

FERRIS STATE UNIVERSITY/COLLEGE OF ENGINEERING TECHNOLOGY
 Transfer Guide for
MACOMB COMMUNITY COLLEGE
 Associate Degree
HVACR
Into Heating, Ventilation, Air Conditioning and Refrigeration Bachelor of Science Degree

| Home Page | Contact | Phone |
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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 HVAC Technology from Macomb Community College 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 course with a Lab
 - 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

APPLICATION DEADLINES

It is recommended that students submit applications by January 15th 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 | Macomb Community College | FSU Course Title | Cr. Hrs. |
|------------------------------------|--------------------------------------|--|----------|
| HVACR Major Courses for AAS Degree | MCC HVAC Technology Associate Degree | Associate of Applied Science Degree in an HVACR engineering or related technical area or equivalent. | 42 |
| ENG 150 | ENGL 1180 or 1210 | English I | 3 |
| ENGL 211 or ENGL 250 | ENGL 1190 or 1220 | Technical & Career Writing or English 2 | 3 |
| COMM 121 | SPCH 1060 | Fundamentals of Public Speaking | 3 |
| MATH 115 MATH 116 | MATH 1000 ATAM 2150 & 2160 | Intermediate Algebra Intermediate Algebra & Trigonometry | 4 |
| Gen. Ed. Elective | | *1 Scientific Understanding: Complete one lab science course from the following subject areas: Biology, Chemistry, Geography, Physics, Physical Science, etc. | 7 |
| Gen. Ed. Elective | | *2 Cultural Enrichment: Complete one course from the following subject areas: Art, History, Humanities, Literature, Music, Foreign Language, etc. | 3 |
| Gen. Ed. Electives | | *3 Social Awareness: Complete one course from the following subject areas: Anthropology, Economics, Political Science, Psychology, Sociology, etc. | 3 |
| ISYS 105 | ITCS 1010, 1600, 1620, 1640 or 1650 | Microcomputer Applications | 3 |

*Contact the College of Technology educational counselor at Ferris State University if you have questions on specific transfer requirements. Email: Michael_Ropele@ferris.edu or call 231-591-2890.

| REQUIRED DEGREE COURSE WORK | | | | Prerequisite Requirements Fsu Course # |
|-----------------------------|----------|---|------------------------|---|
| FSU | Cr. Hrs. | FSU Course Title | MCC College Equivalent | |
| Fall | | | | 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 | MATH 1430 or MATH 1450 | MATH 116 |
| Elective | 3-4 | Social Awareness | See *3 above | |
| Spring | | | | |
| 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 | |
| Summer | | | | |
| HVAC 393 | 4 | Internship | n/a | HVAC 312,350,362 |
| Fall | | | | |
| 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 | |
| Spring | | | | |
| HVAC 499 | 5 | Commercial HVAC System Design (WIC) | n/a | HVAC 415,451 |
| ECON 221 | 3 | Principles of Economics 1 | ECON 1160 | |
| Elective | 3 | Cultural Enrichment(300+) | See *2 above | |
| Elective | 3-4 | Directed Elective | | |

*These courses may be completed at Macomb Community College; 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>