between the service technicians and engineers. Challenging careers abound on a national level with firms who look for trained HVACR engineering technicians for a variety of positions: application and/or project engineering, systems control, estimating, engineering, field technician, systems reps, marketing, control systems training and HVACR in-plant engineering.

#### ADMISSION REQUIREMENTS FOR TRANSFER STUDENTS

- Associate degree in Climate Control Technology from Northern Michigan University with a minimum GPA of 2.5
- Completion or competency in the equivalent to the following FSU courses:
  - ENGL 150 English 1
  - ENGL 211 Industrial and Career Writing
  - MATH 115 Intermediate Algebra
  - Scientific Understanding- PHYS 130/211 Concepts of Physics/ Introductory Physics 1
  - ISYS 105 Microcomputer Application

For assistance with the admission process, contact your transfer counselor at the community college or the transfer admissions officer at Ferris State University, Shari Chamberlain, at 1-800-4-FERRIS, [chambers@ferris.edu](mailto:chambers@ferris.edu)

#### APPLICATION DEADLINES

It is recommended that students submit applications by January 15<sup>th</sup> prior to fall entry.

#### TRANSFER GUIDE

- Coursework in HVACR Major – In addition to the courses completed for the Associate Degree listed above, there may be other courses that can be completed at your college or another accredited college/university prior to transfer to Ferris that will meet requirements for the B.S. major. NOTE: **First, check with a Ferris Faculty Advisor or the Department Chair (listed above) for academic advising prior to completing these courses.**
- General Education Requirements – All students earning a B.S. degree at Ferris State University must complete the Ferris State University *General Education Requirements*. Some of these general education requirements may have been completed as part of your associate degree, while others may be completed in addition to the associate degree at your college or another accredited college/university prior to transfer to Ferris, and others can be completed after transferring to Ferris. NOTE: Because of the timeline required for the HVACR program, it is necessary that you **first check with a Ferris Faculty Advisor or the Department Chair (listed above) for academic advising prior to completing these courses.**
- Students must complete a minimum of 30 credit hours at Ferris to meet graduation requirements.

# FERRIS STATE UNIVERSITY/COLLEGE OF ENGINEERING TECHNOLOGY

Recommended courses to take in preparation for transfer into

## HVACR Engineering Technology B.S. Degree

FSU	Northern Michigan University	FSU Course Title	Cr. Hrs.
HVACR Major Courses for AAS Degree	NMU Climate Control Technology Associate Degree	Associate of Applied Science Degree in an HVACR engineering or related technical area or equivalent.	40
ENG 150	EN 111	English I	3
ENGL 211 or ENGL 250	EN 211,211D	Technical & Career Writing or English 2	3
COMM 121	SPCH 152	Fundamentals of Public Speaking	3
MATH 115 MATH 116	MA 126, MA 100 MAT 150	Intermediate Algebra Intermediate Algebra & Trigonometry	4
Gen. Ed. Elective		<b>*1 Scientific Understanding:</b> Complete one lab science course from the following subject areas: Biology, Chemistry, Geography, Physics, Physical Science, etc.	7
Gen. Ed. Elective		<b>*2 Cultural Enrichment:</b> Complete one course from the following subject areas: Art, History, Humanities, Literature, Music, Foreign Language, etc.	3
Gen. Ed. Electives		<b>*3 Social Awareness:</b> Complete one course from the following subject areas: Anthropology, Economics, Political Science, Psychology, Sociology, etc.	3
ISYS 105	CIS 110	Microcomputer Applications	3

\*Contact the College of Technology educational counselor at Ferris State University if you have questions on specific transfer requirements. Email: [nelsonv@ferris.edu](mailto:nelsonv@ferris.edu), or call 231-591-2890.

REQUIRED DEGREE COURSE WORK				Prerequisite Requirements Fsu Course #
FSU	Cr. Hrs.	FSU Course Title	NMU College Equivalent	
<b>Fall</b>				AAS in HVAC required. MATH 115, ENGL 250/211, Scientific Understanding, ISYS 105
HVAC 331	4	HVAC Secondary Equip Selection & Design	n/a	
HVAC 342	3	HVAC Load Calculations & Energy Code	n/a	
ARCH 110	2	Intro Cmptr Grphs in ARCH for HVAC	n/a	
MATH 126	4	Algebra and Analytic Trigonometry	MA 115	MATH 116
Elective	3-4	Social Awareness	See *3 above	
<b>Spring</b>				
HVAC 312	4	HVAC Control Theory and Application	n/a	MATH 116, HVAC 331
HVAC 350	4	Contracting Issues in HVAC	n/a	MATH 116, HVAC 331
HVAC 362	4	Primary HVAC Equipment Selection	n/a	MATH 116, HVAC 331
Elective	4	Scientific Understanding	See *1 above	
<b>Summer</b>				
HVAC 393	4	Internship	n/a	HVAC 312,350,362
<b>Fall</b>				
HVAC 415	4	Direct Digital Control	n/a	HVAC 393 MATH 126/130
HVAC 451	4	Energy Analysis and Audit (WIC)	n/a	HVAC 393 MATH 126/130
COMM 221	3	Small Group Decision Making		
Elective	3	Cultural Enrichment	See *2 above	
<b>Spring</b>				
HVAC 499	5	Commercial HVAC System Design (WIC)	n/a	HVAC 415,451
ECON 221	3	Principles of Economics 1	ECO 201	
Elective	3	Cultural Enrichment(300+)	See *2 above	
Elective	3-4	Directed Elective		

\*These courses may be completed at Northern Michigan University; however, you must consult with Ferris Faculty Advisor prior to completing any of these courses due to timeline of completing program. You may visit the Ferris Transfer Equivalency website at: <http://www.ferris.edu/admissions/Transfer/Guide/tech/hvac/homepage.htm>